Cross-cultural and gender differences as predictors of workaholic and perfectionist attitudes during the Covid-19 pandemic

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This cross-cultural study examines the phenomena of workaholism and perfectionism across European and Asian cultures during the Covid-19 pandemic. A total of 2617 recipients aged 18–70 years from Asia (China, India and Indonesia) and Europe (Bulgaria, Germany and Hungary) completed questionnaires about workaholism (DUWAS) and perfectionism (MPS). The study's goal was to reveal whether Asian and European cultures mediate differently the impact of the Covid-19 pandemic on these phenomena, and change their psychological dimensions in a different way. The results were processed with SPSS-25 and analysis of the data revealed that the way in which Covid-19 affects workaholics' and perfectionists' attitudes depends on cultural and gender differences. For example, the cultural differences affect the dimensions of workaholism (*workaholism excessive / workaholism compulsive*) in such a way that in

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the Asian sample, unlike the European, there is a significant increase in the level of workaholism compulsive. Concerning perfectionism, the analysis reveals that when comparing the two samples, the representatives of Asian culture, unlike European participants, show a significant ($P < 0.05$) increase in the levels of the three dimensions *self-oriented, other-oriented* and *socially prescribed perfectionism*. Particularly remarkable are the differences concerning socially prescribed perfectionism in the Asian sample ($d = 0.56$; $d = 0.55$), which reflects the individual's desire to be perfect in order to meet the expectations of others.

Keywords: Asians, Covid-19, cross-cultural, Europeans, perfectionism, research, workaholism

1. Introduction

The world entered a new paradigm of existence in 2020. The reason for this global change is the large-scale crisis caused by the Covid-19 pandemic, which has affected all spheres of social life. A theoretical study [55], published six years before the pandemic outbreak, analysed the global crises that humanity will face, such as economic crises, migration crises, environmental crises and others. It predicted the outbreak of a global health crisis, stating that all countries in the world face a potential health crisis at any time, and that the crisis, caused by the worldwide epidemic, would be combined with the inability of science to keep up with the evolution of microbes and viruses, and that this health crisis could cause a total degradation of health, leading to irreversible change and death.

The Covid-19 pandemic exceeded all expectations and forecasts, as it affected not only human health but led to profound changes in the economy, politics, interstate relations, tourism and so on. The pandemic situation has had a particularly strong impact on people's daily lives and on interpersonal communication. Forced restriction of contacts and the requirement for social distancing (meaning maintaining a minimum physical distance between interlocutors, or the total prohibition of face-to-face meeting) and the encroachment on personal identity by compulsory mask wearing led to a prolonged insufficiency of personal communication (i.e. social isolation, causing severe damage to people's mental health), limited physical activity (in turn leading to physiological and mental health problems) and, as further consequences, unemployment and an economic downturn. Of course, the pandemic's effects vary depending on individuals' characteristics as well as on the specifics of their cultures. There are individuals and groups who, due to their personal, sociopsychological and professional characteristics, are less or more vulnerable than others. From a psychological point of view, some of the most vulnerable groups, i.e. those most severely affected by the pandemic, are *workaholics* and *perfectionists*.

The strong influence of the pandemic on these two groups is due to the very nature of the phenomena of workaholism and perfectionism. The consequences are severe for workaholics and perfectionists because social isolation and unemployment radically change their ways of life. For people in these groups, work is not only a source of livelihood but its intensity and perfect performance therein are supreme values that provide meaning to their ways of life. The pandemic situation has a particularly large impact on workaholics and perfectionists as it does not allow these two types of individuals to satisfy their inner need for self-realization, as they are restricted from doing intensive work and forcibly limited in their striving to be perfect.

The pandemic influence on these two groups is not direct or automatic but is refracted through the prism of their respective cultures. In order to reveal the extent to which the pandemic has affected these two groups of individuals and to determine whether this impact depends on different cultures, an intercultural study was conducted in the period April–June 2020 in three European (Bulgaria, Germany and Hungary) and three Asian (China, India and Indonesia) countries affected by the pandemic. The results of the study will be discussed in the following sections.

2. Covid-19 as a situation of extreme insecurity

Given the impact of the extreme pandemic situation on individuals' mental health, it can reasonably be asserted that the psychological damage inflicted on people is much more significant than the virus itself. This applies to workaholics and perfectionists, but also to all individuals living through a pandemic situation. For example, their personal identity is disturbed, some lose hope for the future, and others fall into depression. Generally, this is due to the fact that the outbreak of the Covid-19 pandemic placed humanity into a new and unknown crisis situation, characterized by extreme uncertainty. As is well known, humanity is currently in a state of "soft" crises caused by environmental problems, excessive migration and economic difficulties. These crises contribute to why humanity is constantly in a situation of low levels of security. A typical example of this is the uncertainty created by the dynamics of financial markets.

Prior to the Covid-19 pandemic, the globalized world was characterized by the so-called *first level of uncertainty*, caused and determined by the predominant role of financial markets. Within this first level of uncertainty, all mid-term and long-term predictions about one's future are permeated by unreliability due to the uncertainty inherent in financial markets as well as the constant threat of crisis that springs from them.

The genuine reality in the epoch of domination by financial markets, fiat money and financial speculation is epitomized by reducing human beings to statistical units, serving various projects and reports, and justifying any workplace actions as warranted for the sake of the omnipotent financial order. Human behaviour is a perfect candidate for acquiring statistical value, processed through endless reports. Abstract statistical units can easily fit into the mould of those hit by the next typhoon, hurricane, nuclear disaster or financial crisis. Applied statistics can be employed in the scrutiny of austerity measures, in industry privatization, rationalization or downsizing. Statistical units can help us understand the behaviour of war refugees, human and civil rights activists, or EU integration devotees. Statistical units do not have to produce, nor do they need to consume, but their duty is always to exist in the statistical reports and at times to be present outside these reports. They are, as Gungov points out [33], the new ideal type towards which global society is rushing in the present third millennium. This means that persons are not only alienated, reified and reduced to a labour force or population of consumers but are actually converted into sheer statistical units [34].

Prevailing ideological discourse converts genuine reality into multifaceted delusive forms such as law-abiding citizens, civil rights activists, mass investors, consumers, dedicated team workers and so forth. These converted forms masterfully disguise and hide the genuine reality of human beings as statistical units. Workaholism and perfectionism in all their forms (the two forms of workaholism and three forms of perfectionism) act in the same direction of ideological conversion and aptly support the dominating ideological discourse.

The Covid-19 pandemic adds to the above financial uncertainty, which can safely be named the "first level of uncertainty", two more levels. The second level of uncertainty is linked to the random, nonuniform and, therefore, arbitrary manner in which SARS-CoV-2 infects a certain population, to the ensuing course of the disease (including the efficacy or inefficacy of treatment, either preventive like vaccination or responsive) and, finally, to the unreliability of prognosis.[1] The third level of uncertainty is generated by the unpredictable behaviour of the virus in terms of its continual mutation.

This triple uncertainty is obviously much more difficult to cope with than the single uncertainty with which societies are more frequently confronted. Most probably, the uncertainty increase is not three times according to an arithmetic progression but no less than 27 times according to a geometric progression. With such a dramatic increase of uncertainty, it is incontestable that human vulnerability also increases collaterally. This is the milieu of rampant uncertainty and insecurity, where person-centred medicine, expressing and relying on the intersubjective relationship between patient and physician, both as persons, is summoned to lay the grounds for patient safety. The person-centred approach acts in the same direction as Friedrich Luft's warning that "Big Data" in patient care could easily be turned into an Orwellian "Big Brother" [34].

