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CENTRAL EUROPEAN VERSION OF COUNTERPRODUCTIVE WORK BEHAVIOR CHECKLIST (CWB-C PL)

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ABSTRACT. The purpose of the article is to validate the 45-item scale called Counterproductive Work Behavior Checklist (CWB-C) proposed by Spector et al. (2006) and adapt it to Central European cultural conditions. The research objectives are met using a set of measuring methods, namely focus group interviews, observations and a survey among 1,351 professionally active people in Poland. Data factor analysis is applied to examine the survey. The proposed modified and validated scale to measure CWBs is adapted to Central European cultural conditions. It has 35 items; 30 items are taken from the original CWB-C scale. The elements on the scale can be divided according to the target of such behavior, i.e., directed at the organization or other people. The items can be also divided into subjective categories, namely abuse against others, sabotage, theft and withdrawal. In the case of the second categorization, the original category 'production deviance' proposed by Spector et al. (2006) is eliminated. The proposed scale is characterized by good measures of fit for the 4-factor model.

JEL Classification: M12,
M54

Keywords: counterproductive work behavior checklist, Central European version of CWB-C

Introduction

Both in terms of science and practice, the interest in counterproductive work behaviors (CWB) is growing every year. This is due to the increasing awareness of the costs that this type of behavior creates for the organization and the economy, as well as other spheres of social activity (Szostek et al., 2020; Jędrzejczak-Gas & Wyrwa, 2020; Campbell & Popescu, 2021; Mura et al. 2021, Mitchell & Lăzăroiu, 2021; Cohen & Nica, 2021). For example, in the U.S. alone, CWBs cost the businesses approximately \$50 billion annually and these behaviors are responsible for 1/5 of failed companies (Coffin, 2003; Szostek et al. 2022). What is more, almost every company is a target of employee theft or fraud (Case, 2000). As a result, these behaviors have a negative impact on work output (Fallon et al., 2000; Salgado, 2002). The interest in the CWB concept is influenced by the development of instruments for CWBs measuring (Banks et al., 2012).

Despite the diversity of definitions and classifications of CWBs and the different meanings given to individual examples of these behaviors, it is possible to develop a single broad construct derived from this diversity (Bennett & Robinson, 2000). First such construct was the scale proposed by Bennett & Robinson (2000), where the authors distinguished CWB

categories according to the target of such behavior (personal or organizational CWB). One of the most frequently used measuring instruments today is the Counterproductive Work Behavior Checklist by Spector et al. (2006). This scale, developed in the USA, was later adapted to other countries, e.g., Turkey (Ocel, 2010), Romania (Sulea et al., 2010), Italy (Barbaranelli et al., 2013) and Pakistan (Farooq & Rauf, 2014).

CWB-C is a measuring instrument based on the employees' self-reporting of the intensity (types and frequency of CWBs) of their engagement in counterproductive behavior at the current place of work. The most extensive version of this scale has 45 items (this version has been adapted for this article). The items can be divided into two classes according to the target of behavior (other people or organization) and five subjective categories (abuse against others, production deviance, theft, sabotage, withdrawal). The authors of the scale identified all categories on the basis of a literature analysis. The five-factor model was also confirmed using exploratory factor analysis.

Baka et al. (2015) tried to develop the Polish version of the CWB-C scale. The authors used linguistic translation and the back translation method in order to obtain the greatest lexical similarity of items. In addition, they used the analysis of the internal structure, the factor structure of the scale, and the analysis of theoretical reliability and validity. As a result, Baka et al. (2015) proposed a scale consisting of the four subjective categories of counterproductive behaviors (the category of production deviance was excluded).

However, the main limitation of the research carried out by Baka et al. (2015) is that they worked on the 32-position version of this instrument. Moreover, they did not propose any additional items or did not reject any items that did not suit Polish cultural conditions. Cultural differences in this case are so significant. It is not possible to adapt the existing scale developed by U. S. researchers for the American cultural conditions (Gestelad, 2000). The research carried out was purely quantitative and limited in fact to classifying the 32 formulations originally proposed in the CWB-C scale into four instead of five subjective categories of these behaviors. What is more, as a result of this, some of the original wording of the CWB category did not fit the new set of items (e.g. theft category in the authors' proposal also includes such phrases as: Blamed someone at work for error you made or Looked at someone at work's private mail / property without permission).

