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Personality and Risk-Perception Profiles with Regard to Subjective Wellbeing and Company Management: Corporate Managers during the Covid-19 Pandemic

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ABSTRACT

This study examined the role of the Big Five personality traits and risk perception profiles among a sample of corporate managers concerning their subjective wellbeing (SWB) and corporate management practices during the Covid-19 pandemic. Two hundred and fifty-five chief executive officers (CEOs) and chief financial officers (CFOs) of companies listed on the main market of the Warsaw Stock Exchange (WSE) in Poland participated in the study by completing the Satisfaction with Life Scale, Positive and Negative Affect Scale, Ten-Item Personality Inventory, Stimulation-Instrumental Risk Inventory, and a business survey on the Covid-19 pandemic's impact on company management. Latent profile analysis revealed the existence of diverse profiles among the participants regarding personality traits and risk perception, which were variously related to their SWB and managerial practices during the pandemic. It seems that individual differences in personality traits and risk perception not only matter for the individual life satisfaction of managers but may also translate into effective company management in times of crisis. The results of our study may be an adjunct to understanding underlying sources of managerial biases in corporate management as well as to developing more effective methods of psychological counseling of corporate managers, a topic that remains still a highly understudied research area.

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Quality of life; work–life balance; wellness; behavioral finance; personality; risk perception; corporate managers; Covid-19

Introduction

Over the past two decades, the economics discourse has shifted substantially toward a greater acknowledgement of interdisciplinary research trends in which behavioral economics and behavioral finance have played dominant roles (e.g. Akerlof & Schiller, 2009; Baddeley, 2013; Thaler, 2015). By incorporating major psychological insights into the study of stock markets and individual investors, behavioral finance proponents have undermined many of the assumptions of neoclassical finance theory (Fama, 1970; Markowitz, 1952), creating more realistic pictures of both individual investors and stock markets at the aggregate level (Szyszka, 2013; Thaler, 2015). Kahneman (2012)

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found that even professional investors are susceptible to behavioral biases originating in cognitive errors, emotions, and heuristics. Fama (1970) argues that the bounded rationality of investors is responsible for various stock market anomalies that cannot be explained by the efficient market hypothesis. Despite a plethora of empirical studies and the great popularity of the behavioral paradigm in economics and finance, several research areas within this field remain understudied. This includes behavioral corporate finance, which seeks to explain the existence of irrational managers and corporate decisions in a world of inefficient capital markets (Baker & Wurgler, 2004, 2013; Malmendier & Tate, 2015). Various psychological phenomena may impact corporate decision-making, which in turn may translate into company management practices (e.g. Boulton & Campbell, 2016; Malmendier et al., 2011; Rzeszutek et al., 2020). Our study examined the role of Polish corporate managers' Big Five personality traits and risk perceptions concerning their subjective wellbeing (SWB) and specific corporate management practices during the Covid-19 pandemic.

Dozens of studies have shown that SWB—defined as a combination of an individual's life satisfaction and affective experiences (Diener et al., 2016)—is greatly shaped by personality traits (see the meta-analyses of DeNeve & Cooper, 1998 and Steel et al., 2008). Specifically, Steel et al. (2008) found that the variance in lifelong SWB explained by personality may range from 39% to as much as 63%. Nevertheless, there remains a paucity of studies on the role of personality in behavioral finance (e.g. Baddeley, 2013; Durand et al., 2008, 2019) as well as a lack of research on personality in the area of behavioral corporate finance. However, some authors argue that investigating hidden, individual-level differences in psychological traits may constitute a new paradigm in the practical application of behavioral finance for creating investment programs based on the personality profiles of investors (Ferguson et al., 2011; Pompian & Longo, 2004). For example, behavioral finance authors have found that personality traits may impact investors' portfolio selection (Angelini & Cavapozzi, 2017), financial performance (Oehler et al., 2018), and even susceptibility to behavioral biases during the investment process (Rzeszutek et al., 2015). Some recent evidence also points to a link between personality traits and investors' risk preferences (Singh et al., 2022).

This study followed Zaleśkiewicz's (2001) model of instrumental and stimulating risk-taking, which describes individual differences in risk-taking propensity. Several studies have found that risk-taking driven by the need for excitement (i.e. stimulating risk) differs from risk-taking originating in an aspiration to a particular future goal (i.e. instrumental risk) (Muda et al., 2018). In other words, people who more strongly favor instrumental risk make decisions in a more future-oriented and, thus, more rational fashion. Conversely, stimulating risk-takers behave more impulsively and are oriented mostly on the present (Zaleśkiewicz, 2001). To date, however, the vast majority of scholars studying personality and risk perception in the financial area have taken only a variable-centered approach, which disregards the problem of the heterogeneity of participants within the studied variables (e.g. Baddeley, 2013; Durand et al., 2008, 2019). By applying latent profile analysis (LPA) (Rosenberg et al., 2018), our project took a person-centered perspective, exploring the unique profiles of participants within the study variables.

The Covid-19 pandemic caused massive uncertainty in business activity and posed great challenges to companies' management (Anayi et al., 2021; Baker et al., 2020;

Hasan et al., 2023; Jebran & Chen, 2022; Nguyen et al., 2023). The crisis had several unique features that distinguished it from previous financial crises. First, the sharp decline in economic activity did not result from flaws in the economic system itself but from a significant limitation on people's activity that was required by health concerns (Bairoliya & İmrohoroğlu, 2020). Second, the pandemic hit both the supply and demand sides of economies (McKibbin & Fernando, 2020). Limited activity and negative consumer sentiment resulted in reduced demand for many goods. Conversely, business restrictions, closed borders, and logistical problems translated into a sharp reduction in supply (Salgado et al., 2020). Those features of this crisis significantly influenced the company management practices. There were a number of factors that negatively impacted new investment projects in companies, such as uncertainty and fear in the face of health threats, activity restrictions, and tighter lending policies on the part of banks (Altig et al., 2019; Sharma et al., 2020). On the one hand, it was natural that managers did not start new investment projects at such a time, but on the other hand, it was irrational to accumulate excessive cash and at the same time maintain excessive debt. Specifically, excessive levels of panic or risk aversion in the initial phase of a pandemic caused the accumulation of excess reserves of cash, which did not work for the overall economy. These latter behaviors were linked to an extraordinary level of irrational attitudes toward risk, which was observed not only in the general population (e.g. Sharma et al., 2020) but especially among professional investors and corporate managers (Altig et al., 2019). These unique aspects of the crisis undoubtedly influenced corporate management in the area of risk management and investment policy (Altig et al., 2019; Jebran & Chen, 2022). To our best knowledge, however, no studies have considered how the aforementioned psychological phenomena (i.e. personality and risk perception) were associated with SWB, decisions, and selected managerial practices among corporate managers during this extraordinary period, so our study is explorative to a great extent. However, we are aware of no studies that investigated how the aforementioned psychological phenomena (personality and risk perception) affected SWB, decisions, and selected managerial practices among corporate managers during this extraordinary period. Therefore, our study is quite exploratory in nature.