Workaholism and perfectionism during the Covid-19 pandemic again might turn out to be instrumental in alleviating the consequences of this tremendous uncertainty and helping the survival of workaholic and perfectionist individuals. Besides, it seems that the internal forms (when these strategies have become a need and do not depend very much on the demands or opinions of others) of both attitudes will start to play a leading role at the expense of external ones. Internal forms of workaholism and perfectionism, in a situation of extreme uncertainty, win against the external because all external stimuli, like higher remuneration, pleasing one's boss and making sure not to lose one's job, become insubstantial in the face of total uncertainty. These two personality constructs, in their internal forms, can prevent and/or mitigate various psychic disorders; in the first place, anxiety disorders. Diseases are neither ideal universal entities abiding in the Platonic realm, nor are they inherent only in an individual patient, making no sense outside his or her body, nor again are they simply a mysterious manifestation of a universal property in a particular case. They are rather a product of interpretation consisting of several components: the physician's knowledge and experience; the patient's feelings and his or her awareness; and the interaction between the physician and the patient [33]. Finally, these attitudes can also serve as imaginable anchors, keeping human beings afloat in the ocean of unceasing risks.

The role of workaholism and perfectionism in the Covid-19 pandemic differs from previous times in terms of serving to convert genuine reality into plausible but delusive and deceptive semblances of the dominant ideological discourse. This is due to the simple fact that, within hyperuncertainty, all social roles ideologically ascribed become vague and totally insignificant. What significance remains is only thanks to the closest circle of family and dearest friends. Workaholism and perfectionism in the Covid-19 pandemic are capable of bringing some hope, intuition and energy in order to face the social crisis for the sake of nearest and dearest as well as oneself, banish psychic disorders, and even cope with the eclectic virus threat.

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[1] Regrettably, even the most powerful advocates of vaccination left many questions unanswered, especially concerning unpredictable side effects, occasional or more frequent infection after vaccination, and reported evidence of death "with" or "because of" vaccination.

3. Workaholism and perfectionism—two sides of the same coin

Ordinary people have a clear idea of what workaholism and perfectionism mean. Both are terms from everyday language that are often used in daily life, but their scientific explanation is very contradictory. For the average person, the "workaholic" is a dedicated "hard worker", in love with his or her job; an ambitious and successful colleague with whom everyone would like to partner. The perfectionist is usually defined as a person who is purposeful, organized and demanding of himself or herself and others; a person who sets high standards and strives to perform each task in the best way. To briefly describe the perfectionist, one can point out the most important personality trait—the pursuit of perfection. Such an individual is extremely motivated and is really satisfied with his or her work only when the achieved result is in accordance with his or her personal claims to be flawless or perfect.

People usually find it difficult to distinguish between the two constructs and view them as two sides of the same coin. This is because workaholics very often not only work intensively and actually accomplish a large amount of work but at the same time strive to make their performance perfect. Perfectionists, on the other hand, like workaholics work hard and spend a lot of time to achieve excellent results. However, scientists studying these two phenomena approach them in a different way. As shown below, the scientific view does not coincide with those of ordinary consciousness since it interprets the two constructs in completely different ways and offers different classifications of them.

3.1 The nature of workaholism

The term workaholism was introduced in the early 1970s by the American psychologist W. Oates [64]. He coined the term "workaholic" as a combination of two English words and interpreted the term as a "kind of addiction". By way of illustration, in the book by B. Robinson [69], *Work Addiction: Hidden legacies of adult children*, the author defined workaholism as psychological dependence, a disorder of addiction to work, which affects the individual in such a negative way that it leads to an adverse impact on self-control, conflicts with others, and may engender the breakdown of family relationships.

To some extent, this negative view of workaholism is due to the fact that most studies demonstrate a link between this construct and burnout. Many authors, such as Andreassen et al. [3–6] and Schaufeli et al. [75], associate workaholism with well-being and health, and suggest that this construct is the main cause of professional burnout, with severe consequences for individuals and organizations. Negative views of workaholism are supported by studies that reveal the unfavourable relationships between family and professional roles [58,71].

The argument that workaholism has no positive characteristics appears to be too extreme and hardly true. It seems doubtful to claim that the individual, working intensively, is actually engaged in an activity that only causes suffering and negative experiences. Subsequently, this negative conceptualization of workaholism as only a negative phenomenon has been criticized by many authors. Some of the studies show that workaholics put a lot of effort and time into their work, not because they feel traumatized but because they feel an inner need to work and enjoy participating in the work experience [86]. At the end of the 20th century, a more balanced approach gained the attention of researchers on workaholism. Workaholics are no longer seen

as traumatized, desperate and unhappy individuals, although it is assumed that under certain conditions they do feel this way [27]. This balanced approach presupposes the existence of different types of workaholism; some of the researchers attribute positive characteristics to workaholics. The results of studies on workaholism conducted in the early years of this century encourage scientists to look at this phenomenon with greater optimism [5,38]. In the last two decades, due to economic globalization, workaholism has become particularly important and many studies have been published [3,4,9,12,23,30,35,61,63,70,74,77,82]. These studies have contributed to a more detailed clarification of the nature of workaholism and, in addition, intercultural analyses have shown that the results depend on the cultural context [7,51,72,73,81].

3.2 The construct of perfectionism

There is no consensus in the scientific literature on the nature and characteristics of perfectionism. Some authors define the perfectionist as a person who sets ambitious goals, seeks the path to perfection, and achieves enviable success [24,68]. However, others note that along with striving to be excellent, perfectionists are extremely critical of their own performance. For example, according to Stoeber [84], perfectionism is a quality of personality to strive for flawlessness and set exceedingly high standards for performance, accompanied by tendencies for overly critical evaluations.

Until the 1980s, perfectionism was seen as a negative personality trait. K. Horney probably made a significant contribution to this perspective. She suggested, early in the 1950s, that perfectionism is a strong neurotic disposition without any positive aspects [50]. This negative interpretation contradicts common sense and everyday practice but nevertheless continued to be influential for decades. It was only at the end of the last century that this negative view was challenged when most researchers agreed that perfectionism also has positive characteristics. Many researchers accepted Adler's idea that, without striving for perfection, human life loses its meaning. At the same time, Adler believed that individuals strive to achieve perfection in two ways—through functional and dysfunctional behaviours [85]. Perfectionism, according to Adler, is a complex trait of personality. He defines it as the innate striving of the individual to achieve perfection. At the same time, he accepts that there are differences between individuals, which are expressed in the way they strive to reach perfection—through either *functional* or *dysfunctional* behaviours [2].

Adler's views were supported by Hamachek, who suggested that at the practical level positive and negative forms of perfectionism must be distinguished [36]. He refers to the first type as *normal perfectionism*, in which the individual's aspirations to perfect performance are accompanied by positive experiences. The second form he describes as *neurotic perfectionism*, in which individuals have negative experiences, often bordering on anxiety and depression. Research supported this duality, although considered quite controversial. Ultimately, the view of perfectionism as a psychopathological phenomenon was discredited by the late 1980s [65].

Despite the contradictions in views, the one-sided vision of perfectionism as a one-dimensional construction was finally challenged only in the late 1990s. Researchers such as Frost et al. [25] and Hewitt & Flett [39,40] began to focus their work on the multidimensional nature of this personality construct in its social forms. Some researchers supported the multifaceted nature of perfectionism. For example, Chan [10] viewed perfectionism as being

both positive *and* negative. According to Hamachek [36], as noted above, there are two types of perfectionists—those that are adaptive (normal) and those who are maladaptive (neurotic). The adaptive perfectionist is positive, has high self-esteem, and sets high but reasonable standards. In contrast, the maladaptive perfectionist sets unreasonable goals and has high expectations. The adaptive perfectionist is highly organized and sets realistic standards [19], whereas the maladaptive perfectionist produces several abnormal states, including depression, stress, anxiety, helplessness, eating disorders and other conditions [11,67].