Taking into account the shortcomings related to the use of the non-validated CWB-C scale in Central European cultural conditions, the author set the following goals:

1. semantic correction of the existing variables on the CWB-C scale (comprehensibility and unambiguity of the vocabulary),
2. elimination of synonymous items,
3. proposing new items,
4. assigning the original and new items to the categories of behavior against the company (CWB-O) or other individuals (CWB-I), as well as to the subjective categories of these behaviors, i.e. abuse against others, production deviance, sabotage, theft, withdrawal,
5. confirmation of the variables from the modified CWB-C scale in practice and possible identification of new items/counterproductive behaviors,
6. validation of the final form of the CWB-C scale adapted to Central European cultural conditions (based on case study for Poland).

The goals will be achieved using different research methods. It will be first the focus interviews with practitioners and theorists and the employees themselves, which will allow the implementation of goals No. 1-4. The goal No. 5 will be achieved by participating observations in various organizations. The last of the objectives will be realized using a survey conducted in August 2020 on a sample of 1351 employees from Poland.

This study will contribute to the literature on the measurement of CWBs in the Central European cultural conditions. In this study, I proposed the validated CWB-C scale adapted to

Central European cultural conditions. Then, I divided all the items on CWB-C PL according to the behavior's target (personal and organizational) and the subjects of these behaviors. In the following sections, I first analyze the current literature for this study. Next, I describe the methodology to achieve the objectives, which were set. I discuss the research findings and their contributions. In the last part of the article, I discuss the limitations, future research recommendations and practical implications.

1. Literature review

Although the concept of 'counterproductive work behavior' is dominant in the literature and it best reflects the nature of negative behavior at work, these behaviors are also often called as deviant, antisocial, unruliness, destructive / hazardous or unethical (Murphy, 1993; Robinson & Bennett, 1995; Hunt, 1996; Miller et al., 2003). To some extent counterproductive behaviour can be caused by negative emotions arising from organisational changes (Castillo, 2022), combining of unusual methods of work in the process of transdisciplinary team forming (Bauters et al., 2021). These terms are not synonyms (for example, antisocial behaviors break social rules, which do not necessarily have to comply with organizational rules) (see Szostek et al., 2022). The variety of concepts and definitions (e.g., Gruys & Sackett, 2003; Mount et al., 2006; Spector et al., 2006), on the one hand, proves the vital interest of science and practice in these behaviors, and, on the other hand, constitutes a significant problem in comparing the results of research by various authors. This significantly makes it difficult to assess the current state of knowledge regarding CWBs.

The work behavior is counterproductive when all these conditions are met (Spector & Fox, 2010):

7. the behavior breached organizational norms,
8. it was undertaken consciously and without coercion,
9. it harms (may harm) the company or its stakeholders .

The determinants of CWBs can be divided into situational (i.e. dependent and independent of the organization) and subjective (related to the employee); none of them determine such behaviors independent (Brass et al., 1998; Baka et al., 2015; Bukalska, 2020) – see *Table 1*. It is the interaction of situational and subjective factors that determines the strength and frequency of undesirable behaviors at work. The main motive for such behavior is experiencing negative emotions at work (the so-called stressors). Trying to avoid these factors, employers develop their value propositions for employees by adding specific components aiming at comfortable labour atmosphere creation (Bite & Konczos-Szombathelyi, 2020; Samoliuk et al., 2022). Organizational stressors (e.g. organizational injustice) determine mainly CWB directed at the employer (CWB-O – behaviors against organization, e.g. sabotage) (Everton et al., 2007), while interpersonal stressors (sources are other people, e.g. conflicts at work) determine CWBs against other people / individuals (CWB-O / I; Spector et al., 2006).

