Mental Health at The Workplace, Person-Organization-Fit and Labor Productivity Growth: Evidence from the Egyptian Soap and Detergents Industry During COVID-19

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Abstract

Purpose – This study seeks to examine the mediating role of mental health issues in the workplace (MHIW) in explaining the complex relationship between Person-Organization-fit (P.O-fit) dimensions and workers' productivity (WP) variance during COVID-19 in the Egyptian Soap & Detergents industry.

Design/methodology/approach – Using a cross-sectional survey, the authors collected data from 373 frontline workers and supervisors working at ARMA soap and detergents (ASD) factories. In-depth interviews were conducted with 14 production-lines and quality-control supervisors. The hypothesized model was analyzed using the partial least square structural equation modeling technique.

Findings - The authors found a significant, high P.O-fit level among ASD workers. The need-supplies-fit and supplementary-fit controlled MHIW. The need-supplies-fit and supplementary-fit alongside MHIW explained the growth in WP during COVID-19. The MHIW mediated the relationship between P.O-fit dimensions and WP during the pandemic.

Originality/value - This study is among the first to add significant information on how MHIW (as mediator) explains the relationship between P.O-fit and WP growth during the pandemic.

Research limitations/implications - Limited attention was paid to investigating how the P.O-fit dimensions enable frontline workers to remain productive despite the MHIW associated with COVID-19. This study bridges the aforementioned *research gap* by elucidating how the supplementary-fit, demand-abilities-fit, and need-supplies-fit manipulate MHIW and maintain WP growth during the pandemic.

Practical/managerial implications - The findings provide clear guidelines for the first-line supervisors to foster the P.O-fit dimensions, control MHIW and sustain WP growth during COVID-19.

Keywords: Mental Health Issues; Workplace; COVID-19, productivity.

Paper type Research Paper

1. Introduction

The global COVID-19 pandemic had major implications on people's physical and mental health (Rozman and Tominc, 2022; Sutarto *et al.,* 2021; Portoghese *et al.,* 2021; WHO, 2020). Serious health issues such as exhaustion, poor social interactions, weak memory, inability to concentrate, anxiety, and unstable emotions are impacting nations globally (Shaukat *et al.,* 2020; WHO, 2020; Göl and Erkin, 2021). Individuals can work productively and contribute to their organization if they realize their physical and mental capabilities (Song *et al.,* 2020; Sutarto *et al.,* 2021; Fawehinmi *et al.,* 2022; Wilson *et al.,* 2020), which is the foundation for the so-called *productive wellbeing* (DiMaria *et al.,* 2020; Isham *et al.,* 2020). In the wellbeing literature, a greater emphasis has been directed toward physical health rather than mental health issues (Shaukat *et al.,* 2020).

Nevertheless, mental health issues in the workplace (MHIW) are increasingly recognized as a serious problem and a global concern for developed and developing countries, causing poor workplace wellbeing and productivity loss (Bubonya *et al.,* 2017; Stepanek *et al.,* 2019). Patel *et al.* (2018, p. 1562) defined mental health as "an asset or resource that enables positive states of wellbeing and provides the capability for people to achieve their full potential". Employees had to deal with job insecurity and psychological stress associated with the COVID-19 mandated instructions (i.e., repeated lockdown, changing working practices to ensure social distancing, and shifting to large-scale homeworking), which significantly and negatively influence the workers' mental health (Wilson *et al.,* 2020; Portoghese *et al.,* 2021; Göl and Erkin, 2021; Kundu *et al.,* 2022). As a result, organizations faced significant challenges in shaping and maintaining employee productivity during the pandemic (Lee, 2021; DiMaria *et al.,* 2020; Bubonya *et al.,* 2017; Sutarto *et al.,* 2021; Portoghese *et al.,* 2021).

From another aspect, being productive requires adapting to the working environment and successfully meeting the work demands and challenges (Bam *et al.,* 2019; Kaur and Kang, 2021). In this context, person–organization fit (P.O-fit) is defined as "the compatibility between employees and organizations that occurs when: at least one entity provides what the other needs; or they share fundamental characteristics; or both" (Kristof, 1996, p. 2). A large body of P.O-fit studies demonstrated that higher levels of compatibility between personal and organizational values are consistently linked to workers' productivity (WP) growth. However, the majority of P.O-fit studies has often been conducted from a fairly narrow perspective emphasizing the direct

impact of the degree of P.O-fit on employee work performance (Grobler and Joubert, 2020; Fawehinmi *et al.*, 2022), work functioning (Song *et al.*, 2020), teamwork performance (Bam *et al.*, 2019), employee engagement (Fawehinmi *et al.*, 2022; Song *et al.*, 2021), and organizational citizenship behavior (Mostafa *et al.*, 2021; Kaur and Kang, 2021).