The most famous multidimensional models of perfectionism have been proposed by Frost and co-workers [25], and by Hewitt & Flett [40]. According to Frost's model, for example, six components of perfectionism can be distinguished—*personal standards, organization, doubts about actions, concern over mistakes, parental expectations,* and *parental criticism.* These components reflect: *first*, the high standards set by the perfectionist and the fear of making mistakes; *second*, expectations of possible criticism from significant others; *third,* the tendency to participate in organizational structures with reward and punishment consequences [85].

3.3 A modern view on workaholism and perfectionism

The above analysis shows that the scientific explanation of these two constructs—workaholism and perfectionism—was carried out similarly from a historical perspective. Initially the essence of each construct was presented in negative terms, and only at the end of the 20th century did the approach become more balanced, taking into account both positive and negative aspects. More recent understanding of the essence of these two constructs takes into account their positive and negative sides, which in practice means that both workaholic and perfectionist individuals should not be perceived only in a positive or only in a negative light. This balanced approach to them is supported by sufficient theoretical and empirical research. An example of such a balanced approach is the concept of Schauffeli and his colleagues about workaholism [73]. They define workaholism as the tendency to work excessively hard (the behavioural dimension) and being obsessed with work (the cognitive dimension), which manifests itself in working compulsively. In short, for them, depending on internal motivation and on the external conditions and the characteristics of work, workaholism manifests itself as a combination of two trends—to work excessively, and to work compulsively. Based on these ideas, a two-dimensional measure was developed by Schaufeli et al. [72–74]—dubbed the Dutch workaholism scale (DUWAS). It measures the degree of workaholism by a combination of its two dimensions—workaholism excessive (WE) and workaholism compulsive (WC). The high degree of correlation between the dimensional scores supports the conclusion that the combination of these two tendencies produces a typical workaholism score.

A further example of a balanced approach is Hewitt & Flett's [40] concept of perfectionism. They offer a three-dimensional model of perfectionism, in which they distinguish three forms of this personal construct:

• Self-oriented perfectionism(SOP) *that reflects the individual's striving to be perfect;*
• Other-oriented perfectionism(OOP) *that reflects the tendency to demand perfection from others;*
• Socially prescribed perfectionism(SPP) *that reflects the individual's desire to be perfect in order to meet the expectations of others.*

Based on 30 years of research experience, Flett & Hewitt [22] concluded that there are seven definitive truths about perfectionism. They believe that perfectionism is *about people*, that it is *unique*, *global*, *complex*, *relational* and, finally, that this phenomenon is *a paradox* and can be regarded as *a problem in living*.

Nevertheless, some researchers continue to accept negatively the construct of perfectionism, while others perceive it more positively, taking into account the end results of perfect performance. For example, on the one hand, perfectionism is related to fear, suspicions of wrongdoing and fears of parental criticism [15]. However, on the other hand, the individuals' desire to be perfect in performance leads to higher levels of efficiency and productivity [28].

While some studies yield positive results and achievements of perfectionistic individuals, most authors focus on the negative effects of perfectionism. For example, studies on perfectionism in children and adults reveal a positive correlation between indicators of perfectionism and suicidal thoughts [20,37,83]. A similar relationship is found for anxiety disorders. Further, more severe symptoms and less effective treatment are observed in children-perfectionists [1,15]. Many researchers point to maladaptive perfectionism as an important factor in the etiology of eating disorders [8,95]. For example, a connexion between perfectionism and symptoms of bulimia, as well as its interaction with the risk factors in the production of food pathology, has been found [94]. A longitudinal study suggests that perfectionism can lead to earlier mortality in chronically ill patients [26]. It has also been found that when perfectionists have chronic health problems, they utilize mostly maladaptive emotional coping strategies, have difficulty with psychosocial adaptation and, consequently, the impact of the disease is greater [21]. As some studies note, perfectionists are more susceptible to stress and feel lower levels of social support. These conditions, in turn, can contribute to health problems and the development of psychopathologies over time [11,62].

It is necessary to mention that the perfectionist's excessive commitment to details, often small and insignificant, takes up much time and reduces efficiency. These situations prevent the individual from achieving a state of relaxation, producing a high level of stress [92]. A study by Taris and coworkers [86] suggested that socially prescribed perfectionism affects emotional exhaustion, not only directly but also indirectly, increasing workaholic behaviour.

In summary, there is research evidence for a connection between perfectionism, and such psychopathological outcomes as suicide [20,37,80,83], eating disorders [8,14,53,94,95], stress, anxiety and burnout [1,11,43,62,92]. It can be concluded, based on these results, that in certain cases perfectionistic individuals can be seen in a positive light whereas, in other cases, negative qualities must be taken into account.

However, all the above attributes and characteristics of workaholism and perfectionism are demonstrated on the basis of research conducted in a normal social environment, where working conditions and factors influencing work activity are usually structured. It would be valuable to study the changes in perfectionism in an unstructured, nonstandard critical situation that has arisen in different cultures. Such a situation started in 2020 with the outbreak of the global pandemic crisis caused by Covid-19. This challenge motivated the authors to conduct the current study of workaholism and perfectionism in order to learn more about the nature of these two constructs and to examine whether cultural differences affect changes in their configuration during a critical pandemic situation.

3.4 Research goal and hypotheses

It is obvious that in a pandemic people's attention is focused primarily on their own survival and the survival of their loved ones. But the survival of individuals is not only about successfully dealing with the external life-threatening agent (SARS-CoV-2 in the case of Covid-19) but also about coping with the critical economic and sociopsychological situation created by the pandemic. As noted above, the pandemic is accompanied by an economic crisis, unemployment and social exclusion. This led, in many cases, to blocking the natural need for self-actualization through work, which put at risk the mental health of both workaholics and perfectionists. It is assumed that, as a result of various experiences during this critical situation, changes occur in the nature and manifestation of the constructs of workaholism and perfectionism, which lead to changes in the social and economic behaviour of individuals. Importantly, what is the role of the cultural context in this pandemic situation, and do cultural differences affect the phenomena of workaholism and perfectionism? The search for an answer to this question provoked the present study because it is important to learn whether the pandemic situation caused by Covid-19 differently changes the behaviour of workaholics and perfectionists depending on cultural contexts. In order to provide some answer to this question a study of the two constructs in different cultural environments—European and Asian—was carried out at the beginning of the pandemic in 2020. The specific scientific aim of the study was to check the state of the two constructs—workaholism and perfectionism—in order to ascertain whether the resulting unusual pandemic situation changes the configuration of these two constructs, and to reveal whether different cultures affect the way this change occurs.

In line with the above scientific objectives, we have formulated two main assumptions about the impact of the Covid-19 pandemic on the phenomena of workaholism and perfectionism and postulated that their change depends on the cultural context and gender. The formulated hypotheses are based on basic theoretical statements proven in previous studies. For example, Hofstede [44,46] articulated the dominant research paradigm in organizational psychology as examining cultural differences in work values. Among the cultural approaches important to solving problems in organizational life, Hofstede included the "individualism–collectivism" relation. Schwartz and his colleagues [76] suggested that cultural values reflect ways to deal with the basic social problems of society. The question of what makes cultural groups different from one another is the extent to which people are either individualistic, independent of the other's personality, or collectivistic, creating interdependence in social relationships. The bipolar *individualistic–collectivistic* variable has had a great influence on cross-cultural research [29]. Individualism–collectivism is considered to be an important predictor of behaviour in the workplace. For example, collectivistic cultures are more likely to produce workers that conform to and value harmony. In the case of attitudes toward workaholic and perfectionist behaviour, we expect Asian collectivistic cultures to influence relationships toward working compulsively and aiming for perfectionism.