Counterproductive behaviors are not always active, the so-called enemy aggression (willingness to cause harm as a result of experienced stressors at work) and can be passive, the so-called instrumental aggression (withdrawal, i.e. limiting contact with an unpleasant situation) (Spector et al., 2006; Nguyen et al. 2021; Mihalca et al., 2021).

Table 1. Determinants of CWB

| | Types of determinants | Examples | Source |
|-------------|---------------------------------|---|---|
| Situational | Organizational | <ul style="list-style-type: none"> · organizational injustice (e.g. unfair treatment by a supervisor) · stressful job · job insecurity · boredom, routine, monotony · dissatisfaction with work · low quality of interpersonal relations between employees · insufficient control of employees · no internal norms / regulations to deal with CWB (e.g. anti-mobbing regulations) | Mount et al., 2006; Berry et al., 2007; Bechtoldt et al., 2007; Bowling & Eschleman, 2010; Fine et al., 2010; Szostek, 2019b; |
| | Independent of the organization | <ul style="list-style-type: none"> · social (e.g. national culture that favors mobbing or harassment) · economic (e.g. pauperization increases the tendency to steal at work) · technological (e.g. the development of social media leads to cyber loafing) · legal (e.g. no penalisation of mobbing) · environmental (e.g. higher air pollution leads to CWB) | Fehr et al., 2017; Szostek, 2019a |
| | Subjective | <ul style="list-style-type: none"> · lower age of the employee · lower education · shorter work experience · sex (greater tendency to CWB among men) · self-control, · past history of an employee (e.g. I parents or previous involvement in CWB) · personality traits (e.g. neurotism) | Furnham & Miller, 1997; Barrick et al., 2001; Salgado, 2002; Douglas & Martinko, 2001; Ones et al., 2003 |

Source: *own compilation*

From the beginning, interest in counterproductive behaviors has been accompanied by difficulties in measuring such behaviors. These problems are determined by the variety of CWB's manifestations. On the one hand, these behaviors can be innocent (e.g. being late to work, complaining, online shopping at work), and on the other hand it can be serious violations of the organizational rules, and sometimes even breaking the law (e.g. theft of company property, mobbing, sexual harassment). Another reason for the difficulties in measuring CWB is the narrow theoretical context of some concepts and definitions regarding such behaviors, which excludes many manifestations of CWBs (e.g. organizational retaliatory behaviors; Skarlicki & Folger, 1997). Therefore, authors try to develop an exhaustive (i.e. covering all possible cases) and disjoint classification (i.e. where individual categories do not overlap) of counterproductive work behaviors – see *Table 2*.

Table 2. Example typologies of CWB

| | |
|----------------------------|--|
| (Wheeler, 1976) | <ul style="list-style-type: none"> · <i>serious offenses</i> · <i>nonserious offenses</i> |
| (Hollinger & Clark, 1982) | <ul style="list-style-type: none"> · (company's) property deviance · production deviance (lower quality or quantity of work performed) |
| (Robinson & Bennett, 1995) | <ul style="list-style-type: none"> · production deviance (see Hollinger & Clark, 1982) · property deviance (see Hollinger & Clark, 1982) · political deviance (engaging in interactions against others) · personal aggression |
| (Vardi & Weitz, 2004) | <ul style="list-style-type: none"> · interpersonal deviance (e.g. bullying, aggression) · intrapersonal deviance (np. alcoholism, workaholism) · production misbehavior (np. absence, lower turnover) · political misbehavior (np. nepotism) · property misbehavior (np. theft, sabotage) |
| (Turek, 2012) | <ul style="list-style-type: none"> a) personal: <ul style="list-style-type: none"> · aggression (mobbing/bullying, psychopatic leaders, sexual harrasment, social undermining) · political behaviors (building relationships for particular interests, e.g. lying, manipulating, providing incomplete information, ingratiation) b) organizational: <ul style="list-style-type: none"> · retaliation behaviors (sabotage, theft) · pathological forms of involvement (corruption, addiction) |

