

The level of depression, anxiety and job satisfaction among young Contact Centre employees during the COVID-19 pandemic

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Abstract

Background: The COVID pandemic saw a general deterioration of mental health among the global population, resulting in up to 25% increase in the incidence of anxiety and depressive disorders. The pandemic also affected the professional sphere, where remote and hybrid working modes have now become a common phenomenon.

Aim: The aim of the study is to determine the relationships between symptoms of depression, and the levels of stress, anxiety and job satisfaction among Contact Centre employees and internal employees. The study also examines whether the place of work (remote work vs. office work) differentiates these participants regarding experienced anxiety, depression symptoms and job satisfaction.

Material and Methods: The study was conducted from October 2021 to March 2022. It included a total of 61 people aged between 18 and 45, employed at a Polish bank. Mental state and job satisfaction were assessed using the Job Satisfaction Scale (SSP), Perceived Stress Scale (PSS-10), State and Trait Anxiety Inventory (STAI) and Beck Depression Inventory (BDI).

Results: No statistically significant differences in the intensity of perceived stress or symptoms of depression and anxiety were found between the Internal and Contact Centre employees; however, poorer mental functioning was noted in the latter group. The level of job satisfaction in the studied groups significantly correlated with the severity of depressive symptoms ($R = -0.427$; $p < 0.001$), intensity of perceived stress ($R = -0.484$, $p < 0.001$), level of anxiety as a state ($R = -0.468$; $p < 0.001$) and as a trait ($R = -0.423$, $p < 0.001$). People working in the home office mode obtained significantly higher scores for experienced stress, state and trait anxiety and depressive symptoms compared to people working in the hybrid mode, and significantly higher scores in terms of state anxiety than office workers. The groups did not differ significantly in terms of job satisfaction, and none of the discussed factors significantly predicted the level of job satisfaction.

Conclusions: 1. Contact Centre employees did not differ from internal employees in terms of experienced levels of stress or symptoms of depression and anxiety. 2. Working from home can increase the level of perceived stress and symptoms of depression and anxiety among employees. 3. More severe depressive and anxiety symptoms, and greater perceived stress, are associated with a lower perceived level of job satisfaction among young adults.

anxiety; depression; Contact Centre; COVID-19; job satisfaction; remote work

INTRODUCTION

The COVID pandemic caused an overall deterioration in mental health among the general population, resulting in a 25% increase in the incidence of anxiety and depressive disorders worldwide (1). In addition to the mental sphere, the pandemic also affected the professional area, where remote and hybrid work have since become a common phenomenon [2–4]. Job satisfaction is closely related to mental functioning [5]. It affects not only self-esteem, but also depression and anxiety symptoms, thus increasing the risk of professional burnout [6,7]. Also, a high level of job satisfaction can be a protective factor for mental health [3], Montouri et al. [8] note that only 30% of employees with higher education feel satisfied with their work, and 23% “wake up with a feeling of unhappiness” when they have to go to work.

Initially defined as “a pleasant or positive emotional state resulting from the assessment of work-related experiences” [9], job satisfaction is subjective; it is influenced by the individual expectations, preferences and characteristics of the individual [10–13], as well as by the characteristics of the work itself [14, 15]. However, in the era of the COVID-19 pandemic, the challenges, risks and benefits associated with work have changed with the spread of remote and hybrid working modes [16, 17]. Especially in the early stages of the pandemic, workers working from home struggled with a reduced sense of community and a growing sense of loneliness due to limited contact with co-workers [18, 19]. An additional difficulty was presented by problems resulting from the lack of proficiency in using new technologies [20], and from the lack of appropriate computer equipment or proper workplace preparation [21].

The phenomenon of *presenteeism* (an ineffective presence at work) has become a growing problem, with employees working despite the presence of disease symptoms [22, 23]. In contrast, remote work is associated with greater flexibility and freedom in planning and implementing tasks, as well as better relationships with family, especially children [24] and isolation from negative relationships at work [19, 24]. It is also associated with higher efficiency and control of tasks performed [21], and in-

fluences work-life balance (WLB), both positively [21] and negatively [24, 25]. However, it appears that the relationship between remote work and WLB may also depend on a range of other factors, such as the relationship with the supervisor and having an individual work space [26].