Nevertheless, limited attention was paid to investigating how the P.O-fit dimensions (i.e., supplementary-fit, demand-abilities-fit, and need-supplies-fit) enable the frontline workers to remain productive despite the MHIW they face during COVID-19. Bridging the aforementioned *research gap* requires deep understanding of the complex relationship between P.O-fit dimensions and WP levels. Accordingly, this study has been directed towards answering the main question of: "*How can MHIW explain the relationship between P.O-fit and WP growth during COVID-19"?*

Building on prior studies addressing MHIW/P.O-fit relationship (Fawehinmi *et al.*, 2022; Zang and Chen, 2022; Song *et al.*, 2020) and MHIW/WP relationship (Stepanek *et al.*, 2019; Bubonya *et al.*, 2017; Sutarto *et al.*, 2021), the present study hypothesized MHIW as a mediating construct to explain the P.O-fit/WP complex relationship during COVID-19. In this context, poor mental health has been proven as an indicator of both P.O-misfit (Fawehinmi *et al.*, 2022; Song *et al.*, 2020) and productivity loss (Stepanek *et al.*, 2019; Bubonya *et al.*, 2017).

From this standpoint, this study contributes to the current literature through explaining how the supplementary-fit, demand-abilities-fit, and need-supplies-fit manipulate MHIW. Significant implications for management practice are also highlighted, elucidating the role of the first-line supervisors in fostering the P.O-fit dimensions, controlling MHIW and retaining WP growth during COVID-19. This study also extends the ongoing scholarly discourse of the COVID-19 pandemic (Adekoya, Adisa, and Aiyenitaju, 2022; Amankwah-Amoah, 2022; Amankwah-Amoah & Hinson, 2022; Gashi, Kutllovci, and Zhushi, 2022; Rozman and Tominc, 2022; Rožman & Čančer, 2022; Kundu *et al.*, 2022) by integrating and incorporating insights on mental health at the workplace to enrich the current literature.

This study is structured as follows. The next section reviews the literature on MHIW, P.O-fit and WP relationship leading to our hypotheses' development. This is followed by presenting the research methodology. Then, the empirical results of the study are presented and analyzed. Finally, the concluding section outlines the theoretical contributions, practical implications, main limitations of the study and avenues for future research.

2. Literature review and research hypotheses development

2.1 MHIW and WP growth during the pandemic

Patel *et al.* (2018, p. 1562) defined mental health as "an asset or resource that enables positive states of wellbeing and provides the capability for people to achieve their full potential." Employees with mental health issues suffer exhaustion, poor social interactions, weak memory, inability to concentrate, anxiety, and unstable emotions (Song *et al.*, 2020; Shaukat *et al.*, 2020), resulting in difficulty coping with everyday commands (Tomita *et al.*, 2021; Bubonya, 2017; DiMaria *et al.*, 2020; Isham *et al.*, 2020) and engaging in work (Song *et al.*, 2020; Fawehinmi *et al.*, 2022). The repeated lockdown, changing working practices to ensure social distancing, shifting to large-scale homeworking and other COVID-19 associated implications had negative impact on the workers' MHIW (Wilson *et al.*, 2020; Portoghese *et al*, 2021; Göl, and Erkin, 2021). As a result, organizations faced a significant challenge in controlling WP during the COVID-19 (Lee, 2021; DiMaria *et al.*, 2020; Bubonya *et al.*, 2017; Sutarto *et al.*, 2021; Portoghese *et al.*, 2021: Gashi *et al.*, 2022). A large body of research demonstrated a significant relationship between wellbeing at the workplace and WP (Shaukat *et al.*, 2020; Soto-Rubio *et al.*, 2020; Isham *et al.*, 2020; Sutarto *et al.*, 2021; Tomita *et al.*, 2021; Song *et al.*, 2020; Dimoff, and Kelloway, 2019; Bubonya *et al.*, 2017). Findings consistently demonstrated that mental health issues associated with poor workplace wellbeing are a major leading cause of productivity loss because of the high rate of absenteeism (Bubonya *et al.*, 2017); presenteeism—a phenomenon in which people are present at work but are operating at less than their full capacity (Stepanek *et al.*, 2019); and negative communication in the workplace (Isham *et al.*, 2020). Accordingly, MHIW are expected to negatively affect the WP growth during the pandemic. This argument leads to the development of the following hypothesis:

H1. A significant negative relationship exists between workers' MHIWs and their productivity growth during COVID-19.

2.2 P.O-fit and MHIW

P.O-fit is defined as "the compatibility between employees and organizations that occurs when: at least one entity provides what the other needs; or they share fundamental characteristics; or both" (Kristof, 1996, p. 2). According to Muchinsky and Monahan (1987, p. 272), the P.O-fit concept

can be grouped into two categories: *supplementary fit*, that is, the extent to which "the individual and the organization are similar," and *complementary fit*, that is, the extent to which the "individual's characteristics complement or add value to the current organization, or vice versa." Complementary fit can be further sub-divided into: *demand-abilities fit*, that is, the extent to which the "individual's skills meet the organization needs;" and *need-supplies* fit, that is, the extent to which the "individual's needs are met by organization supplies" (Kristof-Brown *et al.*, 2005).