Source: *own compilation*

The classification proposed by Spector et al. (2006) is one of the few that is exhaustive and disjoint, where harm to the organization is the common denominator of all CWB categories. Hence, it is not without reason that this classification is one of the most frequently used in research. Spector et al. (2006), following Robinson & Bennett (1995), distinguished counterproductive behaviors directed towards other people (CWB-I, i.e. against other individuals) from those against the company (CWB-O). They also proposed 5 subjective categories of CWB, i.e.:

1. abuse against others –harmful to other individuals – internal or external stakeholders of the organization (this may be physical or verbal aggression, disrespect, isolation / exclusion, threats / bribes; Richman et al., 2001; Vveinhardt & Sroka, 2020). These behaviors may take the form of hostile or instrumental aggression,
2. production deviance – doing the work in a way that hurts the work results (including the quantity and / or quality of effects; e.g. breaking health and safety regulations, violating procedures, delaying activities, not reporting important problems to the supervisor). It is a passive form of CWB and therefore it is more difficult to observe than sabotage. Nevertheless, Spector et al. (2006) links production deviance with hostile aggression, while (as in the case of sabotage) this aggression is transferred from people to material things,
3. sabotage – deliberate destruction of company's property (material and non-material, e.g. the image of an organization), this category is related to hostile aggression,
4. theft – stealing the property of the company or coworkers. It is a form of instrumental aggression (mainly towards the organization) motivated by the will to: obtain approval, help colleagues, equalize conditions and protect oneself in case of harmful actions of superiors. The main reasons for this category of CWB include economic factors, a sense of organizational injustice and low job satisfaction (Mustaine & Tewksbury, 2002),
5. withdrawal – limiting the work time and energy required to complete tasks and obtain appropriate results (e.g. being late, unjustified absenteeism, cyber loafing). This form of

CWB is identified with instrumental aggression, which is supposed to help coping with chronic stress, burnout and negative emotions (Smoktunowicz et al., 2015).

2. Methodological approach, conducting research and results

Stage I. Focus group interviews with experts (theorists and practitioners) in the field of employee behavior and with employees

In January and February 2020 were conducted five focus group interviews with experts (34 people, including 30 managers and 4 theorists) and five focus group interviews with employees (38 people). Interview participants were recruited from four different organizations located in the Kuyavian-Pomeranian Voivodeship (region of Poland). These were three enterprises and a local government office. Brief characteristics of the organization were presented below:

- company A – medium-sized with a production profile (plastics, packaging in industry); approx. 250 employees; headquarters located in Aleksandrów Kujawski; Polish capital,
- company B – medium-sized with a production profile (doors and windows production); located in Toruń; Polish capital; approx. 60 employees,
- company C – large with a production profile (food industry); located in Toruń; foreign capital; approx. 140 employees,
- organization D – local government office; approx. 35 employees.

The purpose of the interviews was to verify the phrases on the 45-point CWB-C scale (translated into Polish by a native speaker), i.e.:

- semantic correction of existing items (including comprehensibility and unambiguity of the vocabulary),
- elimination of synonymous items,
- proposing new items,
- dividing some of the primary and new items into a given category due to the CWB target, i.e. CWB-O or CWB-I, as well as into the subjective categories of these behaviors, i.e. abuse against others, production deviance, sabotage, theft, withdrawal.

Decisions during interviews were made at the agreement of more than half of the participants in a given session. Table 3 contains the results of the interviews: 3 items were eliminated (items No. 19, 36, 44), 22 items were reformulated (the original item was presented in the second column), 8 new items were added (the last items on the list), in the case of 13 original and 8 new variables, they were divided into the CWB subjective categories (marked in gray on the list), while in the case of 2 original and 8 newly proposed items – they were divided into CWB-I or CWB-O (also marked in gray in the list).