For many people, the sense of threat to their own health and that of their loved ones presented by the pandemic could have intensified feelings of distress, as well as depression and anxiety symptoms [27,28], with young adults being particularly vulnerable [29]. Prolonged exposure to a strong stressor, as in the initial phases of the pandemic, was found to intensify negative emotions such as fear, worry, shame, guilt and nervousness [30, 31], particularly in young adults, and this phenomenon has been increasingly studied [32–34]. The psychological consequences of the pandemic may well persist for many years in this group, who did not manage to acquire adaptive coping strategies before the outbreak [35, 36]. To date, however, little is known about possible ways to prevent and/or reduce the negative impact of the SARS-CoV-2 pandemic on the mental health of young people [37, 38]. This issue is a particularly important issue, not only because of its long-term nature, but also because depressive and anxiety symptoms significantly affect the functioning of young people in several social roles they fulfil [39].

The spread of remote working during the COVID-19 pandemic has resulted in professional life increasingly entering the space once reserved for private and family life. For many people, such changes were associated with limiting social contacts to colleagues and clients. In turn, direct contact with the client is often burdened with numerous emotional factors. Such professional duties are referred to as *emotional labour*, i.e. work requiring the display of emotions desired by the employer and responding to the needs of the client [40,41]. The strongly link employee satisfaction with customer satisfaction, often leading to the suppression of real emotions [42–45]. For many years, the expectations related to emotional labour have expanded to new areas of professional activity [40]. While such tasks were originally closely related to medical staff [46, 47] or teaching [40, 48], their elements

can now be found among office employees who directly deal with customer service, including those from Contact Centres [49,50].

The aim of the study was comparing the incidence of depression symptoms, and the level of perceived stress, anxiety and job satisfaction between Contact Centre employees burdened with emotional work and internal employees, i.e. without direct contact, in the context of the COVID-19 pandemic. It also examines whether the mode of work (i.e. remote work vs office work) differentiates the respondents in terms of the level of experienced anxiety, symptoms of depression and level of satisfaction in completing their duties.

Study procedure

The study was conducted from October 2021 to March 2022, and included a total of 61 employees of a Polish bank. Due to the current epidemiological situation, the research was conducted fully anonymously and online using Google forms.

The respondents were divided into two groups: internal bank employees ($N = 28$) and Contact Centre employees ($N = 33$). Contact Centre employees handle incoming and outgoing calls and solve customer problems. Internal employees, in contrast, do not have direct contact with the customer; for example, they deal with documentation related to customers, invoices, personal data of employees or customers.

The selection of the subjects was random and intentional. The participants were allowed to become acquainted with the purpose of the study

before taking part. They were informed that participation in the study was voluntary, and that any personal data and test results would remain anonymous and not be disseminated. The research procedure was conducted in accordance with the Declaration of Helsinki of the World Medical Association [2013] and the ethical codes of the Belmont Report [1979].

Materials

The study included 61 people between 18 and 45 years of age. The surveyed group was dominated by women ($N = 43$; 70.50%), and most fell within the age range 18 to 26 years ($N = 32$; 52.50%). More than half of the participants had completed higher education ($N = 32$; 52.51%); none had less than high school education, as all Contact Centre positions require at least a high school education. At the time of the survey, almost half the participants were unmarried (single, $N = 29$; 47.50%), 25 worked in a home office mode (41%), 24 only from the office (41%), and 11 worked in a hybrid mode (18%).

The characteristics of the study group in terms of sex, age, education, marital status and mode of work are shown in Table 1. The normality of the data distribution for the separate groups was tested with the Shapiro-Wilk test; the data was not normally distributed. No significant differences were found between the two groups (internal vs contact centre) in terms of sex ($Chi2 = 2.379$; $p = 0.123$), age ($Z = -0.808$; $p = 0.419$), education ($Chi2 = 1.115$; $p = 0.573$), marital status ($Chi2 = 2.077$; $p = 0.557$) and mode of work ($Chi2 = 7.052$; $p = 0.029$).

Table 1. Socio-demographic characteristics of the study group ($N = 61$).