Gender differences are supported by the *masculinity–femininity* value dimension. The question about the origin of gender differences is of ubiquitous interest. Due to the modern nature of society, evolution cannot have made direct contributions, and gender differences must be assumed to be the outcome of forces of social structure and socialization [66].

In connexion with the research goal and in accordance with the basic theoretical statements mentioned above, the following two main hypotheses were formulated:

Hypothesis 1: Asian and European cultural contexts mediate in different ways the influences of the Covid-19 pandemic on constructs of workaholism and perfectionism and change workaholism (WE / WC) and perfectionism (SOP / OOP / SPP) dimensions differently.

Hypothesis 2: Gender differentiation mediates in different ways the impact of the Covid-19 pandemic on constructs of workaholism and perfectionism in Asian and European samples and changes workaholism (WE / WC) and perfectionism (SOP / OOP/ SPP) dimensions differently.

4. Method

4.1 Participants

The subjects of the study were representatives of two cultural groups drawn from Europe and Asia. The total number of participants included 2617 subjects aged between 18 and 70 ($M =$ 37.98, $SD = 15.20$), 1412 of whom were from Asia (45.9% identified as women, 49.6% as men, and 4.5% preferred not to answer), and 1205 were from Europe (64.6% identified as women, 34.5% as men, and 0.9% preferred not to answer). The average age of the participants from Asia was 32 years ($M = 31.50$, $SD = 12.77$); the average age of the participants from Europe was 45 years ($M = 44.96$, $SD = 14.51$).

The respondents have different professions, educational qualifications, family relations and financial statuses, reflecting well their national communities. Several important criteria, typical for representatives of both cultural groups, were taken into account in the selection of the countries for participation in the research:

Europe: The study included participants from Bulgaria ($N = 405$), Germany ($N = 400$), and Hungary ($N = 400$). These countries are influenced by the Christian religion and individualistic values and are located in different geographical regions—Eastern European, Western European and Central European.

Asia: The study included representatives of three countries—China ($N = 500$), India ($N = 500$) and Indonesia ($N = 412$). These are the three Asian countries with the largest populations, influenced by collectivistic values but have different religious systems—mainly Buddhism, Hinduism, Islam, Taoism, Confucianism and Catholicism.

4.2 Materials and procedure

The study was conducted online in the period from April to June 2020. Most participants were asked to fill out an Internet-based version of the questionnaire, and just a small portion of them (100 subjects) were tested with a paper-and-pencil version.

The *Research Ethics Approval Procedure* was not applied in this study, as the survey was anonymous, and respondents completed the online questionnaire voluntarily. In addition, the questionnaire is an internationally recognized research instrument, published in an established scientific journal, and repeatedly used in research.

To test the validity of the hypotheses, we used a brief version of the Dutch Workaholism Scale (DUWAS), developed by Schaufeli and his colleagues [73], and the Multidimensional Perfectionism Scale (MPS), developed by Hewitt & Flett [40–42].

DUWAS was developed as a two-dimensional measure, based on research in the Netherlands, Japan and other countries. It is composed of 10 items and includes two scales for

measuring Working Excessively (WE), and for measuring Working Compulsively (WC). All items are scored on a 4-point rating scale, ranging from 1 ("never") to 4 ("always"). In the present sample, the DUWAS-short version reliability is high: $\alpha = 0.85$. Cronbach's Alpha ranging from $\alpha = 0.74$ for WE, to $\alpha = 0.78$ for WC. High scores on the constructs (WE/WC) indicate high levels of workaholism. The short version of the scale is very suitable for cross-cultural research [51], which supports its use in the current study.

MPS is a 45-item measure where the items are structured into three subscales: self-oriented (SOP), other-oriented (OOP), and socially prescribed perfectionism (SPP). Each subscale consists of 15 items, scored on a seven-point Likert scale (from 1 "disagree" to 7 "agree"), where the higher scores on the items indicate higher levels of perfectionistic attitudes. For the whole sample, the reliability of the scale measuring perfectionism is high: $\alpha = 0.89$ and, for the subjects from Europe, $\alpha = 0.91$; for respondents from Asia $\alpha = 0.81$.

To examine the hypotheses, the following statistical methods were employed: descriptive statistics and independent samples *t*-test, paired-samples *t*-test, One-Way ANOVA, and *post hoc* tests.

5. Results

Hypothesis 1 suggests that it is the cultural contexts that differently mediate the influence of the Covid-19 pandemic on constructs of workaholism and perfectionism, changing their dimensions in different ways. Examining the results for workaholism requires checking whether Asian and European cultural contexts mediate the impact of the Covid-19 pandemic on this phenomenon in different ways and whether, as a result, in the two samples, Asian and European, there are different changes in their two dimensions (WE and WC). The role of cultural differences, in relation to the construct of workaholism, has been discussed in another work [56], but the current analysis is focused on their mediating functions during an extreme pandemic situation as determinants and predictors of workaholics' attitudes. The role of cultural differences concerning the construct of workaholism is reported below. The results shown in Table 1 reveal the way in which cultural differences affect workaholism configuration.

Table 1. Means (*M*) and standard deviations (*SD*) for WE and WC depending on the culture.

CULTURES	WE			WC		
	n	*M*	*SD*	*n*	*M*	*SD*
Asian	1395	12.24	2.64	1383	13.29	3.04
European	1198	12.07	3.68	1198	11.20	3.57

An independent-sample *t*-test indicated that, on the WE scale, there are no significant differences between Asian and European samples ($P > 0.05$). There are significant differences between Asian and European participants in relation to the WC scale: $t(2364) = 15.86, P < 0.001$, $d = 0.63$. The effect size ($d = 0.63$) indicates that 6% of the variability in relation to the WC is explained by the different types of culture. Based on these data a conclusion could be drawn that cultural contexts mediate the influence of the Covid-19 pandemic on the construct of