Previous studies demonstrated a negative relationship between P.O-fit and the presence of MHIW (Fawehinmi *et al.*, 2022; Zang and Chen, 2022; Song *et al.*, 2020; Merecz and Andysz, 2012). It has been reported that poor perceived fit among the workers' personal characteristics, abilities, needs, and work demands causes MHIW like stress and strain on the mind and body (Merecz and Andysz, 2012), along with the feeling of depression, anxiety (Fawehinmi *et al.*, 2022), and job burnout (Zang and Chen, 2022). Similarly, Song *et al.* (2020) proved that employees' distress and emotional exhaustion are usually associated with a perceived mismatch between personal and organizational value fit. In addition, Fawehinmi *et al.* (2022) proved that employees with positive mental health generally show a high level of work engagement and report a better fit with their employers. From this finding, it is assumed that MHIW will be a good indicator of the degree of P.O-fit. Therefore, the following hypothesis is presented:

H2. A significant negative relationship exists between workers' P.O-fit and their MHIW during COVID-19.

2.3 P.O-fit and WP growth

The person–environment (P-E) fit theory enables researchers to determine the degree to which specific employees can adapt to their working environments and successfully meet the work demands and challenges (Kaur and Kang, 2021; Bam *et al.*, 2019). In comparison, P.O-fit is considered a sub-component of the broader concept of the P-E fit (Bam *et al.*, 2019). Moreover, higher levels of P.O-fit are considered consistently linked to higher individual and group performance (Grobler and Joubert, 2020; Fawehinmi *et al.*, 2022; Song *et al.*, 2020; Bam *et al.*, 2019; Mostafa *et al.*, 2021; Kaur and Kang, 2021).

The current literature demonstrated a significant positive relationship between P.O-fit and employee work performance (Grobler and Joubert, 2020; Fawehinmi *et al.*, 2022), work

functioning (Song *et al.*, 2020), teamwork performance (Bam *et al.*, 2019), employee engagement (Fawehinmi *et al.*, 2022; Song *et al.*, 2021), and organizational citizenship behavior (Mostafa *et al.*, 2021; Kaur and Kang, 2021). According to Song *et al.* (2020), increasing the compatibility between the organization and individuals has a significant positive impact on *work functioning*, including work capacity, quality, and quantity, as well as costs of work. Similarly, the positive outcomes of P.O-fit types (supplementary and complementary fit) have been documented in the literature, including more commitment, engagement, and high productivity (Fawehinmi *et al.*, 2022; Grobler and Joubert, 2020). Based on the above argumentation, the following hypothesis is formulated:

H3. A significant positive relationship exists between workers' P.O-fit and their productivity growth during COVID-19.

As previous studies examined the relationship among MHIW, P.O-fit, and WP, this relationship is examined either independently or as a dyadic function. In this study, P.O-fit is considered as a function of MHIWs, leading subsequently to higher WP (Figure 1). The researchers thus incorporated the P.O-fit as individualistic construct and positing MHIW as a mediator to examine how the P.O-fit contributes to WP through manipulating MHIW. Therefore, the following hypothesis is proposed:

H4. The MHIW (as mediators) affect the relationship between workers' P.O-fit and their productivity growth during COVID-19.

Figure 1. *is placed here.*

3. Research methodology

3.1 Research limitations

In this study, there are few limitations worth noting. *Firstly*, our study is based on a single country' Egypt, and the soap and detergent (S&D) industry. In this context, the leading S&D manufacturers played a crucial role in making the sanitation and hygiene products available to every person, specifically low-income households, to maintain their wellbeing during the pandemic (World

Bank, 2020). Hence, this study focuses on the large S&D makers working in developing countries, *particularly in Egypt*, which is characterized by high population density, limited resources, and low individual income (World Bank, 2020a). The objective is to identify the best practices done by leading S&D makers that might enable workers to remain productive despite the MHIW they face during the pandemic.

Secondly, this study focuses on ARMA multinational corporation established in 1938, located in nine countries, and employing 38,000 workers. ASD factories are the leading S&D makers in Egypt and the MENA region, delivering 11 tons of toilet soap (TS) and 30 tons of detergent powder (DP) per hour. The ministry of planning and economic development in Egypt declared that the leading S&D makers contribute to the national GDP by 52% as per FY2019–2020 (World Bank, 2020a). Furthermore, the market shares of the leading three S&D makers in Egypt had been distributed as ASD 31.7%, P&G 31%, and Henkel 23.3% (World Bank, 2020a).