Parameter	Internal worker ($N = 28$)		Contact Centre worker ($N = 33$)		Total ($N = 61$)		Statistics	
Sex								
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>Chi2</i>	<i>p</i>
Women	17	27.90	26	42.60	43	70.50	2.379	0.123
Men	11	18.00	7	11.50	18	29.50		
Total	28	45.90	33	54.10	61	100.00		
Age								
18-26	16	26.20	16	26.20	32	52.50	<i>Z</i>	<i>p</i>

27-35	9	14.80	11	18.00	20	32.80	2.379	0.419
≥ 36	3	4.90	6	9.80	9	14.80		
Total	28	45.90	33	54.10	61	100.00		
Education								
Middle	7	11.50	5	8.20	12	19.70	Chi2	p
Student	8	13.10	9	14.80	17	27.90	1.115	0.573
Higher	13	21.30	19	31.30	32	52.50		
Total	28	45.90	33	54.10	61	100.00		
Marital status								
Single	16	26.20	13	21.30	29	47.50	Chi2	p
In a relationship	5	8.20	8	13.10	13	21.30	2.077	0.557
Married	6	9.80	11	18.00	17	27.90		
Divorced	1	1.60	1	1.60	20	3.30		
Total	28	45.90	33	54.10	61	100.00		
Mode of working								
In the office	9	14.80	16	26.20	25	41.00	Chi2	p
Hybrid	9	14.80	2	3.30	11	18.00	7.052	0.291
Home Office	10	16.40	15	24.60	25	41.00		
Total	28	45.90	33	54.10	61	100.00		

N – number of people surveyed; % – percentage of people surveyed; p – level of statistical significance; p* – p statistically significant (p < 0.05).

METHOD

The participants first completed a short questionnaire to collect socio-demographic data, and then completed the following questionnaires:

a. *Job Satisfaction Scale (SSP)*.

The scale was created by Zalewska, based on the Satisfaction with Life Scale (SWLS) by Diener [51]. The tool consists of set of five statements reformulated to reflect a more holistic view of job satisfaction. The total score, reached by summing all responses, measures the overall cognitive aspect of job satisfaction. The internal consistency, expressed by Cronbach's Alpha, for the five items is 0.86 [52].

b. *Perceived Stress Scale (PSS-10)*

The scale was created to measure the intensity of perceived stress [53]. The internal consistency, expressed by Cronbach's Alpha, is 0.86 [54].

c. *State and Trait Anxiety Inventory (STAI)*.

The STAI questionnaire is designed to measure anxiety as a relatively stable personality trait

and as a state, i.e. a temporary feeling triggered by a situation [55].

d. *BDI – Beck Depression Inventory (BDI)*.

The Beck Depression Inventory is used to screen the severity of depression. It is a sensitive tool for capturing changes in mood levels. The test has very high internal consistency, with a Cronbach's alpha value of 0.91 for the normalization sample and 0.93 for the depressed patients [56]

Statistical analysis

Statistical analysis was performed using STATISTICA ver. 13.3. The basic descriptive statistics were first calculated. The Shapiro-Wilk W-test, histogram analysis and Q-Q plots were used to assess the normality of the distribution of the study variables. Homogeneity of variance between the compared groups was checked using Levene's test.

The findings between the Internal and Contact Centre employees were first compared us-

ing the Mann-Whitney U-test. The groups were then subjected to further intergroup comparisons with regard to mode of work, and linear regression analysis was used to determine the relationships with the level of job satisfaction. Where the data was normally distributed and demonstrated homogeneity of variance, differences between groups were assessed using one-way ANOVA and Tukey's *post hoc* test. The remaining variables were evaluated with the Kruskal-Wallis H-test and multiple comparisons. To assess the relationship between contin-

uous variables, Spearman's rank correlation coefficient was used. The analyses assumed a significance level of $\alpha = 0.05$.

RESULTS

The first step of the analysis examined whether the study groups differed regarding the level of stress experienced, anxiety, severity of depressive symptoms and level of job satisfaction. The results are shown in Table 2.

Table 2. Comparison of the study groups in terms of the level of stress experienced, anxiety, severity of depressive symptoms and level of job satisfaction.