The Current Study

This study examined heterogeneity in risk perception and in the Big Five personality traits in a sample of Polish corporate managers and explored whether heterogeneity in these variables explained differences in their SWB or their diagnosis of the Covid-19 pandemic's impact on their company and selected corporate management practices in the areas of risk management and investment policy. We are not aware of any studies among corporate managers that could serve as a direct source of research hypotheses in the case of this special study design, so we took a mainly exploratory approach in our study. Judging from existing studies, however (e.g. Durand et al., 2019; Rzeszutek et al., 2020), we expected that our sample of managers would be heterogeneous in terms of the Big Five personality traits and risk perception and that the observed profiles of these variables would be differently related to the participants' levels of SWB (Hypothesis 1). Moreover, we assumed that our participants' heterogeneity in

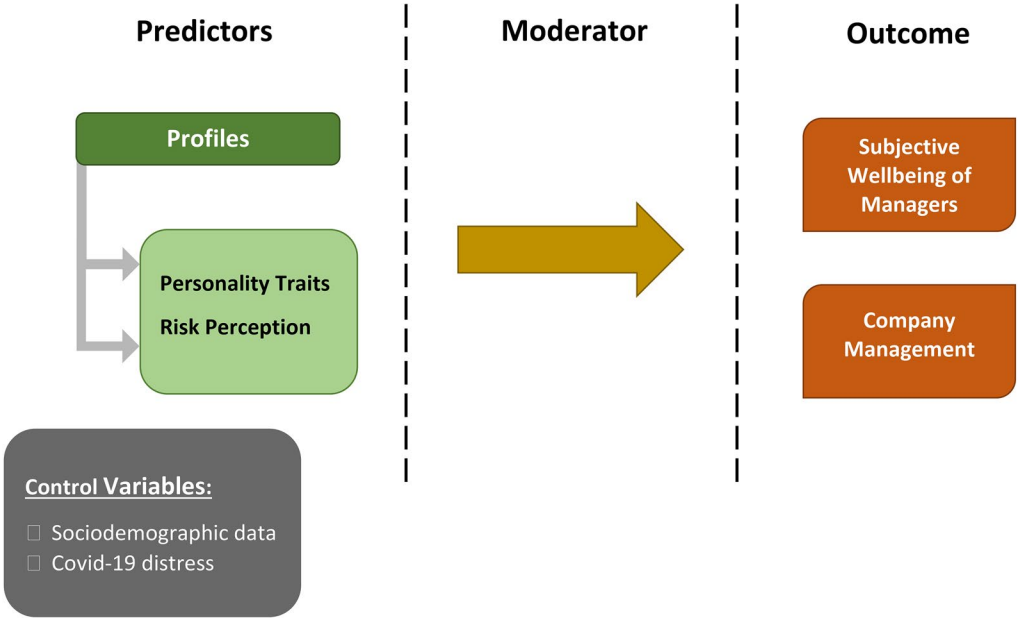

Figure 1. Conceptual model of the study.

personality traits and risk perception would moderate the relationship between their initial diagnosis/reflection about the pandemic's impact on company management and their subsequent practices in the areas of corporate risk management and investment policy (Hypothesis 2). ***Figure 1*** illustrates the conceptual model of our study.

Method

Participants and Procedure

This study recruited 255 chief executive officers (CEOs) and chief financial officers (CFOs) of companies listed on the main market of the Warsaw Stock Exchange (WSE) in Poland. In other words, it constituted more than half of all companies listed on the main market of the WSE (see 415 companies; Warsaw Stock Exchange (WSE) Report, 2023). Their age range was 26–63 years ($M = 48.88$; $SD = 8.17$). Specifically, 200 males aged 26–63 ($M = 49.44$; $SD = 7.67$) and 55 females aged 27–60 ($M = 46.83$; $SD = 9.61$) participated. Most of the participants declared being in a stable relationship ($n = 222$; 87.1%).

An external company conducted the survey from September 2021 through June 2022, during the so-called fourth and fifth waves of the Covid-19 pandemic. To increase the response rate, invitations were sent by email and telephone to all companies listed on the WSE. Furthermore, managers were additionally motivated to complete the whole survey by the promise that a fixed charitable donation would be made for each completed questionnaire. The non-response rate was calculated at about 20%. The questionnaires were sent to participants in electronic format via computer-assisted telephone interviews (CATIs) and computer-assisted web interviews (CAWIs) with the help of a

specially designed web page. The survey was created with unique tokens that enabled full control of the status of the study's implementation and securing against the same respondent filling out the questionnaire more than once. Publicly listed companies' true corporate practices represent sensitive information, so, to encourage the participants to give honest answers, we strongly emphasized the anonymity of our survey. ***Table 1*** presents the companies' detailed business characteristics.

Measures

SWB was assessed with the Satisfaction with Life Scale (SWLS) (Diener et al., 1985) and the Positive and Negative Affect (PANAS-X) scale (Watson et al., 1988). The former comprises five items evaluated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree); a higher total score indicates greater satisfaction with life. ***Table 2*** presents the Cronbach's α coefficient in the studied sample. Positive and negative affect (PA/NA) were measured with 20 descriptions of feelings and emotions from the PANAS-X (Watson et al., 1988): 10 for PA (e.g. "proud," "excited") and 10 for NA (e.g. "depressed," "stressed"). In this inventory, participants evaluate their general affective states on a 5-point response scale from 1 (not at all) to 5 (strongly). Table 2 shows the Cronbach's α coefficients for PA and NA.

The Big Five personality traits were examined with the Polish adaptation of the Ten Item Personality Inventory (TIPI) (Gosling et al., 2003). The TIPI assesses each Big Five personality trait (extraversion, agreeableness, conscientiousness, emotional stability, and openness) in two items, each assessed on a 7-point scale ranging from 1 (disagree strongly) to 7 (agree strongly). The Cronbach's αs for this tool are presented in Table 2.

Table 1. Sample Characteristics of Companies' Management Boards, Positions Held by the Participants, Company Revenues in the Last Reporting Year, Total Company Assets at the End of the Last Reporting Year and Main Sectors in which the Companies Operated.