Thirdly, we constrained our emphasis to the frontline routine operators. Sznajder *et al*. (2022) demonstrated that work conditions characterized by high occupational stress, low decision latitude, routine high job demands, low social support, and the combination of high effort and low rewards are associated with poor mental health symptoms. Based on this, this study emphasizes frontline routine workers who are responsible for manufacturing, filling, stacking, packing, and supervising toilet S&D powder at ASD work-centers. This type of workers is more likely to be affected by MHIW such as anxiety, depression, psychosocial dysfunctions, and loss of confidence, particularly during the pandemic period because of the repeated lockdown and changing working practices to ensure social distancing (Sznajder *et al.*, 2022; Wilson *et al.*, 2020).

3.2 Research population

This study population consists of 2178 regular ASD frontline workers and supervisors who are distributed over toilet soap (TS) and detergent powder (DP) work-centers. The ASD population is classified into 600 assembly workers (responsible for filling, packing, and stacking TS&DP), 1500 production technicians, and 78 production lines and quality control (QC) supervisors. All workers and supervisors are distributed over 4TS and 7DP production lines as in Figure 2.

Figure 2. *is placed here*

3.3 Research method

This study uses *multiple methods* and *sources* of data to provide a comprehensive picture of the ASD workplace conditions, emphasizing how they influence WP during the pandemic (Fàbregues *et al.*, 2020; Samuelsen *et al.*, 2019). This study uses the *mixed methods* approach through combining a quantitative survey with (qualitative) in-depth interviews (Noble and Heale, 2019; Fàbregues *et al.*, 2020). A cross-sectional survey has been conducted with a sample of ASD frontline workers to identify their MHIW and P.O-fit characteristics during the pandemic. At the same time, the in-depth interviews were conducted with a sample of ASD supervisors to elaborate on how the ASD workers' MHIWs and P.O-fit explain changes in their productivity during the pandemic (Noble and Heale, 2019).

Data were also extracted from the ASD-ERP system to describe the productivity profile of the selected sample of the ASD workers during the pandemic. Integrating data collected from multiple sources provides a better understanding of the characteristics of ASD workers' MHIWs and P.O-fit associated with their productivity profile during the pandemic (Samuelsen *et al.*, 2019).

3.4 Sampling methods and data collection techniques

This study uses the *proportionate stratified random* sampling method (Berndt, 2020). Thus, a sample of 388 ASD frontline workers was randomly selected from different TS and DP production lines (Figure 2). The sample size was calculated based on a sample size equation for a given population of 2178 ASD workers at the 97% confidence level, comprising an overall response rate of 96.1% (Berndt, 2020). After eliminating incomplete questionnaires, we had a usable sample of 373 respondents. Table I provides more information on the sample size distribution over the ASD population.

Table I. *is placed here*

A cross-sectional survey was conducted in June 2020 with ASD frontline workers in their workplace during the break-time to identify their MHIW and P.O-fit level (as the pattern of the WP curve over the last 9 months shows unprecedented growth during June 2020, as shown in Figure 3). The time needed to complete the survey was 10–15 min. The *circular systematic sampling* technique has been considered the most suitable technique to draw the sample units from

the ASD population. Using this technique, each ASD worker from different TS&DP work-groups has an equal probability of inclusion in the sample (Mostafa and Ahmed, 2018).

Referring to the *circular systematic sampling* steps suggested by Mostafa and Ahmed (2018) and Subramani *et al.* (2015), a specific serial code was given to each ASD technician, assembler, and supervisor across TS and DP work-groups to facilitate data synthesis and analysis. Then, the first sample unit was selected with the help of random numbers, and the remaining units were selected systematically from each workgroup according to a predetermined sampling interval. Figure 2 shows a complete picture of the sample size distribution over ASD TS&DP work-groups.

Using the same sample size equation for a given ASD population and confidence level, a sample of 14 production-lines and QC supervisors was drawn from the ASD supervisory team (Berndt, 2020). The *purposive sampling method* was used to ensure the quality of data gathered from certain knowledgeable experts (Ames *et al.*, 2019). Data were collected through *in-depth interviews* to investigate the supervisors' opinions regarding ASD workplace conditions and their impact on WP in addition to the initiatives made to enhance WP during the pandemic. All interviews were conducted in June 2020 at the ASD workplace with a careful selection of seven DP and four TS *senior* production-lines supervisors, alongside two DP and one TS *senior* QC supervisors. Each interview takes 30–40 min.

3.5. Research variables and instruments

WP growth (dependent variable): Productivity growth means getting more output from fewer inputs (Isham *et al.*, 2020). The researchers use the value-added based WP measure as the widely used productivity measure across the social sciences (Arvanitis, 2008). Thus, the productivity puzzle is discussed in terms of the WP *percentage of growth* rather than *WP level*, which gives a clear picture of the WP variances during the pandemic (Isham *et al.*, 2020). Here, the change in the number of delivered TS and DP tons per working hour is used to measure the WP growth.