Stage II. Observations in the organizations

Participating, hidden observations (without revealing the objectives of the study) were carried out in February, March and May 2020 in 4 different organizations, including the aforementioned company B and organization D (public institution), as well as in two branches (in Grudziądz – organization E and Brodnica – organization F) of a large trade company headquarters in Toruń (Polish capital; approx. 310 employees; the building materials market). The observations took a total of 403 hours (100 hours in each company B, E and F, and 103 hours in organization D). The observer played the role of an auditor or researcher who analyzes the internal materials of the organization – unrelated to organizational behaviors. After a short time, the observer gained the trust of employees, thanks to which some counterproductive behaviors were observed in the work with the modified CWB-C scale prepared during focus group interviews. Of course, such observations in practice were possible mainly in the case of

observable variables, and also for minor CWBs (see *Table 3*). No other variables were observed, therefore the scale was not expanded with new items. In the next stage, the modified CWB-C scale containing all 50 variables was validated in the quantitative study.

Table 3. The modified version of CWB-C scale on the base of focus group interviews with experts and employees, and cases of counterproductive work behaviors observed in the practice [number of cases observed]

| Items | Original items | Subjective categories of CWB (A – abuse; P – production deviance; S – sabotage; T – theft; W – withdrawal) | Target of CWBs | |
|---|--|---|----------------|-------|
| | | | CWB-I | CWB-O |
| 1. Purposely wasted your employer's materials [12] | Purposely wasted your employer's materials/supplies | S | | X |
| 2. Daydreamed rather than did your work [49] | Daydreamed rather than did your work | W | | X |
| 3. Complained about work [98] | Complained about insignificant things at work | S | | X |
| 4. Told people outside the job what a lousy place you work for [3] | | S | | X |
| 5. Purposely did your work incorrectly [0] | | P | | X |
| 6. Came to work late or left work earlier without permission [63] | Came to work late without permission | W | | X |
| 7. Stayed home from work and said you were sick when you weren't [0] | | W | | X |
| 8. Purposely damaged a piece of company's property [1] | Purposely damaged a piece of equipment or property | S | | X |
| 9. Purposely dirtied your place of work [8] | Purposely dirtied or littered your place of work | S | | X |
| 10. Stolen something belonging to your company [8] | Stolen something belonging to your employer | T | | X |
| 11. Continued a harmful rumor at work [4] | Started or continued a damaging or harmful rumor at work | A | X | |
| 12. Been nasty to someone at work or customer [38] | Been nasty or rude to a client or customer | A | X | |
| 13. Purposely worked slowly when things needed to get done quickly [11] | Purposely worked slowly when things needed to get done | P | | X |
| 14. Refused to take on an assignment [6] | Refused to take on an assignment when asked | W | | X |
| 15. Purposely came late to an appointment or meeting [2] | | W | | X |
| 16. Failed to report a specific problem so it would get worse [0] | Failed to report a problem so it would get worse | P | | X |
| 17. Taken a longer break than you were allowed to take [48] | | W | | X |
| 18. Purposely failed to follow instructions / orders [5] | Purposely failed to follow instructions | P | | X |
| 19. Left work earlier than you were allowed to | | | | |
| 20. Insulted someone at work [59] | Insulted someone about their job performance | A | X | |
| 21. Made fun of someone's personal life [23] | | A | X | |
| 22. Took company's supplies or tools home without permission [6] | Took supplies or tools home without permission | T | | X |
| 23. Tried to look busy while doing nothing important [34] | Tried to look busy while doing nothing | W | | X |
| 24. Put in to be paid for more hours than you worked [0] | | T | | X |