Structure of the company's management board	*n*	%	Sector	*n*	%
Multi-person, but financial decisions are made by one member of the board in financial affairs	64	25.1	Agriculture, forestry, and fishing	9	3.5
Multi-person in which financial decisions are taken collegially	83	32.5	Mining and quarrying	15	5.9
Other	108	42.4	Manufacturing	78	30.6
Position held			Electricity, gas, steam and air conditioning supply	7	2.7
President of the management board	51	20.0	Water supply, waste management and remediation activities	5	2.0
Member of the financial management board	88	34.5	Construction	8	3.1
Financial director but without board membership	105	41.2	Wholesale and retail trade	30	11.8
Other	11	4.3	Transportation and storage	2	0.8
Revenues			Accommodation and food service	4	1.6
Below 500 million PLN	205	80.4	Information and communication	20	7.8
500 million–1 billion PLN	30	11.8	Financial and insurance activities	19	7.5
1–5 billion PLN	14	5.5	Real estate activities	4	1.6
Over 5 billion PLN	6	2.4	Professional, scientific and technical activities	29	11.4
Assets			Administrative and support service	2	0.8
Below 500 million PLN	199	78.0	Education	1	0.4
500 million–1 billion PLN	38	14.9	Human health and social work	5	2.0
1–5 billion PLN	13	5.1	Arts, entertainment and recreation	12	4.7
Over 5 billion PLN	5	2.0	Other service activities	5	2.0

Table 2. Descriptive Statistics of the Analyzed Interval Variables.

Variables	*M*	SD	min	max	*S*	*K*	*α*
Emotional stability	10.25	2.33	2	14	−0.87	0.11	0.78
Extraversion	10.43	2.49	2	14	−0.12	0.90	0.75
Openness to experience	9.87	2.18	4	14	−0.26	−0.75	0.62
Agreeableness	10.54	2.14	2	14	−0.17	0.62	0.73
Conscientiousness	10.65	2.26	2	14	−0.10	0.01	0.77
Stimulating risk	28.54	5.92	10	40	−0.57	−0.43	0.73
Instrumental risk	26.26	3.76	12	35	−0.87	0.41	0.74
Covid-19 distress	2.99	0.74	1	5	0.37	0.44	–
Positive affect	14.97	2.56	8	25	0.60	0.14	0.71
Negative affect	10.49	2.21	5	22	0.09	0.97	0.75
Satisfaction with life	24.11	4.84	9	35	−0.86	0.06	0.92

Note: *M*: mean value; *SD*: standard deviation; min: minimum value; max: maximum value; S: skewness; K: kurtosis; *α*: Cronbach's alpha reliability coefficient.

Risk perception was assessed via the Stimulation-Instrumental Risk Inventory (SIRI) (Zaleśkiewicz, 2001). This inventory includes 17 statements related to various forms of behavior in risky situations, and the scores are classified on two scales: instrumental style of risk perception and stimulative style of risk perception. The participants answered on a 5-point scale (definitely not, probably not, I don't know, probably yes, definitely yes). The Cronbach's *α*s for this tool are shown in Table 2.

Covid-19 distress was assessed by a short but reliable operationalization of this continuous variable based on studies published prior to the commencement of our research (e.g. Dragan et al., 2021). On a 5-point Likert scale, we asked the participants how stressful (in general) the pandemic was in relation to their life in general and to their managerial profession in particular. The answers ranged from 1 (not at all) to 5 (very much).

Finally, to evaluate the participants' diagnosis of the pandemic's impact on companies and their subsequent selected corporate management practices in the areas of risk management and investment policy, we employed a survey adopted from Szyszka's (2013) study on the behavioral aspects of corporate finance. This survey first gathered basic metrical information on company characteristics (see Table 1) and then asked the participants to diagnose the impact of the Covid-19 pandemic on their company and the entire Polish economy and to describe the measures they took in reaction to the crisis (see the supporting information).

Data Analysis

First, descriptive statistics were calculated and the distributions of the analyzed variables were assessed in terms of skewness and kurtosis. Next, LPA (Rosenberg et al., 2018) was performed to extract subgroups with distinctive profiles of personality traits, risk perceptions, and Covid-19 distress intensity. These subgroups were then compared in terms of PA, NA, and satisfaction with life to test Hypothesis 1. Finally, we used generalized linear models (GLMs) (Garson, 2013) to text Hypothesis 2 (i.e. to examine whether the heterogeneity in personality traits and risk perception among our participants moderated the relationship between their initial diagnosis of the impact of the pandemic on company management and their subsequent practices in the areas of corporate risk management and investment policy).

Results

Table 2 presents descriptive statistics for the analyzed interval variables (mean values, standard deviations, minimum and maximum values, and values of measures of skewness and kurtosis) as well as Cronbach's α reliability coefficients. The values of skewness and kurtosis for the analyzed interval variables did not exceed the range [−1; 1] characteristic of distributions close to a normal distribution, so no transformation was applied.

Personality traits, stimulating and instrumental risk perception level, and level of Covid-19 distress were analyzed using latent profile analysis (LPA; Rosenberg et al., 2018). LPA is a statistical method that focuses on identifying latent subpopulations within a study population based on a certain set of variables. Alternatively speaking, LPA assumes that people can be typed with varying degrees of probabilities into categories that have different configurable profiles of personal and/or external characteristics. The most popular model fit indices in this method are Akaike's information criterion (AIC), approximate weight of evidence (AWE), Bayesian information criterion (BIC), classification likelihood criterion (CLC), and Kullback information criterion (KIC; Vermunt, 2010). Thus, our analytic hierarchy process was based on the aforementioned fit indices, i.e. AIC, AWE, BIC, CLC, and KIC (Akogul & Erisoglu, 2017). They suggested that the best solution was a model with diverse variances and covariances with three classes. Therefore, three distinctive profiles were extracted. The fit indices were AIC = 4383.91, AWE = 6001.13, BIC = 4858.44, CLC = 4117.75, and KIC = 4520.91. ***Figure 2*** shows the standardized mean values of the extracted classes' analyzed variables.