MHIW (intervening variable): In 1988, Goldberg developed the General Health Questionnaire (GHQ-12), which is a widely used scale for assessing people's mental health issues (Göl and Erkin, 2021; Fattori *et al.*, 2021). The GHQ-12 is employed in the current study as an indication of MHIW with a four-point scale for each response (0 = not at all; 3 = more than usual). Low scores indicate that an individual experiences fewer problems and worries, feelings of being depressed, and greater

confidence in overcoming challenges, and vice versa. The GHQ-12 asks participants questions related to their mood, indicators of depression, anxiety, lack of concentration, loss of sleep, ability to overcome problems, feeling under stress, losing confidence, thinking of themselves as worthless, feeling of meaningfulness, and capacity to make decisions. The "multiple factors model" introduced by Gao *et al.* (2004) has been used to classify GHQ-12 items into three groups of MHIW, namely anxiety and depression (A&D) psychosocial dysfunctions, and loss of confidence.

P.O-fit (independent variable): The degree of compatibility between personal and organizational values could be measured either directly as a perceived P.O-fit or indirectly by comparing individual qualities with those of the organization yields (Mostafa *et al.,* 2021). An indirect fit was employed less frequently than direct measurements of perceived fit (Mostafa *et al.,* 2021). The scale of Cable and Judge (1996) is considered the most commonly used scale to measure perceived P.O-fit (Santos and De Domenico, 2015), thus, this study will capitalize on their scale to measure the P.O-fit. The questionnaire measures three types of P.O-fit: demand-abilities-fit, need-supplies-fit, and supplementary-fit using a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4. Presentation and analysis of the result

4.1 procedural and statistical remedies

To avoid potential biases and enhance the rigor of the research, the researchers analyzed the hypothesized model with the *partial least square (PLS) structural equation modeling (SEM)* technique (Ghasemy *et al.*, 2020; Hair *et al.*, 2019), along with *procedural and statistical remedies* to deal with missing values and the psychometric properties of the subscales (i.e., convergent validity and internal consistency reliability) and examin common method biasness (Ursachi *et al.*, 2015; Fornell and Larcker, 1981; Gefen *et al.*, 2000; Bagozzi *et al.*, 1991; Anderson and Gerbing, 1988). Finally, the four-points scale of MHIW instrument had been standardized along with the five-points scale of the P.O-fit instrument to facilitate data synthesis and consistency (Jajuga and Walesiak, 2000). Statistical Package for the Social Sciences (SPSS) version 20.0 and AMOS software version 20 were used to analyze collected data and test research hypotheses.

The *trend analysis technique* was used to analyze data collected about the WP variances (Panwar and Dimri, 2018). The WP growth was calculated as the percentage of productivity changes over time, considering the tons/hour worked in Dec. 2019 as the base period to show the pattern of the WP curve from Dec. 2019 to Aug. 2020.

To facilitate data synthesis, consistency and analysis, a specific serial code was given to the productivity value of each ASD technician, assembler, and supervisor across TS and DP work-groups. These WP codes are as the same as the codes given to the ASD workers' MHIW and P.O-fit data. Thus, data about ASD workers' P.O-fit and MHIW along with their productivity growth were administrated in a *cross-sectional design.*

4.2 Descriptive and correlation analysis

Referring to Figure 3, the WP curve during the pandemic shows a dramatic decline (up to -40%) from Dec. 2019 to late Feb. 2020, however, a gradual increase begins by late of March 2020. In June 2020, the WP level records an unexpected increase (up to +148% of Dec. 2019's WP) despite the existing obstacles associated with COVID-19, such as quarantine, lockdown, and social distancing.

Figure 3. *is placed here*

Table II shows that the mean values for MHIW dimensions (i.e., A&D, psychosocial dysfunctions, and loss of confidence among ASD workers) are 2.16, 2.83, and 1.89, respectively. The mean for the entire construct is 2.45 out of a four-point scale, which is moderate to slightly strong. The mean value for P.O-fit dimensions (i.e., supplementary, demand, and need) is 3.55, 3.23, and 3.39, respectively, and a score of 3.40 from the five-point scale for the construct as a whole indicates a moderate to slightly substantial degree of P.O-fit among ASD workers.

Table II. *is placed here*

Table III shows a strong negative relationship between P.O-fit and MHIW with a correlation coefficient value of 0.6, at $p \leq 0.05$. In addition, a strong negative relationship exists among P.O-

fit, psychosocial dysfunctions, A&D, and loss of confidence, with a correlation coefficient value of −0.530, −0.503, and −0.558, respectively, at $p \leq 0.05$.