Parameter	All participants (N = 61)				Internal workers (N = 28)				Contact Centre workers (N = 33)				Mann-Whitney U-test	
	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.		
SPP	18.54	7.64	5	31	19.61	8.79	5	31	17.64	6.51	5	30	-1.022	0.307
PSS-10	20.21	7.94	2	38	19.57	7.89	2	36	20.76	9.08	3	38	-0.566	0.572
STAI state	47.36	10.93	25	71	45.29	10.99	25	63	49.12	10.73	25	71	-1.289	0.197
STAI trait	48.61	10.91	21	69	46.29	10.68	24	64	50.58	10.87	21	69	-1.716	0.086
BDI	12.13	10.28	0	38	11.61	11.17	0	34	12.58	9.61	0	38	-0.739	0.461

M – mean; SD – standard deviation; Min – minimum value, Max. – Maximum value; SPP – Job Satisfaction Scale; PSS-10 – Perceived Stress Scale; STAI – State and Trait Anxiety Inventory; BDI – Beck Depression Inventory; p – level of statistical significance, * – p statistically significant difference ($p < 0.05$).

No statistically significant differences were found between the internal and contact centre employees regarding the severity of perceived stress levels, symptoms of depression or anxiety (Table 2). However, the results indicate worse mental functioning among the contact centre group, which also demonstrated generally mild depressive symptoms, based on the mean BDI score. Also, those working in direct contact with customers demonstrated lower job satisfaction compared to internal employees; however, this difference was not significant.

In the next stage of the analysis, the level of job satisfaction was compared with the level of stress experienced, anxiety and the severity of depressive symptoms in the two groups.

A statistically significant relationship was confirmed for each of the variables analysed:

- Severity of depressive symptoms: -0.427 ($p < 0.001$),
- Severity of perceived stress: -0.484 ($p < 0.001$),
- Anxiety level as a state: -0.468 ($p < 0.001$),
- Anxiety level as a trait: -0.423 ($p < 0.001$).

Since no statistically significant differences in perceived stress levels, depressive symptoms or anxiety levels were found between the Internal and Contact Centre employees, further analyses were performed to test whether the subjects are differentiated by mode of work (office work vs. hybrid work vs. home office). The results obtained are shown in Table 3.

Table 3. Comparison of the study groups in terms of the level of stress experienced, anxiety, severity of depressive symptoms and level of job satisfaction.

Parameter	Office (N = 25)				Hybrid (N = 11)				Home office (N = 25)				Intergroup differences	
	M	SD	Min.	Max.	M	SD	Min.	Max.	M	SD	Min.	Max.	Test value	p
													ANOVA	
PSS-10	18.60	7.28	3	38	16.00^c	7.75	2	27	23.68^b	7.51	8	36	F=5.042	0.010*
STAI state	44.88^c	10.39	25	63	41.73^c	10.49	25	59	52.32^{ab}	9.92	34	71	F=5.360	0.007*
STAI trait	46.56	10.31	21	61	42.73^c	9.49	24	57	53.24^b	10.54	31	69	F=4.844	0.011*
													Kruskal-Wallis	
BDI	9.92	9.52	0	38	7.82^c	9.13	0	25	16.24^b	10.37	1	35	H=8.146	0.017*
SPP	16.96	7.79	5	30	20.82	9.35	5	30	19.22	6.60	5	31	H=2.115	0.347

M – mean; SD – standard deviation; Min – minimum value, Max. – maximum value; SPP – Job Satisfaction Scale; PSS-10 – Perceived Stress Scale; STAI – State and Trait Anxiety Inventory; BDI – Beck Depression Inventory; p – level of statistical significance; * statistically significant difference ($p < 0.05$);

post hoc test results: a – statistically significant difference compared to office work, b – statistically significant difference compared to hybrid work, c – statistically significant difference compared to home office work.

The participants working in Home Office mode obtained significantly higher scores in terms of experienced stress, anxiety as a state and trait, and depressive symptoms compared to those working in the hybrid mode; they also demonstrated significantly higher scores re-

garding anxiety as a state compared to office workers (Table 3). The groups did not differ significantly in terms of job satisfaction, and none of the factors in question proved to be a significant predictor of job satisfaction (Table 4).