The first profile ($n = 85$) is characterized by the highest levels of all the analyzed personality traits, high levels of both stimulating and instrumental risk, and an average level of Covid-19 distress. The second profile ($n = 63$) is characterized by average levels of emotional stability, extraversion, agreeableness, and conscientiousness, a low level of openness to experience, high levels of stimulating and instrumental risk, and a low

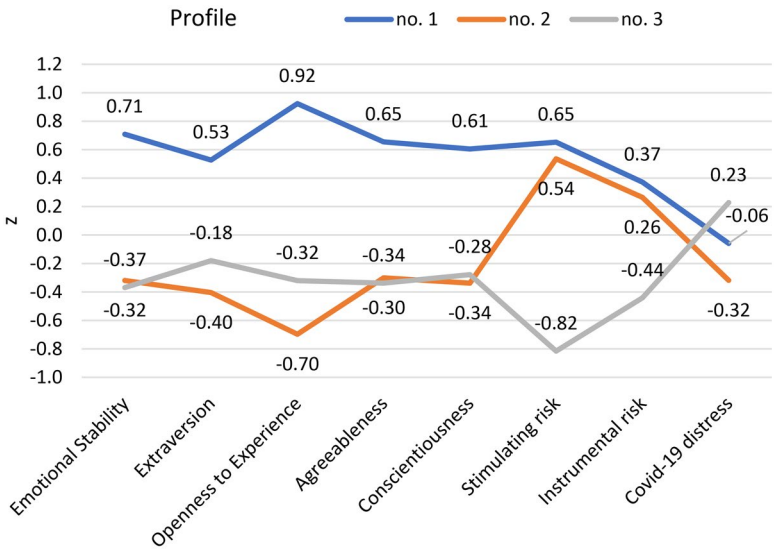

Figure 2. Extracted profiles of personality traits, risk perception and Covid-19 distress among the study participants.

Table 3. Mean Values of SWB Indicators in the Analyzed Groups of Participants.

	Profile									
	no. 1		no. 2		no. 3					
Variables	*M*	SD	*M*	SD	*M*	SD	*F*	*df*	*p*	η^2
Positive affect	14.28	1.65	14.78	2.75	15.63	2.88	7.09	2,252	.001	0.05
Negative affect	9.78	1.61	10.73	2.71	10.91	2.17	7.04	2,252	.001	0.05
Satisfaction with life	25.95	2.40	24.24	4.08	22.57	6.06	12.65	2,252	.001	0.09

Note: *M*: mean value; *SD*: standard deviation; F: one-way ANOVA main effect test; df: degrees of freedom; *p*: statistical significance; η^2: eta-squared effect size measure.

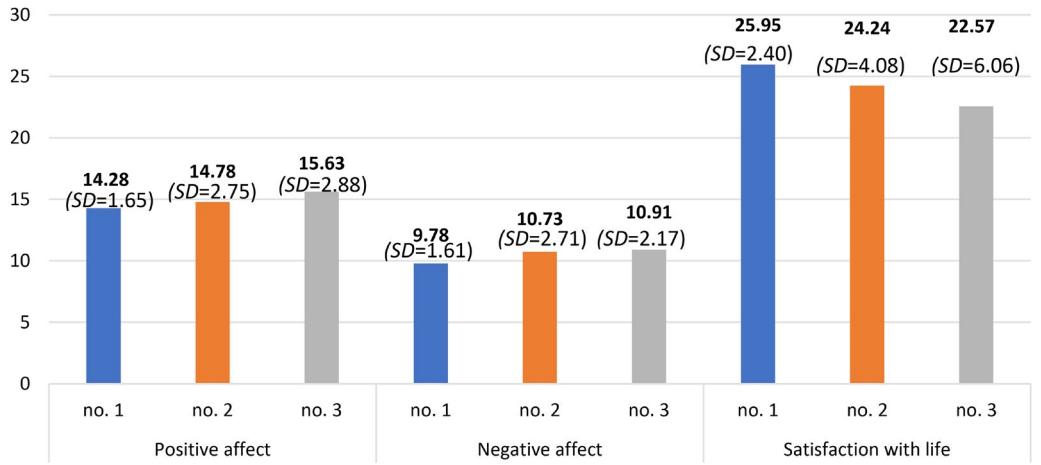

Figure 3. Mean values of PA, NA and satisfaction with life in groups of participants with different profiles of personality traits, risk perception and Covid-19 distress.

level of Covid-19 distress. The third profile ($n = 107$) is characterized by average levels of all the personality traits, a low level of stimulating risk, an average level of instrumental risk, and the highest level of Covid-19 distress.

According to one-way ANOVA, the extracted profiles also differed in terms of the participants' ages: F (2,247) = 17, 07; $p < .001$; $\eta^2 = 0.11$. According to the Games–Howell post hoc test, profile no. 3 differed significantly from both profile no. 1 ($p < .001$) and profile no. 2 ($p < .01$). The mean value of the participants' ages in profile no. 3 ($M = 45.60$; SD = 9.46) was significantly lower than the equivalent value in profile no. 1 ($M = 51.91$; $SD = 3.68$) and profile no. 2 ($M = 50.28$; $SD = 89.42$).

The extracted groups were next compared in terms of PA, NA, and satisfaction with life. ***Table 3*** presents the mean values of the SWB indicators in the analyzed groups of participants.

According to the Games–Howell post hoc test, profile no. 1 differed significantly from profile no. 3 in terms of PA ($p < .001$) and differed significantly in terms of NA from profile no. 2 ($p < .05$) and profile no. 3 ($p < .01$). Similarly, profile no. 1 differed significantly in terms of satisfaction with life from profile no. 2 ($p < .05$) and profile no. 3 ($p < .001$). The mean value of PA in the group of participants with profile no. 1 was significantly lower than the same value in the group of participants with profile no. 3. The mean value of NA in the group with profile no. 1 was significantly lower than that value in the groups with profiles no. 2 and 3. The mean

Table 4. Distribution of Study Participants' Reflections on the Impact of the Covid-19 Pandemic on Various Aspects of their Company.

Reflections	*n*	%	Reflections	*n*	%
Impact in early stages			Impact of the pandemic		
Only short-term negative economic consequences	80	31.4	Severely affected	12	4.7
Long-term negative economic effects that will wear off sooner or later	117	45.9	Slightly affected	101	39.6
Lasting negative economic effects	18	7.1	Secondary activities have been affected	53	20.8
Impact at present			Did not have any impact	49	19.2
Only short-term negative economic consequences	96	37.6	Liquidity problems		
Long-term negative economic effects that will wear off sooner or later	105	41.2	Temporary	36	14.1
Lasting negative economic effects	12	4.7	Persistent	19	7.5
Government decrees to contain the spread of the pandemic affected the operation of the company			No effect on current liquidity	160	62.7
Temporary and complete closure	3	1.2			
Temporary and partial closure	71	27.8			
Mandatory adoption of remote work	90	35.3			
Company was not subject to decrees	50	19.6			

Note: *n*: number of participants; %: percentage of the sample.

value of satisfaction with life in the group with profile no. 1 was significantly higher than in the group with profile no. 2 and the group with profile no. 3 (see ***Figure 3***). The results support Hypothesis 1.