Table III. *is placed here*

4.3 Reliability and validity tests

Table IV shows the internal *consistency* of the subscales. The Cronbach's alpha coefficient values appear reliable (above 0.6) for all variables, as suggested by Ursachi *et al.* (2015). The average variance extracted (AVE) facilitates the ascertainment of convergent validity. According to (Fornell and Larcker,1981; Gefen *et al.*, 2000) the minimum acceptable value for AVE is a minimum of 0.50 for each variable. The AVE presented in Table I**V** (between 0.560 and 0.548) confirms the convergent validity. Furthermore, the composite reliability (CR) that varied between 0.938 and 0.915 is within the minimum value of 0.60, stipulated by Bagozzi *et al.* (1991). Thus, the results are an intimate exceptional CFA model fit.

Table IV. *is placed here*

Exploratory Factor Analysis (EFA) and VARIMAX rotation were conducted to test the construct validity and identify the factor loading for all the items. Based on Kaiser (1974), factor loadings that are less than 0.5 should be deleted from the construct. Moreover, the accepted cumulative variance in social science is 60%, according to Hair *et al.* (2006). Based on this, the factor loading for the nine items constituting the P.O-Fit construct explains 75.403 of the variances. Based on Hair *et al.* (2006), the result scores acceptable cumulative variance. All the items have factor loading > 0.5, meaning they belong to the factors (Kaiser, 1974). A Kaiser-Meyer-Olkin (KMO) measure of sample adequacy for the nine P.O-fit items is significant with a value of 0.927. Otherwise, the factor loading for the twelve MHIW items explains 60.757 of the variances. All items have factor loading > 0.5, and the KMO measure of sample adequacy is significant with a value of 0.758.

Table V. *is placed here*

Table VI. *is placed here*

Finally, Table VII provides the fit index, confirming that all fit indices in the proposed model enjoy robust fit (Hu and Bentler, 1999).

Table VII. *is placed here*

4.4 Testing research hypotheses

H1. A significant negative relationship exists between the workers' MHIWs and their productivity growth during COVID-19

Table VIII reveals that 37% of the changes in WP are because of the A&D at the workplace. The standardized coefficient value of A&D showed that if it increased by 1%, the WP would decrease by 55%. Thus, A&D is a significant predictor of WP growth at $p \leq 0.05$ Otherwise, 33% of the WP change is because of psychosocial dysfunctions. The standardized coefficient value of the psychosocial dysfunctions indicates that if psychosocial dysfunctions are increased by 1%, the WP will decrease by 44%. In this model, psychosocial dysfunctions are a significant predictor of WP growth at $p \leq 0.05$. Finally, 31% of the changes in WP are because of the loss of confidence. The standardized coefficient value of the loss of confidence indicates that if the loss of confidence increases by 1%, the WP will decrease by 46%. In this model, loss of confidence is a significant predictor of WP growth at $p \leq 0.05$. Therefore, H1 is accepted.

Table VIII. *is placed here*

H2. A significant negative relationship exists between the workers' P.O-fit and their MHIWs during COVID-19.

Referring to Table IX, 34% of the changes in MHIWs are caused by the need-fit. The standardized coefficient value of the need-fit indicates that if the need-fit is increased by 1%, then the MHIWs will decrease by 53%. Thus, the need-fit is a significant predictor of MHIWs at $p \leq 0.05$. Otherwise, the demand-fit is an insignificant predictor of the MHIWs. Finally, 28% of the changes in MHIWs are caused by the supplementary-fit; the suggested model is significant at $p \leq 0.05$. The standardized coefficient value of the supplementary-fit indicates that if the supplementary-fit is

increased by 1%, then the MHIWs will decrease by 43%. Thus, supplementary-fit is a significant predictor of MHIWs. Therefore, H2 is accepted.

Table IX. *is placed here*

H3. A significant positive relationship exists between the workers' P.O-fit and their productivity growth during COVID-19.

Table IX reveals that 48.5% of the changes in WP are because of the need-fit; the suggested model is significant at $p \leq 0.05$. The standardized coefficient value of the need-fit indicates that by enhancing the need-fit by 1%, WP will increase by 40%. Thus, the need-fit is a significant predictor of WP growth. Otherwise, the (demand-fit) is an insignificant predictor of WP growth. Finally, 34% of the change in WP is because of the supplementary-fit; the suggested model is significant at $p \leq 0.05$. The standardized coefficient value of the supplementary-fit indicates that by enhancing the supplementary-fit by 1%, WP will increase by 52%. Therefore, the supplementary-fit is a significant predictor of WP growth. H3 is accepted.

Table X. *is placed here*

H4. MHIW (as mediator) affect the relationship between the workers' P.O-fit and their productivity growth during COVID-19.