Table 4. Summary of regression analysis conducted for models explaining job satisfaction (SPP) among employees.

Model 1: PSS-10, BDI, STAI as predictors of SPP ($R^2=0.266$; $F=5.082$; $df=4$; $p=0.001$)				
Predictor	B	BCa95%CI	t	p
PSS-10	-0.284	[-0.748; -0.181]	-1.223	0.227
STAI state	-0.234	[-0.560; 0.093]	-1.435	0.157
STAI trait	0.148	[-0.236; 0.531]	0.772	0.444
BDI	-0.098	[-0.387; 0.190]	-0.683	0.498
Model 2: Mode of operation as SPP predictor ($R^2=0.017$; $df=1$; $F=0.999$; $p=0.322$)				
Predictor	B	β Ca95%CI	t	p
Working status	1.080	[-1.082; 3.242]	0.999	0.322

R^2 – coefficient of determination; df – number of degrees of freedom; B – non-standardized regression coefficient; BCa95%CI – 95% confidence intervals determined by the bias corrected accelerated method (BCa); p – level of statistical significance, * – statistical significance ($p < 0.05$); SPP – Job Satisfaction Scale; PSS-10 – Perceived Stress Scale; STAI – State-Trait Anxiety Inventory; BDI – Beck Depression Inventory.

DISCUSSION

The pandemic brought not only a high risk of immediate health and life-threatening effects associated with the virus, but a range of new phenomena affecting patterns of daily and mental functioning. These included mass quarantines [57], long-term complications and symptoms that persist after infection [58], as well as changes in mode of work.

Our findings indicate that elevated levels of anxiety, stress and depressive symptoms experienced by the tested workers are accompanied by reduced levels of job satisfaction. Indeed, occupational burnout, a kind of stress response, has been found to be closely related to job dissatisfaction, psychophysical exhaustion, depressive symptoms and anxiety (59, 60), and occupational burnout itself may present a similar clinical picture to depression and co-occur with depressive disorders [59, 61, 62]. Analyses of medical workers during the pandemic found increased stress, depression and anxiety to be linked with both reduced job satisfaction and professional burnout [63-66]; it should be noted that poor job satisfaction is considered one of the predictors of job burnout [67, 68]. Although professional burnout was not measured in the present study, the level of job satisfaction did not vary between different modes of work, and it was not predicted by any of the tested factors related to mental health, *viz.* levels of perceived stress, anxiety as a trait and state, and depressive symptoms. However, given that job satisfaction is known to correlate with experienced stress, depressive symptoms and anxiety, as confirmed by our present findings, and that these variables differ according to mode of work, future research should focus on the influence of remote working on job satisfaction and burnout.

Remote working is sometimes indicated as being closely linked to poorer mental health during the pandemic [69] due to it increasing the level of perceived stress and decreasing satisfaction with duties [3, 25]. Like effectiveness and self-esteem, perceived stress is also sometimes proposed to moderate the relationship between remote working and job satisfaction [70]. On the other hand, by reducing the possibility of contagion, remote working can ameliorate the psychological and physical symptoms of

stress stemming from the COVID-19 pandemic [22], while also increasing levels of productivity, commitment to the job [25] and job satisfaction [70]. Regardless of the mode of operation, the functioning of the individual may also be influenced by the nature of their position, including those demanding emotional labour [40, 43].

Our findings indicate that during the COVID-19 pandemic, the mental health status of the tested bank employees, based on severity of stress experienced and the intensity of anxiety and depressive symptoms, was not related to the type of position held (*viz.* contact centre vs. internal), but to the mode of working.

By their nature, the demands of emotional labour, which are required during customer contact, have a significant impact on the mental health of employees [68]. However, it is important to make a distinction between *shallow* and *deep* emotional labour. Shallow emotional labour (superficial acting) involves the deliberate display of insincere emotions expected in a given situation and is associated with increased anxiety and depressive symptoms. Deep emotional labour (deep acting) involves the modification of one's own emotions according to expectations, and this appears to be protective in the short term, but can lead to emotional exhaustion in the long term [71-73]. According to Sohn et al. [74], involvement in emotional labour is also accompanied by higher levels of experienced stress.