Table 4 presents the distribution of the study participants' reflections/diagnosis of the impact of the Covid-19 pandemic on various aspects of their company (also see the supporting information and items 1–5 of the business survey during the pandemic).

In most cases, the pandemic (both in its early stages and at the time of the survey) was perceived as having long-term negative economic effects that would wear off sooner or later. Also in most cases, companies were forced to implement the mandatory adoption of remote work, and the core business was slightly affected. Finally, the majority of the participants declared that the pandemic had no effect on the current liquidity of the company.

Table 5 presents distributions of the measures companies implemented in response to the pandemic. In most cases, these actions aimed to increase cash resources in the company (also see the supporting information and items 6–9 of the business survey during the pandemic).

GLMs (Garson, 2013) were applied to determine whether the participants' reflections on the impact of the pandemic were related to the measures that companies implemented in accordance with their profile of personality traits, risk approach, and Covid-19 distress intensity. The implementation of each business practice was analyzed as a dependent variable in a separate statistical model. The profile of personality traits, risk approach, and Covid-19 distress and the reflections on the impact of the pandemic were analyzed as independent variables. The interactions between the profiles and reflections were also analyzed to test Hypothesis 2. In total, 120 models were analyzed (5 independent variables × 24 dependent variables).

The values of the tests for the effects of independent variables and interactions are provided in Appendix Tables A1–A5 (supporting information). There was no statistically significant interaction between the reflections and the profile of personality traits, risk approach, and Covid-19 distress, but the GLMs revealed the main effects of the profiles and reflections on the measures taken.

Table 5. Distribution of Measures Implemented in the Company in Response to the Covid-19 Pandemic.

Measures implemented	*n*	%
What measures have been implemented in your company in response to the Covid-19 pandemic?		
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	31	13.8
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	30	13.3
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	41	18.2
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using "credit holidays" or renegotiating payment schedules; increasing credit lines)	45	20.0
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimize disruption to ongoing operations in the event of a pandemic disruption of logistics	34	15.1
Reductions in variable costs (e.g. wage costs)	19	8.4
Increase in prices to increase revenue	13	5.8
Decrease in prices to increase revenue	1	0.4
The company did not take any of the measures outlined above	32	14.2
Did the company receive any direct financial support as part of government programs implemented during the pandemic?		
Direct financial support		
No direct financial support	54	24.0
Direct payments (e.g. subsidies, compensation schemes)	73	32.4
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	47	20.9
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	31	13.8
Public purchase of the company's equity	1	0.4
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	15	6.7
How has the Covid-19 pandemic influenced investment decisions in your company?		
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	50	22.2
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	99	44.0
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	52	23.1
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	10	4.4
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	3	1.3
As a result of the Covid-19 pandemic, does the company make or is it planning to make any (additional) efforts to increase its resilience to possible future extreme events (e.g. another pandemic, extreme weather events, etc.)?		
Efforts to increase resilience to possible future extreme events:		
Purchasing or increasing the company's insurance coverage	31	13.8
Investing in financial products to protect against extreme events	71	31.6
Establishing additional liquidity buffers	60	26.7
None	53	23.6

Note: *n*: number of participants; %: percentage of the sample.

Parameter estimate values indicate that participants who perceived that the pandemic would have lasting negative economic effects were more likely to avail themselves of tax relief ($B = 3.40$; $\chi^2[1] = 7.54$; $p < .01$) than those who perceived only a short-term negative impact. Also, participants who perceived that Covid-19 would have long-term negative economic effects that would wear off sooner or later were less likely to work in companies with no impact on investment ($B = -1.06$; $\chi^2[1] = 2.98$; $p = .085$) than participants who perceived only a short-term impact of Covid-19.

Participants who had to temporarily or partially close their companies were less more likely to receive no direct financial support than participants who worked in companies that were not subject to such government decrees ($B = -2.58$; $\chi^2[1] = 5.96$;

$p < .05$). Also, participants who had to implement the mandatory adoption of remote work ($B = -2.08$; $\chi^2[1] = 3.62$; $p = .057$) and participants who had to temporarily or partially close their companies ($B = -2.08$; $\chi^2[1] = 3.62$; $p = .057$) were less likely to receive no direct financial support than participants who worked in companies that were not subject to such government decrees. Participants who experienced persistent liquidity problems were more likely to apply a forced reduction of financial leverage ($B = 1.55$; $\chi^2[1] = 4.39$; $p = <.05$). Notably, among 120 models, the association between reflections and actions was discovered in only six (5% of the models tested).

Finally, participants with profiles no. 2 and 3 were less likely than those with profile no. 1 to make efforts to increase their company's resilience to possible future extreme events (profile no. 2: $B = 2.00$; $\chi^2 2[1] = 7.44$; $p < .01$; profile no. 3: $B = 1.57$; $\chi^2 2[1] = 4.30$; $p < .05$). Specifically, participants with profile no. 3 were especially less likely to invest in financial products to protect against extreme events than participants with profile no. 1 ($B = -2.90$; $\chi^2[1] = 7.23$; $p < .01$).

Discussion

The results of our study support our first hypothesis, as we observed that the study sample of corporate managers was heterogeneous in terms of Big Five personality traits and risk perception and that heterogeneity within these psychological variables translated differently to their levels of SWB. The highest level of life satisfaction was observed in participants in profile no. 1, who were characterized by the highest level of all Big Five personality traits, the highest level of both stimulating and instrumental risk and an average Covid-19 distress intensity. The second-highest level of life satisfaction was noted in profile no. 2, which had average levels of emotional stability, extraversion, agreeableness and conscientiousness, a low level of openness to experience, high levels of stimulating and instrumental risk, and a low level of Covid-19 distress. The lowest level of life satisfaction was found in profile no. 3, which had average levels of all the personality traits, a low level of stimulating risk, an average level of instrumental risk, and the highest level of Covid-19 distress. Our findings are in line with those of previous studies conducted in different study populations that show that dispositional personality traits are consistently associated with psychological adjustment and wellbeing across various life situations (Anglim et al., 2020; DeNeve & Cooper, 1998; Kling et al., 2003). The largest proportion of explained variance in SWB was observed for emotional stability and extraversion, followed by conscientiousness and agreeableness (Steel et al., 2008). For openness to experience, these links are weaker and usually associated with a broader conceptualization of psychological wellbeing and its specific indicators (such as positive relations, personal growth, and self-acceptance) (e.g. Anglim & Grant, 2016). However, in our sample, it occurred that all the Big Five personality traits somehow similarly predicted the highest level of life satisfaction among corporate managers in profile no. 1. Interestingly, participants in this profile were also characterized by a balanced high intensity of risk perception styles (i.e. stimulating and instrumental risk). Thus, it seems that both these risk-taking motives, whether driven by impulse and a need for excitement (stimulating risk) or rationally focused on a particular future goal (instrumental risk) (Muda et al., 2018; Zaleśkiewicz, 2001) may be important in sustaining high wellbeing in this profession. Moreover, it is intriguing that managers in the first profile were also distinguished by the lowest level of emotional states (both PA and NA) and were older