Table XI shows three models: In *model (1),* the P.O-fit dimensions of supplementary-fit and need-fit are significantly explaining 0.535 of WP growth, however, demand-fit is statistically insignificant. In *model (2),* the P.O-fit dimensions of supplementary-fit and need-fit are significantly 0.677 of A&D, 0.623 of psychosocial dysfunctions, and 0.586 of the loss of confidence among ASD workers. In *model (3),* the P.O-fit dimensions of supplementary-fit and need-fit are significantly explaining 0.649, 0.589 and 0.659 of WP growth when A&D, psychosocial dysfunctions and loss of confidence are controlled at the workplace. The calculated VAF (Variance Accounted For) values show that 57% of the P.O-fit/WP relationship are explained by MHIW. Since the VAF values are more than 20% and less than 80%, thus, MHIW is partially

mediating the relationship between the P.O-fit and WP growth (Hair *et al.*, 2019). So, H4 is accepted.

Table XI. *is placed here*

Referring to figure 4, values of path coefficients suggest that the perceived *supplementary*-fit has a largest effect on both WP growth and MHIW. Otherwise, the *need*-fit has the second largest effect on *WP* growth and MHIW. In addition, *Anxiety* and *psychosocial dysfunction*s among workers have the largest effect on *WP* growth. Nevertheless, *Loss of confidence* and *Anxiety* among workers have the largest mediating effect on the P.O-fit/WP relationship.

Figure 4. *is placed here*

5. Discussion and conclusion

5.1 *Reflection on outcomes*

This study established a significant, positive, strong relationship between the P.O-fit dimensions (i.e., need-supplies-fit and supplementary-fit) and the WP growth during COVID-19. This result is in tandem with the findings of the previous P.O-fit/WP studies that proved a significant positive relationship between P.O-fit and employee work performance (Grobler and Joubert, 2020; Fawehinmi *et al.*, 2022), work functioning (Song *et al.*, 2020), teamwork performance (Bam *et al.*, 2019), employee engagement (Fawehinmi *et al.*, 2022; Song *et al.*, 2021), and organizational citizenship behavior (Mostafa *et al.*, 2021; Kaur and Kang, 2021). Consequently, the need and supplementary P.O-fit perceived by the frontline workers shape and maintain their productivity growth during the pandemic.

This study also established a significant, negative strong relationship between MHIW and WP growth which agreed with the results obtained by the previous MHIW/WP studies. In this context, mental health issues associated with poor workplace wellbeing had been recognized as a major leading cause of productivity loss (Tomita *et al.*, 2021; Song *et al.*, 2020; DiMaria *et al.*, 2020) because of the high rate of absenteeism (Bubonya *et al.*, 2017); presenteeism (Stepanek *et al.*, 2019). Therefore, the MHIW among the frontline workers explain the variance in their productivity growth during COVID-19.

Nevertheless, this study demonstrated a significant, negative, strong relationship between the P.O-fit dimensions and MHIW, which agreed with the results obtained by P.O-fit/MHIW

studies. It has been reported that poor perceived fit among the workers' personal characteristics, abilities, needs, and work demands causes distress and emotional exhaustion (Song *et al.*, 2020), strain on the mind and body (Merecz and Andysz, 2012), depression and anxiety (Fawehinmi *et al.*, 2022), and job burnout (Zang and Chen, 2022). As a result, the perceived supplementary-fit and need- supplies-fit among the frontline workers explain and manipulate their MHIW during COVID-19.

5.2 Theoretical implications

A large body of the literature has been directed toward understanding the relationship between P.O-fit and WP, in particular, during COVID-19. However, the majority of this literature has often been conducted from a narrow perspective emphasizing the direct impact of the P.O-fit level on specific organizational outcomes (Grobler and Joubert, 2020; Fawehinmi *et al.*, 2022; Song *et al.*, 2020; Bam *et al.*, 2019; Fawehinmi *et al.*, 2022; Mostafa *et al.*, 2021; Kaur and Kang, 2021).

Nevertheless, limited attention has been given to investigating how the P.O-fit dimensions (i.e., supplementary-fit, demand-abilities-fit, and need-supplies-fit) enable frontline workers to remain productive during the pandemic. From this perspective, and building on previous studies addressing MHIW/P.O-fit relationship (Fawehinmi *et al.*, 2022; Zang and Chen, 2022; Song *et al.*, 2020) and MHIW/WP relationship (Stepanek *et al.*, 2019; Bubonya *et al.*, 2017; Sutarto *et al.*, 2021), this study hypothesized MHIW as a mediating construct to explain the P.O-fit/WP complex relationship during COVID-19.

Findings of the present study demonstrated that the MHIW mediated the relationship between the frontline workers' P.O-fit and their productivity growth during COVID-19 emphasizing how the supplementary-fit, and need-supplies-fit perceived values manipulate MHIW and maintain WP growth during COVID-19 Which contributes to the current literature and bridges the aforementioned research gap.