workaholism (WE/WC) in such a way that in the Asian sample, unlike European, there is a significant increase in relation to the WC level. The differences between the two workaholism dimensions are shown in Figure 1. The figure clearly outlines that during the pandemic, are existing different trends in Asian and European cultures concerning the two sides of workaholism. The first hypothesis addresses the influence of cultural differences on the phenomenon of perfectionism, too. In this case, the hypothesis suggests that Asian and European cultural contexts mediate the influence of the Covid-19 pandemic on the construct of perfectionism differently and, as a result, perfectionism dimensions SOP, OOP and SPP change in different ways. To verify this hypothesis, Student's t-test for independent samples and Cohen's t-test for determining the effect size [13] were used. Compared to European participants, Asian respondents have higher perfectionism levels on the three scales, with statistically significant differences in mean values: SOP $[t(2526) = -8.07, P < 0.001, d = 0.32]$, OOP $[t(2472) = -6.10, P < 0.001, d = 0.25]$ and SPP $[t(2469) = -11.58, P < 0.001, d = 0.47]$. The effect size found for SOP and SPP is of medium value, whereas for OOP it is small. In addition, the highest mean values for Asian respondents are found on the scale measuring SOP, and the lowest mean values on the scale measuring OPP. European, and Asian respondents, both have the highest mean values on the SOP scale, whereas European respondents score lowest on the SPP scale, unlike Asian participants (Table 2).
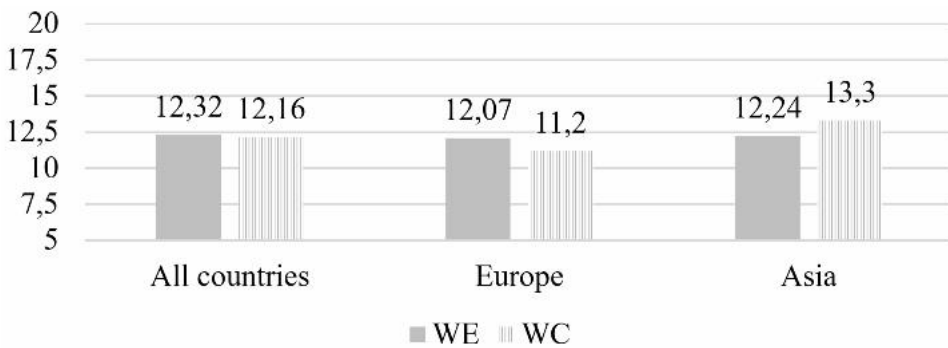

Figure 1. Differences between WE and WC levels.

Table 2 Means (M) and standard deviations (SD) for SOP, OPP and SPP depending on the culture.

CULTURES	SOP			OPP			SPP		
	n	M	SD	n	M	SD	n	M	SD
Asian	1341	70.53	14.12	1342	66.88	12.46	1340	67.64	13.34
European	1192	66.35	11.99	1188	64.21	9.45	1189	62.22	10.12

It is important to note that the difference between European and Asian participants is most pronounced on the scale measuring SPP, where the magnitude of the effect is highest ($d = 0.47$). These results confirm the assumption that cultural contexts mediate the influence of the Covid-19 pandemic on the construct of perfectionism in different ways and, as a result, produce significant differences between European and Asian respondents with respect to perfectionism dimensions.

The Second Hypothesis predicts that, along with the cultural context, gender differences also mediate the influence of the Covid-19 pandemic and, as a result, change the configuration of workaholism (WE / WC) and perfectionism (SOP / OOP / SPP). We assume, concerning workaholism, that Asian male and female respondents, by comparison to European male and female participants, will demonstrate different results in WE and WC levels. We expect such differences to be shown, both in comparing Europeans and Asians of the same gender and in comparing participants of the two samples with different genders.

To examine these differences an independent samples t-test was used. The results show that there are significant differences ($P < 0.05$) between European and Asian female participants on the scale measuring WC, with higher mean values present in the European sample (Figure 2): WC: $t(1408) = -9.70$, $P < 0.001$, $d = 0.52$. There are no significant differences between European and Asian female respondents on the scale measuring WE: $t(1397) = 0.56$, $P > 0.05$.
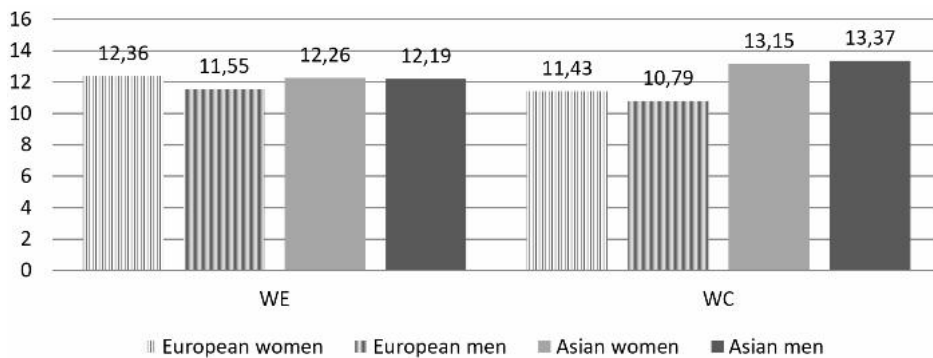

Figure 2. Mean values by gender and cultures in relation to WE and WC.

In comparing European and Asian male participants, Student's t-test for independent samples showed significant differences on the two scales of workaholism ($P < 0.05$) between the two cultural groups of respondents, with higher mean values observed in the Asian sample (Figure 2): WE: $t(641) = -3.19$, $P < 0.001$, $d = 0.26$; WC: $t(756) = -12.57$, $P < 0.001$, $d = 0.95$.

Unanticipated results were obtained when comparing Asian and European respondents of different genders. Asian male participants, compared to European female respondents, show higher mean values in relation to WC: $t(1270) = -6.53$, $P < 0.001$, $d = 0.37$. Higher mean values in relation to WC are also found in Asian female respondents compared to European males: $t(798) = 11.20$, $P < 0.001$, $d = 0.81$ (Figure 2).

In relation to WE, there are no significant differences between Asian male and European female respondents: $t(1371) = -1.02$, $P > 0.05$. Higher mean levels in WE are observed in Asian female respondents compared to European male participants: $t(717) = 3.40$, $P < 0.001$, $d = 0.26$. The differences are statistically significant (Figure 2).

To supplement Hypothesis 2, a comparative analysis between participants of different gender but within the same cultural group, Asian or European, was carried out. In this case, Student's t-test for independent samples was also used. The results show that there are significant differences ($P < 0.05$) between European male and female participants on two of the

scales measuring workaholism: WE: $t(1185) = -3.61$, $P < 0.001$, $d = 0.22$; and WC: $t(1185) = -2.93$, $P < 0.01$, $d = 0.18$. In both cases, higher mean values are found in relation to female participants (Figure 2).

Similarly, the data comparing Asian female and male participants were analysed. The results show (Figure 2) that there are no significant differences between Asian female and male respondents on the two scales measuring workaholism: WE: $t(1309) = -0.49$, $P > 0.05$, and WC: $t(1373) = 1.32$, $P > 0.05$. The differences in workaholism dimensions in comparing Europeans and Asians of the same gender and in comparing participants of the two samples with different genders have been the subject of a separate analysis [56].

The plausibility of Hypothesis 2 is also confirmed by the analysis of the data obtained for perfectionism. In this regard, we expect that gender differences between recipients in the two samples will be the reason for significant differences in relation to SOP, OOP and SPP levels. It is also expected that differences will be apparent both in comparing European and Asian respondents of the same gender and when the comparison is between the two cultural samples but with different genders. An independent samples t-test was used to examine these differences. The results show that there are significant differences ($P < 0.05$) between European and Asian female respondents on the three scales measuring perfectionism, with higher mean values present in the Asian sample (Figure 3): SOP: $t(1238) = -3.61$, $P < 0.001$, $d = 0.20$; OOP: ($M = 65.07$, $SD = 9.36$), $t(1172) = -2.65$, $P < 0.01$, $d = 0.14$; SPP: $t(1191) = -7.16$, $P < 0.001$, $d = 0.39$.
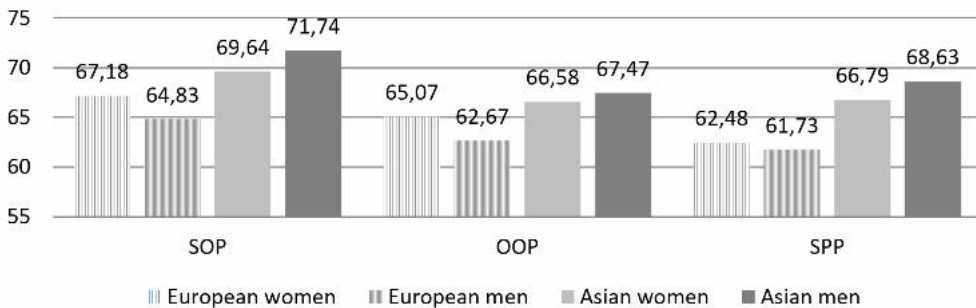

Figure 3. Mean values by gender and cultures in relation to SOP, OOP and SPP.