than the participants in the other profiles. This finding may highlight the importance of appropriate emotional regulation capabilities as affective underpinnings of managerial capabilities (Huy & Zott, 2019); that is, it may generally be assumed that managers with some control over their emotions, both negative and positive, are more likely to sustain satisfaction in their profession. Moreover, our findings also point to the positive effect of managers' older age on company performance and survival (Backman & Karlsson, 2020). To date, no studies conducted among corporate managers had measured such specific study variables with the aid of this unique methodological design, i.e. a person-centered approach. Although our exploratory findings should be treated with caution due to their cross-sectional nature, they may inform the debate on the practical application of behavioral finance to identify psychological subtypes of successful managers or investors (Ferguson et al., 2011; Pompian & Longo, 2004).

Our findings provide only partial confirmation of our second hypothesis. On the one hand, we found no statistically significant interactions between the participants' profiles (extracted on the basis of their psychological traits) and their initial diagnosis/reflection regarding the impact of the Covid-19 pandemic on company management. On the other, we observed several interesting trends in the measures undertaken by the participants in reaction to the pandemic, three of which merit particular attention (also see the Results section). First, in most cases, actions were taken to increase cash resources in the company. Second, participants who perceived a lasting negative economic impact of the pandemic were more likely to avail themselves of tax relief than those who perceived only a short-term impact. Third, managers who experienced persistent liquidity problems were more likely to apply a forced reduction of financial leverage in their company. These three measures are in line with the protective corporate management actions observed in other studies (e.g. McKibbin & Fernando, 2020; Sharma et al., 2020). However, our study also demonstrated the role of psychological profiles in this process, as the GLMs revealed the main effects of the managers' profiles and of their diagnosis/reflection regarding the pandemic on the measures taken in reaction to it. Specifically, participants not in profile no. 1 (which had the highest level of life satisfaction and a unique personality and risk-perception constellation) were much less likely to make efforts to increase their company's resilience to possible future extreme events. This applied especially to managers in profile no. 3 (i.e. with the lowest life satisfaction), who were the least likely to invest in financial products to protect against future extreme events. Thus, we identified how the psychological traits of corporate managers translated directly into not only their SWB but also their individual differences in objective, concrete managerial practices in the extraordinary period of the Covid-19 pandemic.

Strengths and Limitations

This study has several strengths, including the large sample of corporate managers (CEOs and CFOs) observed in the critical period of the Covid-19 pandemic and the unique set of study variables combined with an innovative methodological design (the person-centered framework). However, it is not free of limitations. First, our participants represented heterogeneous companies with respect to business characteristics and metrical data, which could be related to differences in actions undertaken in response to the pandemic. Second, conducting this complex study required extensive work and a great deal of time (almost

a year), so the corporate managers took the survey during different waves of the pandemic (the fourth and fifth), which could influence the study results. Finally, because revealing the actual corporate practices of publicly listed companies is highly sensitive, we cannot be certain that all the participants answered the business part of our survey truthfully, even though we strongly emphasized the anonymity of our survey,

Conclusions

Despite its limitations, our study adds to the still understudied research area of behavioral corporate finance by examining the heterogeneity of corporate managers within their psychological traits with respect to their SWB and corporate practices in the critical period of the Covid-19 pandemic crisis. It seems that individual differences in personality traits and risk perception not only affect the individual life satisfaction of managers but may also directly translate into effective company management during financial crisis. In addition, our study showed the importance of appropriate emotional regulation capabilities as affective underpinnings of managerial capabilities (Huy & Zott, 2019). It seems that managers with appropriate control over their emotions, both negative and positive, are more likely to sustain satisfaction in their profession. The results of our study may inform the psychological counseling of corporate managers, a topic that merits additional empirical research (Singh, 2015), especially regarding shaping managerial competency on corporate resiliency during times of various business shocks and general market uncertainty (Nguyen et al., 2023).

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Appendix

Table A1. Reflections on the Impact of the Covid-19 Pandemic in the Early Stages and Profile Personality Traits, Risk Approach and Covid-19 Distress as Predictors of Measures Implemented in the Company.

	Effects								
	Profile			Early stages			Interaction		
Measures implemented	χ^2	*df*	*p*	χ^2	*df*	*p*	χ^2	*df*	*p*
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	0.01	2	.999	1.67	2	.434	5.72	4	.221
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	0.34	2	.842	0.01	2	.999	0.81	4	.937
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	0.02	2	.989	1.76	2	.414	0.73	4	.948
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using 'credit holidays' or renegotiating payment schedules; increasing credit lines)	0.81	2	.667	2.13	2	.344	0.32	4	.988
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimise disruption to ongoing operations in the event of a pandemic disruption to logistics	0.05	2	.975	3.43	2	.180	3.66	4	.454
Reductions in variable costs (e.g. wage costs)	0.01	2	.999	0.15	2	.928	0.19	4	.996
Increase in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.22	4	.994
Decrease in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.01	4	.999
The company did not take any of the measures outlined above	0.01	2	.999	0.01	2	.999	0.33	4	.988
Direct financial support									
No direct financial support	0.01	2	.999	2.35	2	.309	4.30	4	.367
Direct payments (e.g. subsidies, compensation schemes)	0.87	2	.647	2.27	2	.322	2.58	4	.631
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	8.73	2	.013	6.32	2	.042	4.31	4	.366
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	0.01	2	.999	0.19	2	.911	1.54	4	.819
Public purchase of the company's equity	0.01	2	.999	0.01	2	.999	0.01	4	.999
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	0.01	2	.999	0.01	2	.999	0.14	4	.998
Influence of the Covid-19 pandemic on investment decisions									
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	2.32	2	.313	15.34	2	.001	1.44	4	.837
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	3.50	2	.174	3.96	2	.138	5.27	4	.261
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	5.34	2	.069	3.00	2	.223	4.89	4	.298
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	0.01	2	.999	0.01	2	.999	0.01	4	.999
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	0.01	2	.999	0.01	2	.999	0.01	4	.999
Efforts to increase resilience to possible future extreme events:									
Purchasing or increasing the company's insurance coverage	0.01	2	.999	0.38	2	.829	0.49	4	.975
Investing in financial products to protect against extreme events	10.22	2	.006	3.11	2	.211	2.14	4	.710
Collecting additional liquidity buffers	1.81	2	.404	0.26	2	.876	1.83	4	.767
None	10.81	2	.004	0.82	2	.663	1.81	4	.770

Note: χ^2: Wald chi-square statistics; *df*: degrees of freedom; *p*: statistical significance.