Interestingly, people who work in direct contact with customers have been found to be more sensitive to the negative effects of the pandemic, e.g., stress, work-life conflict, feelings of economic insecurity, unsuitable working hours, than those who do so-called telework, in which contact with customers is via electronic communication [75]. However, no significant differences in the levels of perceived stress, anxiety and depressive symptoms were found between the Contact Centre and Internal employee groups. It is possible that during the pandemic, the significance of the position and the level of stress associated with work became secondary to that of the mode of work, which was associated with exposure to the main stressor: the SARS-CoV-2 virus [76-78].

However, despite limiting contact with potential carriers of the virus, our results suggest that

remote working may be associated with negative mental health consequences, characterised by an increase in perceived stress, anxiety and depressive symptoms. Employees have noted that remote working entails several unfavourable issues, such as limited interaction with co-workers, difficulty in creating an ergonomic workstation at home, and difficulty in maintaining a healthy balance between personal life and work [24]. For some positions, remote working also involved constant exposure to new technologies and the need to master new IT skills, which may not have been needed previously [24]. It has been found that remote working to be associated with decreased physical activity, a tendency toward unhealthy eating styles [79], having young children at home, exposure to multiple distractors while working [80], decreased communication with co-workers, heavy workloads in terms of scope and hours [81], spending more time in a sedentary position, and decreased sleep quality [82], which can entail a deterioration in both mental and physical health. Some studies link remote work not only to worsened mood, but also to a decline in overall quality of life [82]. Czeisler et al. [83] also report the combination of prolonged lockdown with low COVID infection rates to be a particularly destructive factor for the mental health of young adults being associated with *inter alia* increased depressive and anxiety symptoms and suicidal thoughts.

In the case of children and adolescents, drastic changes in existing daily routines have been found to have a significant effect on mental health during a pandemic [84-86]. Difficulties in creating a daily schedule, e.g., regarding meals or sleeping hours, that is adapted to the new situation can result in irregular functioning [84]. It is likely that having to change established patterns of functioning adults working om home also faced similar challenges.

Although remote working served a protective function against COVID infection, for many people, it also represented a fundamental lifestyle change involving new challenges. In the dynamic environment of the pandemic, employees had to develop greater competencies in time management, balancing personal life and work activities, communicating effectively and socializing with co-workers through new technologies [87]. Individual characteristics may have been

crucial in adapting to the new way of functioning; indeed, resilience has been found to act as a protective factor for overall psychological well-being during a pandemic [86,88].

However, some studies indicate that remote working can ameliorate the mental and physical symptoms of stress, regardless of the type of stressors associated with the work itself, the level and type of social support experienced, or sleep-related variables [22]. Moreover, employee attitudes toward remote working are mostly positive [24, 87]. Some believe that working remotely has allowed them to nurture relationships with co-workers they do not usually see, and that it has reduced exposure to negative workplace relationships, while providing freedom and flexibility of activities and allowing them to care for children or take part in family life [24]. Our findings indicate that of the tested groups, the hybrid workers demonstrated the lowest levels of perceived stress as well as depressive and anxiety symptoms. It is possible that this group were best positioned to reap the benefits of working remotely, while partially maintaining their previous, familiar way of working, making it easier for them to adapt to the new conditions.

CONCLUSION

1. Contact centre employees did not differ from the internal employees in terms of experienced stress levels and symptoms of depression and anxiety.
2. Working from home can increase perceived stress levels and symptoms of depression and anxiety among employees.
3. More severe depression and anxiety symptoms, and higher levels of perceived stress, are associated with lower perceived job satisfaction among young adults.

LIMITATIONS

The main limitation of the presented study is the small size of each group. Given the original purpose of the study, the groups were selected based on the position, resulting in smaller group sizes determined by the mode of work. In addi-

tion, most participants were young adults: the group regarded as being most likely affected by the psychological consequences of the pandemic [1, 89]. To better capture the relationships linking the constructs under study, future research should also include an assessment of burnout symptoms [90] and individual characteristics that may affect adaptation to new conditions, such as resilience [88].

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