The results obtained when comparing European and Asian male respondents are similar. Student's t-test for independent samples showed significant differences on all three scales of perfectionism ($P < 0.05$) between the two groups of respondents, with higher mean values observed in Asian male respondents (Figure 1): SOP: $t(963) = -8.34$, $P < 0.001$, $d = 0.51$; OOP: $t(1040) = -7.09$, $P < 0.001$, $d = 0.43$; SPP: $t(1037) = -9.17$, $P < 0.001$, $d = 0.56$.

Interesting results are revealed when we compare Asian and European recipients of different sexes. Asian men, compared to European women, show higher mean values in relation to SOP: $t(1270) = -6.53$, $P < 0.001$, $d = 0.37$. Higher mean values in relation to SOP are also found in Asian women compared to European men: $t(1031) = 5.82$, $P < 0.001$, $d = 0.37$. The differences are statistically significant.

In relation to OOP, Asian men have higher average levels compared to European women: $t(1194) = -4.01$, $P < 0.001$, $d = 0.23$, although the effect size is not so pronounced. Higher mean

levels of OOP are observed in Asian women compared to European men: $t(992) = 5.94, P < 0.001$, $d = 0.39$. The differences are statistically significant.

Regarding SPP, Asian men show higher mean levels compared to European women: $t(1165) = -9.42, P < 0.001, d = 0.55$. The same trend was observed in Asian women, who showed higher mean levels in relation to SPP than European men: $t(958) = 7.13, P < 0.001, d = 0.47$. And, in this case, the differences are statistically significant.

Also, with respect to Hypothesis 2 results showed that individuals who are representatives of the same culture, European or Asian, demonstrate salient gender effects concerning SOP, OOP and SPP levels. In this case Student's *t*-test for independent samples was also used. The results show that there are significant differences ($P < 0.05$) between European male and female participants in terms of two of the scales measuring perfectionism: SOP: $t(795) = -3.17, P < 0.01$, $d = 0.19$; and OOP: $t(837) = -4.19, P < 0.001, d = 0.26$. In both cases, higher mean values are scored by female respondents (Figure 3). For the scale measuring SPP no significant differences: $t(1176) = -1.20, P = 0.230$ were observed between European female and male respondents.

The results comparing Asian female and male respondents also yielded significant differences ($p < 0.05$) between the two groups of subjects on two of the scales measuring perfectionism: SOP: $t(1280) = 2.71, P < 0.01, d = 0.15$, and SPP: $t(1270) = 2.53, P < 0.05$, $d = 0.14$. In contrast to the results for European culture, in which higher mean values are observed in female respondents, in the Asian sample, higher mean values are found in male respondents (Figure 3).

The results obtained, comparing European male and female respondents, and Asian male and female participants, lend strong support to Hypothesis 2.

6. Discussion

It is clear that the Covid-19 pandemic affected not only human health but also the economy, social relations, and mental health of individuals. As a result of the pandemic, a large number of people lost their jobs due to their inability to work from home, due to forced redundancies, or due to the bankruptcy of small and medium-sized enterprises. The restrictions forcibly blocked people's desire to work and led to the destruction of individual work values. This situation further blocked aspirations for self-assertion through work and self-actualization through perfect labour performance. Data analysis examining the first hypothesis revealed that the situation that arose during the Covid-19 pandemic, combined with the economic crisis, social isolation and unemployment, affected the phenomena of workaholism and perfectionism in the entire sample and causes significant changes in relation to their configurations. Furthermore, as has been suggested, these changes are mediated by the cultural contexts and are different for both Asian and European samples. For example, the results show that this extreme situation causes changes in the construct of workaholism, demonstrated by significant differences between WE and WC levels in the entire sample (Figure 1). The results lend support to the assertion that the pandemic situation, mediated by cultural contexts, produces different changes in relation to WE and WC dimensions. Changes apply to the entire sample, however; it should be emphasized that the characteristics of the Covid-19 pandemic are of a uniform magnitude and, hence, affect people all over the world in the same way. Therefore, it should be argued that the coronavirus, as a life-threatening agent,

affects in the same way workaholics in Europe and workaholics in Asia. Hence, if the comparison between the two samples of the study reveals differences between Asian and European participants in relation to the WE and WC levels, the reason for this variance must be sought in cultural differences. The same trend of change is revealed in the analysis of data on perfectionism. The extreme situation created by the Covid-19 pandemic caused a significant change in the ratio between its three dimensions of perfectionism—SOP, OOP and SPP—which are valid for both cultures. Results for the entire sample show that the SOP level is more strongly affected than the OOP and SPP levels. It is suggested that the high level of the SOP value and the low levels in the OOP and SPP values are due to two reasons.

The first reason is related to the very nature of SOP. As is well known, SOP has many important functions in the interaction between the three dimensions of perfectionism. Although each of the three forms of perfectionism may be more salient for each individual, the central and most important role belongs to *self-centred perfectionism* because, without it, the existence of the other two types of perfectionism would be impossible. In addition, this type is the most complex since studies have demonstrated a positive relationship between self-oriented perfectionism and self-esteem, high personal control, effective strategies for learning and performance, feelings of hopelessness and other adaptive traits [60]. This central role of self-centred perfectionism suggests that it is through this dimension that individuals experience and perceive themselves as brilliant and perfect; i.e., it is through SOP that individuals satisfy their needs for self-actualization. The external barriers (unemployment, social isolation) created by the Covid-19 pandemic prevent individuals from achieving their goals and satisfying their pursuit of perfect performance. This deprivation of the *need for self-actualization* has an *arousing effect* on SOP and increases its level.

The second reason for the difference between the SOP level, and that of the OOP/SPP levels, can be found in the characteristics of the pandemic situation. As it is known, OOP and SPP are manifested in the interaction between individuals and are largely dependent on actual contacts of the perfectionist individual with other individuals. In this case, the pandemic situation stopped the interaction between individuals and limited the externally motivated behaviour concerning OOP and SPP. This limitation, or lack of professional contact between individuals, results in a reduction of the OOP and SPP levels, compared to the SOP level. These two outcomes have as a natural result the greater salience of SOP, a significant increase in its level, and at the same time a reduction in levels of OOP and SPP.

As indicated in the previous analysis, the central point of the current study is the assumption that the pandemic does not impact personality constructs and human behaviour directly, but the effects are mediated by cultural contexts. In the Covid-19 pandemic, cultural contexts are those that produce significant differences between European and Asian participants in relation to configurations of workaholism and perfectionism, and namely this view represents the essence of the first hypothesis. This assumption is confirmed by the results obtained for both workaholism and perfectionism. However, the larger question that requires explanation in the case is why there are significant differences between Asian and European participants in relation to the WC scale, where $t(2364) = 15.86$, $P < 0.001$, $d = 0.63$.