Table A2. Reflections on the Impact of the Covid-19 Pandemic at Present and Profile Personality Traits, Risk Approach and Covid-19 Distress as Predictors of Measures Implemented in the Company.

	Effects								
	Profile			At present			Interaction		
Measures implemented	χ^2	*df*	*p*	χ^2	*df*	*p*	χ^2	*df*	*p*
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	0.01	2	.999	0.01	2	.999	0.47	3	.925
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	0.03	2	.985	3.54	2	.171	0.23	3	.972
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	3.08	2	.214	0.25	2	.881	1.79	3	.617
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using 'credit holidays' or renegotiating payment schedules; increasing credit lines)	1.21	2	.546	5.47	2	.065	1.18	3	.757
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimise disruption to ongoing operations in the event of a pandemic disruption to logistics	0.01	2	.999	0.01	2	.999	0.02	3	.999
Reductions in variable costs (e.g. wage costs)	0.35	2	.841	1.55	2	.460	0.23	3	.973
Increase in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.01	3	.999
Decrease in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.01	3	.999
The company did not take any of the measures outlined above	0.01	2	.999	0.01	2	.999	0.33	3	.954
Direct financial support									
No direct financial support	4.13	2	.127	0.04	2	.981	0.15	3	.985
Direct payments (e.g. subsidies, compensation schemes)	0.36	2	.835	2.53	2	.282	2.71	3	.439
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	5.62	2	.060	0.33	2	.847	4.64	3	.200
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	0.74	2	.690	0.04	2	.981	2.43	3	.488
Public purchase of the company's equity	0.01	2	.999	0.01	2	.999	0.01	3	.999
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	0.01	2	.999	0.01	2	.999	0.76	3	.860
Influence of the Covid-19 pandemic on investment decisions									
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	0.99	2	.611	1.39	2	.499	0.02	3	.999
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	0.10	2	.949	2.87	2	.238	1.59	3	.662
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	2.56	2	.278	3.36	2	.187	0.37	3	.947
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	0.01	2	.999	0.01	2	.999	0.01	3	.999
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	0.01	2	.999	0.01	2	.999	0.01	3	.999
Efforts to increase resilience to possible future extreme events:									
Purchasing or increasing the company's insurance coverage	0.55	2	.760	0.05	2	.974	0.10	3	.992
Investing in financial products to protect against extreme events	6.38	2	.041	1.44	2	.487	2.08	3	.555
Collecting additional liquidity buffers	0.50	2	.778	0.27	2	.874	1.03	3	.793
None	0.11	2	.948	0.06	2	.971	1.92	3	.590

Note: χ^2: Wald chi-square statistics; *df*: degrees of freedom; *p*: statistical significance.

Table A3. Reflections on How Decrees to Contain the Spread of the Pandemic Affected the Operation of the Company and Profile Personality Traits, Risk Approach and Covid-19 Distress as Predictors of Measures Implemented in the Company.

	Effects								
	Profile			Operation affected			Interaction		
Measures implemented	χ^2	*df*	*p*	χ^2	*df*	*p*	χ^2	*df*	*p*
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	1.18	2	.554	1.58	3	.665	2.80	4	.591
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	0.44	2	.801	0.36	3	.948	0.86	4	.931
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	5.78	2	.055	1.28	3	.734	2.71	4	.607
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using 'credit holidays' or renegotiating payment schedules; increasing credit lines)	0.16	2	.924	1.38	3	.711	2.39	4	.665
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimise disruption to ongoing operations in the event of a pandemic disruption to logistics	0.35	2	.838	1.97	3	.579	3.67	4	.452
Reductions in variable costs (e.g. wage costs)	0.01	2	.999	0.01	3	.999	0.01	4	.999
Increase in prices in order to increase revenue	0.01	2	.999	0.01	3	.999	2.13	4	.712
Decrease in prices in order to increase revenue	0.01	2	.999	0.01	3	.999	0.01	4	.999
The company did not take any of the measures outlined above	0.01	2	.999	0.01	3	.999	0.01	4	.999
Direct financial support									
No direct financial support	5.62	2	.060	10.59	3	.014	6.60	4	.159
Direct payments (e.g. subsidies, compensation schemes)	2.12	2	.347	1.11	3	.774	2.69	4	.610
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	0.01	2	.999	0.01	3	.999	3.29	4	.510
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	0.67	2	.714	4.77	3	.189	3.53	4	.474
Public purchase of the company's equity	0.01	2	.999	0.01	3	.999	0.01	4	.999
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	0.01	2	.999	0.01	3	.999	0.94	4	.919
Influence of the Covid-19 pandemic on investment decisions									
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	0.01	2	.999	1.99	3	.575	5.66	4	.226
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	0.62	2	.732	2.50	3	.476	2.04	4	.729
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	4.20	2	.122	4.51	3	.212	3.44	4	.488
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	0.01	2	.999	0.01	3	.999	0.17	4	.996
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	0.01	2	.999	0.01	3	.999	0.01	4	.999
Efforts to increase resilience to possible future extreme events:									
Purchasing or increasing the company's insurance coverage	0.14	2	.931	1.53	3	.676	4.47	4	.346
Investing in financial products to protect against extreme events	11.39	2	.003	6.53	3	.088	7.16	4	.128
Collecting additional liquidity buffers	4.76	2	.093	0.65	3	.886	6.22	4	.183
None	2.67	2	.263	14.36	3	.002	4.13	4	.389

Note: χ^2: Wald chi-square statistics; *df*: degrees of freedom; *p:* statistical significance.

Table A4. Reflections on the Impact of the Covid-19 Pandemic on the Company's Performance and Profile Personality Traits, Risk Approach, and Covid-19 Distress as Predictors of Measures Implemented in the Company.