5.3 Practical implications

This study bridges the gap between academic and practitioners' perspectives by providing pertinent recommendations that enable first-line supervisors to maintain the frontline WP growth despite MHIW they faced during COVID-19. Alongside data collected about characteristics of the

ASD frontline workers' MHIW and P.O-fit, the qualitative data collected from ASD supervisors revealed the P.O-fit related initiatives that enabled workers to remain mentally well, ensured WP growth, and supplied high market demand efficiently during the pandemic, which is the foundation for the so-called *productive wellbeing* (DiMaria *et al.,* 2020; Isham *et al.,* 2020).

When an infection happened, many ASD frontline workers got isolated, as a result, workforce capacity became incomplete. For the best utilization of the available manpower over 24 hours, workers had been allocated interchangeably over three shifts across 4TS & 7DP production lines. While the first group of workers works one shift (8 hours), the second group works two shifts (16 hours) with 2 hours break, however, the second group takes the next day off. In June 2020, the available manpower could successfully deliver 11 tons of toilet soap (TS) and 30 tons of detergent powder (DP) per hour, reordering unexpected increase (up to +148% of Dec. 2019's WP) despite the COVID-19's associated implications (i.e., quarantine, repeated lockdown, and social distancing).

The previously discussed *WP growth plan* had to be supported by an *incentive plan* that enables frontline workers to perceive that their needs are met by organizational rewards (i.e., *need-supplies-fit*) (Torre *et al.,* 2014). In this context, ASD administration is keen to make workers feel appreciation and motivation. Thus, all ASD workers were vaccinated inside the factories after doing all the necessary checks for free. Furthermore, ASD top-management decided that any infected workers will stay at home, take paid vacation and receive their salary usually. Moreover, the workers who are supposed to work 16 hours and take a second day-off are eligible to take overtime (bonus). ASD Compensation & Benefits department is providing a bonus of 15% of the basic salary for those who accomplish 100% of the production plan. In case the production exceeds the plan, there will be additional financial and/or nonfinancial rewards to the whole team.

ASD administration realized that attaining the WP growth plan requires fulfilling the *demand-abilities-fit*, i.e., the extent to which the "individual's skills meet the organization needs" (Kristof, 1996, P.2). To attain a sustainable frontline WP despite the COVID-19 mandated repeated lockdown, quarantine, and social distancing, the ASD administration had to change working practices to the way by which each worker can operate efficiently on 5-6 machines on the work-center and be able to handle any stoppage that might occur (Islam *et al.,* 2020). To make this possible, the ASD training and development department developed a well-structured *competencies matrix* that identifies the list of competencies that should be possessed by each group of workers

to achieve the work-center tasks efficiently. Based on this, training programs for technicians and assembly workers were designed and delivered through the ASD training academy, followed by a post-training assessment. The trainees should pass the evaluation before they start working on the machines for a 6-month probation period under direct observation.

ASD administration realized that attaining the WP growth plan also requires fulfilling the *supplementary-fit*, i.e., the extent to which "the individual and the organization are similar" (Muchinsky and Monahan, 1987, P.72). Hence, the ASD recruitment and selection department used the predetermined list of competencies as criteria to filter applicants and recruit candidates with specific qualifications that fit job demand.

It was noticed that *anxiety, depression,* and *psychosocial dysfunction* are the most significant MHIW affecting WP and mediating the relationship between P.O-fit and WP growth during the pandemic. Therefore, the ASD administration launched the *mental health & wellbeing first aid program*. The program targeted first-line supervisors and included various mental health topics of mental health at work commitment, raising self-care awareness, ergonomic and psychological risk assessments; occupational stress; employee engagement; effective communication; and resilience workshops (CIPD, 2021).

5.4 Direction for future research

Based on the current study findings and limitations, further research is suggested. *Firstly*, the present study emphasized WP, MHIW, P.O-fit relations excluding the impact of the workers' demographic factors (i.e. education, age, and experience of the respondents). Thus, future study can focus on the moderating impact of the workers' demographic factors on the P.O-fit/WP relationship. *Secondly*, this study constrained its emphasis to MHIW among frontline operators excluding the MHIW impact on managerial people behavior. Hence, future study can focus on how MHIW among this group of employees might affect their decision efficiency. *Thirdly*, when this study emphasizes P.O-fit and its impact on both MHIW and WP growth, future studies can emphasize person-workgroup-fit (P.G-fit) and person-supervisor-fit (P.S-fit) to examine their impact on WP. *Fourthly*, While MHIW literature considers *the working hours' mismatch* as the main cause for poor mental health conditions at the workplace, future studies can highlight the impact of *over employment* and *underemployment* on MHIW controlled by the employees' demographic factors. *Finally*, future MHIW studies can be directed towards investigating the

impact of the intensive use of ICT forms, in particular, artificial intelligence on the WP during COVID-19 and the mediation role of employee technostress at workplace.

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