The answer to this question may be related to the type of motives that underlie behaviour in workaholic individuals. For example, Deci [16–18] proposes that human behaviour is

determined by the presence of two motivation types, called "extrinsic" and "intrinsic" motivation. Many studies have been conducted that prove connexions between workaholism and motivation, as well as between workaholism and work engagements. Some of them associate motivation with workaholism as integral constructs, while others discuss the relationship between WE and WC, on the one hand, and "intrinsic–extrinsic" motivation, on the other [30,31,78,87,88,93]. In the current analysis, drawing on Deci's view, we postulate that the "intrinsic–extrinsic" motivation underlies and makes up the construct of workaholism and more: WE is related to extrinsic motivation, and intrinsic motivation is connected with WC. It should be borne in mind that when *extrinsic* motivation is a determinant of individual activity, the process of workaholic professional identification is related to the *external* characteristics of work and the performance standards: *I perform my work quickly and precisely to get a high salary, to receive a prize, to please the boss, to advance in my career, and so forth.* It is clear that this type of "extrinsic" motivation, which determines the workaholics' work activity, is more related to "excessive workaholism". In this case, workaholic individuals constantly feel motivated by the external characteristics of work—they work intensively, compete with time, and strive for dexterity in performance. Therefore, the economic crisis and the work deprivation caused by the pandemic are unable to drastically affect workaholics, dominated by "working excessively" because, for them, the negative results of the crisis are primarily related to the "external" characteristics of work, to performance standards, to the amount of money received. In this case, on the one hand they do not perceive themselves as a cause of the work failures and, on the other hand, they do not perceive the economic crisis caused by the pandemic as an existential threat to their economic survival because do not consider their labour goals completely unattainable. It is understandable for some of them that a "temporary lack of salary" could be compensated by previous savings or loans. For others, "self-actualization" could be achieved by activity in another direction—for example, "career development" could be postponed until the end of the pandemic.

Keeping that in mind, it could be proposed that if a workaholics' group is dominated by external motivation (i.e. by the salience of WE) in a normal situation, during a pandemic (accompanied by an economic crisis and unemployment) the WE would not be the cause for differences between levels of the two workaholism dimensions. Therefore, it can be concluded that the WC is the real cause for the difference between levels of the two sides of workaholism. However, this conclusion is valid in relation to Asian workaholics only, because the results of current research show that the Asian respondents, unlike the European participants, demonstrated a significant increase in WC level. Why is this so?

It is proposed that the reason lies in the differences between the characteristics of European and Asian cultures. To explain the differences between the WE and WC levels obtained in the two samples, the cultural perspective can be utilized, according to which societies are divided into two main types—individualistic and collectivistic [32,52,57,54,59,79,89–91]. According to Hofstede's individualism v. collectivism dimension (IDV), one of the basic characteristics of societies concerns the degree to which people perceive themselves as integrated into groups. In individualistic societies, people are poorly related to each other, and their attention is directed predominantly to themselves. The opposite viewpoint is characteristic of collectivist cultures where individuals are closely related to the group, loyal to it, and rely on mutual support

[45,47]. Since European culture is defined as individualistic, and Asian culture is traditionally perceived as collectivistic, it could be assumed that the differences between workaholism dimensions in European and Asian samples are a consequence of cultural differences.

Both European individualistic culture and Asian collectivist culture worship work as a supreme value. For Asian respondents, however, work is of such importance when their personal success can be associated not only with their own well-being but also with the well-being of the group to which they belong (family, organization, society). This way of attributing value to work is formed at an early age. It is embedded in the Asian personality and is an integral part of Asian self-identity. Of course, this refers to Asian workaholics to a large extent. Therefore, in conditions of a pandemic, accompanied by an economic crisis and unemployment, the Asian workaholic realizes that these conditions endanger not only his or her own health but also the health of his or her relatives. Individuals understand, at the same time, that the economic security of the group to which they belong is also in danger. Working in the name of others is the belief that forms attitudes deeply rooted in the cognitive-emotional layers of Asian personality. It is the highest personality value, which is a part of Asian self-identity, but during the Covid-19 pandemic it is threatened. This extreme pandemic situation, producing labour deprivation and limitation of work achievements, provokes workaholics' feelings of existential threat. The perceived threat leads to an increase in stress and anxiety and contributes to changes in the state of workaholism and its dimensions (WC / WE). In relation to the results of current research, it is expressed by the greater salience of the *Workaholism Compulsive*.

The aforementioned statements are the basis of the hypotheses in this study and were also validated by the results received in relation to the construct of perfectionism. As shown in the results concerning the first hypothesis, the pandemic causes significant changes in the ratio between the three dimensions of perfectionism—SOP, OOP and SPP. However, it is also important to know whether the way in which these three dimensions change depends on cultural differences.

As noted above, the Covid-19 pandemic's impact can be assumed to be equal for people all over the world because, under the pressure of international and regional media, they accepted the coronavirus as an extremely dangerous and life-threatening agent. It is also clear that in both Europe and Asia, the pandemic situation has been accompanied by restrictions on work, limited employment, social isolation and the incapacity for professional contact between individuals. Therefore, if the comparison between the two cultural samples of Asian and European respondents shows differences in relation to SOP, OOP and SPP levels, this outcome must be understood and analysed from the perspective of cultural differences. Analysis of the results shows that it is the type of culture that is responsible for the way in which the levels of the three dimensions of perfectionism have changed.

It is particularly important, however, to clarify the reason for the significant difference between European and Asian respondents in relation to SPP, where the effect size is greatest ($d = 0.47$). The difference can be primarily explained through the different cultural values of European individualistic and Asian collectivist cultures.

As was argued above, from a cultural perspective, societies can be divided into two main types—individualistic and collectivistic. Since European culture has been defined as individualistic, and Asian as collectivistic, it can be argued that the differences in relation to SPP

levels between the two cultural groups are an outcome of cultural differences. According to their cultural traditions, unlike European respondents Asian participants are more collectivistic, for the connexion with group members is very important to them, and as a result, they desire to be perfect in their work performances, to meet the expectations of others (SPP).

According to the second hypothesis, gender differences also affect the configuration of the two constructs investigated. The data shown in Figure 2 confirmed the assertion that gender differences also mediate the pandemic impact on personality and thereby influence changes in the configuration of workaholism and perfectionism constructs. The differences between the two cultural samples are shown both in the comparison of respondents of the same gender and in the comparison of participants of a different gender. For example, in terms of workaholism, the comparisons between Asian and European female participants, as well as the comparison between Asian and European male respondents, show that in the representatives of Asian culture, in contrast to the Europeans, there is a significant increase in relation to the WC level. These results confirm that the collectivist cultural tendency is deeply embodied in both Asian men and Asian women.

This trend is also confirmed when we compare cross-gender (Asian and European) participants. Higher mean values concerning WC are found both in the comparison between Asian male and European female respondents and between Asian females and European male participants (Figure 2).

Particularly interesting are the results for the two workaholism dimensions when the comparison is between genders within the same cultural group—the Asian and European. The results show (Figure 2) that there are significant differences ($P < 0.05$) between European male and female participants in the two scales measuring workaholism, where higher mean values are found for female participants. It can be concluded that, in the European cultural context, the pandemic situation has a stronger impact on females compared to male workaholics. These results suggest, on the other hand, that if there are any cultural differences between European and Asian participants concerning the pandemic effects on workaholism, the typical bearers of these differences within the individualistic European culture are European females rather than European male respondents. The results of the comparison between the two genders in the frame of Asian culture show that there are no significant differences ($P > 0.05$) between Asian female and male respondents on the two scales measuring workaholism (Figure 2). Based on these results, it could be concluded that in conditions of the Asian cultural context, the pandemic situation affects in a similar way Asian workaholics of both genders.