	Effects								
	Profile			Performance			Interaction		
Measures implemented	χ^2	*df*	*p*	χ^2	*df*	*p*	χ^2	*df*	*p*
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	0.01	2	.999	0.05	3	.997	2.95	6	.814
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	0.01	2	.999	3.56	3	.313	2.17	6	.904
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	0.01	2	.999	0.22	3	.974	2.58	6	.860
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using 'credit holidays' or renegotiating payment schedules; increasing credit lines)	0.01	2	.999	1.61	3	.658	3.22	6	.781
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimise disruption to ongoing operations in the event of a pandemic disruption to logistics	0.01	2	.999	1.00	3	.801	11.81	6	.066
Reductions in variable costs (e.g. wage costs)	0.01	2	.999	0.01	3	.999	1.62	6	.951
Increase in prices in order to increase revenue	0.01	2	.999	0.01	3	.999	0.01	6	.999
Decrease in prices in order to increase revenue	0.01	2	.999	0.01	3	.999	0.01	6	.999
The company did not take any of the measures outlined above	0.01	2	.999	0.01	3	.999	1.76	6	.941
Direct financial support									
No direct financial support	0.01	2	.999	6.24	3	.100	3.59	6	.732
Direct payments (e.g. subsidies, compensation schemes)	3.52	2	.172	8.08	3	.044	5.18	6	.521
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	1.35	2	.509	0.48	3	.922	2.13	6	.908
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	0.01	2	.999	0.12	3	.989	1.26	6	.974
Public purchase of the company's equity	0.01	2	.999	0.01	3	.999	0.01	6	.999
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	0.01	2	.999	0.01	3	.999	1.47	6	.961
Influence of the Covid-19 pandemic on investment decisions									
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	0.01	2	.999	6.69	3	.082	1.76	6	.941
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	0.03	2	.985	3.95	3	.267	2.12	6	.908
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	0.01	2	.999	0.63	3	.889	0.60	6	.996
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	0.01	2	.999	0.01	3	.999	0.01	6	.999
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	0.01	2	.999	0.01	3	.999	0.01	6	.999
Efforts to increase resilience to possible future extreme events:									
Purchasing or increasing the company's insurance coverage	0.01	2	.999	0.20	3	.977	1.87	6	.931
Investing in financial products to protect against extreme events	0.22	2	.896	0.95	3	.814	3.49	6	.746
Collecting additional liquidity buffers	4.17	2	.124	2.35	3	.503	6.31	6	.390
None	0.01	2	.999	7.60	3	.055	1.99	6	.921

Note: χ^2: Wald chi-square statistics; *df*: degrees of freedom; *p:* statistical significance

Table A5. Reflections on Liquidity Problems and Profile Personality Traits, Risk Approach and Covid-19 Distress as Predictors of Measures Implemented in the Company.

	Effects								
	Profile			Liquidity			Interaction		
Measures implemented	χ^2	*df*	*p*	χ^2	*df*	*p*	χ^2	*df*	*p*
Reduction of operating leverage (reduction of the share of fixed costs in total operating costs) and/or changes in the business model aimed at increasing flexibility	0.05	2	.977	0.64	2	.724	3.95	4	.413
Intentional reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure)	0.01	2	.999	1.32	2	.517	2.03	4	.730
Forced reduction of financial leverage (reduction of the share of interest-bearing debt in the total capital structure) due to difficulties in renewing maturing debt financing or difficulties in obtaining new debt financing	1.84	2	.398	6.92	2	.031	1.62	4	.805
Actions aimed at increasing cash resources in the company (e.g. tightening the policy of collecting receivables; delaying payments; deferring current expenses and/or investments; using 'credit holidays' or renegotiating payment schedules; increasing credit lines)	1.68	2	.432	0.02	2	.990	2.27	4	.687
Actions to increase stocks of raw materials, materials and/or goods or other actions to minimise disruption to ongoing operations in the event of a pandemic disruption to logistics	0.01	2	.999	3.96	2	.138	2.54	4	.637
Reductions in variable costs (e.g. wage costs)	0.01	2	.999	0.01	2	.999	0.01	4	.999
Increase in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.01	4	.999
Decrease in prices in order to increase revenue	0.01	2	.999	0.01	2	.999	0.01	4	.999
The company did not take any of the measures outlined above	0.01	2	.999	0.01	2	.999	0.01	4	.999
Direct financial support									
No direct financial support	0.01	2	.999	1.86	2	.395	0.57	4	.966
Direct payments (e.g. subsidies, compensation schemes)	0.71	2	.701	0.44	2	.804	5.94	4	.204
Tax relief (e.g. exceptional tax cuts, write-off of past fiscal debts, postponements)	1.67	2	.434	1.20	2	.548	2.06	4	.725
Loan support (e.g. public guarantees, public loans, suspension of scheduled payments)	0.32	2	.853	4.04	2	.133	1.40	4	.844
Public purchase of the company's equity	0.01	2	.999	0.01	2	.999	0.01	4	.999
Public support of flexible working schemes (e.g. short-time work with public support for wage payments)	0.01	2	.999	0.01	2	.999	0.01	4	.999
Influence of the Covid-19 pandemic on investment decisions									
It has had no effect; investments in progress were continued and investments previously planned were implemented according to the original plan	0.01	2	.999	0.01	2	.999	0.01	4	.999
Investments in progress were continued, but planned investments were delayed or even discontinued due to the pandemic	1.26	2	.531	0.47	2	.789	5.57	4	.233
Some investments already in progress were interrupted, and those planned earlier were delayed or abandoned	0.02	2	.989	3.59	2	.166	6.89	4	.142
The pandemic was an impetus to start new investments that the company had not planned before but mainly in the current area of activity	0.01	2	.999	0.01	2	.999	0.01	4	.999
The pandemic was an impetus to start new investments that the company had not planned before in new areas of activity	0.01	2	.999	0.01	2	.999	0.01	4	.999
Efforts to increase resilience to possible future extreme events:									
Purchasing or increasing the company's insurance coverage	0.01	2	.999	0.08	2	.962	0.83	4	.934
Investing in financial products to protect against extreme events	0.14	2	.932	0.80	2	.670	3.38	4	.497
Collecting additional liquidity buffers	0.33	2	.847	5.87	2	.053	3.39	4	.495
None	0.01	2	.999	0.01	2	.999	0.70	4	.951

Note: χ^2: Wald chi-square statistics; *df*: degrees of freedom; *p:* statistical significance.