The trends demonstrated for workaholism are also revealed very clearly in the analysis of perfectionism. Regarding gender, the results (Figure 3) show significant differences between levels of the three types of perfectionism—SOP, OOP and SPP. The gender differences are shown in the comparison of participants of the same and different gender. Comparing respondents from the two samples of the same gender, the most noticeable differences between them are obtained in relation to the SPP. Data revealed that despite social isolation, Asian perfectionist participants demonstrate responsibility to other individuals for striving toward perfect outcomes, and that is the reason they score high on SPP. In the comparison between Asian and European female participants, as well as in the comparison between Asian and European male respondents, results show that among representatives of Asian culture, in

contrast to the representatives of European culture, there is a higher level of desire to be perfect in order to meet the expectations of others (SPP).

This trend is even more clear when comparing the participants of different genders in the two cultural samples. For example, when comparing Asian male and European female participants, those from the Asian cultural group show higher values for SOP ($d = 0.37$) as well as for OOP ($d = 0.23$) and for SPP ($d = 0.55$). The same holds true when comparing Asian female and European male participants. In that case, Asian female respondents yielded higher values for SOP ($d = 0.37$) as well as for OOP ($d = 0.39$) and for SPP ($d = 0.47$). The results support the contention that, along with the cultural context, gender differentiation also influences the way in which the configuration of perfectionism in Europeans and Asians changes. This trend shows that representatives of Asian culture, in contrast to the representatives of European culture, have a stronger desire to be perfect in order to meet the expectations of others (SPP). At the same time, it shows that both Asian men and Asian women reveal themselves as bearers of the Asian collectivist tradition. Results from analysing responses showed that in both the same and different gender comparisons Asian men scored significantly higher levels of SPP with typical effect size ($d = 0.56$; $d = 0.55$), whereas for Asian women the size effect for SPP is lower ($d = 0.39$; $d = 0.47$). This result raises the question of whether Asian male respondents are more influenced by Asian tradition. Finding the answer required making a comparison of perfectionism dimensions between genders within the same culture, for both the Asian and European cultural groups. It was assumed that, if respondents are representatives of the same culture (either European or Asian), gender differences have a significant impact on increases in SOP, OOP and SPP levels. It has also been suggested that one of the genders plays a decisive role in relation to some cultural characteristics.

The data analysis not only confirms the trend noted above but, at the same time, suggests many dependencies. The most important outcome in this case is that gender differences, in the same culture, change in a different way the levels of SOP, OOP and SPP. European female respondents scored higher ($P < 0.05$) compared to European male respondents in relation to the SOP and OOP levels, where the size effect in SOP is much larger than typical ($d = 1.19$). In general, higher values on the three scales were observed for female participants compared to male respondents; however, on the scale measuring SPP, there are no significant differences ($P > 0.05$).

These results show that the pandemic, accompanied by social exclusion and unemployment, results in European female respondents being more similar to European male participants in seeking to be perfect in performance. Female respondents strive to be perfect (SOP), while at the same time expecting other individuals with whom they are currently connected in a situation of social isolation (family members) to be perfect (OOP) as well. It can be assumed that this aspiration is related to the fact that women place greater importance on their own family roles and feel highly committed to the survival of their families in a pandemic. The absence of significant differences ($P > 0.05$) with respect to the scale measuring SPP suggests that during a pandemic in the individualistic European society, perfectionist women are not interested in the expectations that others have in relation to their perfectionist performances.

The outcomes for the Asian cultural group are the opposite. Results suggest that within the Asian cultural group gender differentiation affects SOP, OOP and SPP levels in different ways.

They show (Figure 3) that there are significant differences ($P < 0.05$) between Asian male and female participants on two of the scales measuring perfectionism—SOP and SPP. In this case, however, the values for Asian male respondents are higher than for Asian female participants, while in the comparison between the European male and female respondents the results are exactly the opposite.

The higher levels of perfectionism for Asian male respondents demonstrate a dominant role in extreme situations for this group. Their desire to be perfect in performances (SOP) is accompanied by their striving to meet the expectations of others (SPP), which can be explained by Asian collectivist orientation.

The explanation of these trends valid for SOP, OOP and SPP levels also corresponds to Hofstede's concept of *masculinity–femininity* (MAS) [45–49]. This index measures the extent to which men have a dominant role over women and vice versa. As the results show, in contrast to Asian women, during the Covid-19 pandemic European women appear to be the dominant ones in individualistic European culture. This cultural difference is explained by the fact that in a pandemic situation, compared to Asian female respondents, European female participants are less likely to rely on men and strive to a greater extent to be perfect in their own performances. Unlike European female participants, Asian female respondents, as representatives of a collectivist culture, tend to rely more on men to be perfect and care for the family. In the present research, the scale developed by Hofstede to measure the MAS was not employed. However, the gender differences revealed above suggest that these are due, in part, to the influence of the masculinity v. femininity dimension. Based on these results it could be concluded from the perspective of the MAS dimension [45,46] that the Asian female respondents manifest attitudes that are more typical of a culture for which the masculinity characteristics are valid. Unlike European women, who are likely to rely more on themselves for perfect coping in a critical situation, Asian women are more likely to perceive themselves as weak and helpless and to rely upon men to be perfect in their performances. It can be summarized that the differences in relation to SOP, OOP and SPP dimensions demonstrated between the two samples are influenced by different cultural contexts—Asian and European.

7. Strengths, weaknesses and future research goals

The most important strength of the current study is that the results are related to social behaviour, work values and work attitudes across cultures. The results suggest that the manner in which a pandemic situation (accompanied by an economic crisis) impacts the phenomena of workaholism and perfectionism depends on cultural differences. Another strength of the study is the use of a well-validated measurement instrument. A further advantage of the study is that the participants are members of three European and three Asian countries, which well represent individualistic versus collectivistic cultural values. The fourth strength of the study is that it was conducted at the beginning of a unique pandemic situation, which has never happened before.

A weakness of the study is that it had to be conducted in short order, and it was not possible to use representative (stratified) national samples for each country. That condition prevented a comparative analysis between the separate countries.

The future goal of the authors is to conduct the same research once again in the expected post-pandemic situation.

8. Conclusion

The Covid-19 pandemic, which erupted in early 2020, has brought drastic changes in societies around the world. It affected economies, political and social interactions between people, their way of life, and their work values. These destructive changes not only slowed down the development of the world but at the same time put it in a state of transition to a "new normality". As a result, the post-pandemic world will face a number of challenges. The main ones are related to economic recovery and the restoration of motivation for work. As the present study has shown, the negative results of the pandemic, are not caused by the direct threat of Covid-19 to human life but have been mediated by cultural contexts.

The presented empirical results show, for example, that the phenomena of workaholism and perfectionism, which are directly related to the motivation for work and labour values, undergo significant changes in the conditions of the pandemic. However, the way in which these changes take place depends primarily on cultural differences between societies, and to some extent on gender differences between individuals. This leads to the conclusion that, not only in conditions of a pandemic but also in the post-pandemic situation, cultural differences will have a similar impact on the recovery of societies. Once the danger is over, in the post-pandemic period economic recovery in countries with individualistic cultures is likely to be a slower and more complex process than in countries with collectivist cultures. This is especially important given the challenges that humanity will face in the near future. These challenges are related primarily to the forthcoming "new normality", which is expected to be accompanied by globalization, artificial intelligence, forced digital transformation, robotics, trans-humanization, economic collapses, global reset, a stakeholder economy, minimum basic income, and so forth. All this tells us how important the future study of workaholism and perfectionism is, as these phenomena will play an important role in the process of fundamental change in the world economic paradigm.

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