| | | | |
|---|--|---|---|
| 25. Took money belonging to your employer [0] | Took money from your employer without permission | T | X |
| 26. Ignored someone at work [29] | | A | X |
| 27. Refused to help someone at work [17] | | W | X |
| 28. Withheld needed information from someone at work [14] | | P | X |
| 29. Interfered with someone at work doing his/her job without permission [9] | Purposely interfered with someone at work doing his/her job | P | X |
| 30. Blamed someone at work for error you made [2] | | A | X |
| 31. Started an argument / quarrel with someone at work [7] | Started an argument with someone at work | A | X |
| 32. Stole something belonging to someone at work [3] | | T | X |
| 33. Verbally abused someone at work [28] | | A | X |
| 34. Made an obscene gesture (the finger) to someone at work [4] | | A | X |
| 35. Threatened someone at work [5] | Threatened someone at work with violence | A | X |
| 36. Threatened someone at work, but not physically | | | |
| 37. Said something obscene to someone at work to make them feel bad [0] | | A | X |
| 38. Hid something so someone at work couldn't find it [0] | | A | X |
| 39. Did something to make someone at work look bad [8] | | A | X |
| 40. Played a mean prank to embarrass someone at work [11] | | A | X |
| 41. Destroyed property belonging to someone at work [1] | | S | X |
| 42. Looked at someone at work's private mail without permission [2] | Looked at someone at work's private mail/property without permission | A | X |
| 43. Hit or pushed someone at work [0] | | A | X |
| 44. Insulted or made fun of someone at work | | | |
| 45. Avoided returning a phone call to someone you should at work [0] | | W | X |
| 46. Was under the influence of alcohol or capital at work [0] | | P | X |
| 47. Dealt with private matters during my work [32] | | P | X |
| 48. Cheated or lied to someone at work [12] | | A | X |
| 49. Blackmailed someone at work [0] | | A | X |
| 50. Shared data or information important to the company to others without permission [0] | | S | X |
| 51. Spent time on the Internet (e.g. browsing the profile on social media, e-shopping, watching movies) instead of working [27] | | W | X |
| 52. Attributed to myself the merits of another person from work [0] | | A | X |
| 53. Manipulated other people at work [0] | | A | X |

Source: *own data*

Stage III. Validation of CWB-C PL

The study results are from August 2020. The author used an online survey on 1,351 employees in Poland. The sample was non-random. A professional research company collected the data. The characteristics of the respondents according to the main demographic variables are included in *Table 4*. The aim of the last stage of the research was to validate the modified CWB-C PL scale.

Table 4. Demographic characteristics of respondents

| | | | | | |
|----------------|-------------------|------------------------|-------------------------------|--------------------------|-----------------------|
| Sex | F | 75.4% (1019 employees) | Employment sector | public | 35.5% (480 employees) |
| | M | 24.3% (328 employees) | | private | 61.1% (826 employees) |
| | missing | 0.3% (4 employees) | | missing | 3.3% (45 employees) |
| Age | Average | 43.32 years | Region of Poland (voivodship) | dolnośląskie | 4.9% (66 employees) |
| | MIN | 20 years | | kujawsko-pomorskie | 9.8% (133 employees) |
| | MAX | 69 years | | lubelskie | 3.8% (51 employees) |
| | SD | 9.94 years | | lubuskie | 2.2% (30 employees) |
| | missing | 42 employees | | łódzkie | 6.0% (81 employees) |
| Education | higher | 83.3% (1126 employees) | Region of Poland (voivodship) | małopolskie | 6.8% (92 employees) |
| | secondary | 15.3% (207 employees) | | mazowieckie | 10.7% (144 employees) |
| | vocational | 1.0% (13 employees) | | opolskie | 2.4% (33 employees) |
| | middle school | 0.3% (4 employees) | | podkarpackie | 9.2% (124 employees) |
| | no education | 0.2% (1 employee) | | podlaskie | 6.7% (90 employees) |
| | missing | 0.2% (1 employees) | | pomorskie | 8.4% (114 employees) |
| | | | | śląskie | 2.9% (39 employees) |
| Length of work | Average | 13.99 years | Region of Poland (voivodship) | świętokrzyskie | 3.8% (51 employees) |
| | MIN | 0 year | | warmińsko-mazurskie | 7.1% (96 employees) |
| | MAX | 47 years | | wielkopolskie | 13.3% (180 employees) |
| | SD | 10.84 years | | zachodniopomorskie | 2.0% (27 employees) |
| | missing | 5 employees | | | |
| Type of work | Office / clerical | 66.0% (891 employees) | Number of employees | Up to 9 employees | 28.6% (386 employees) |
| | Managerial | 24.9% (336 employees) | | From 10 to 49 employees | 34.9% (471 employees) |
| | Blue collar | 8.9% (120 employees) | | From 50 to 249 employees | 16.5% (223 employees) |
| | Missing | 0.3% (employees) | | 250 employees or more | 18.0% (243 employees) |
| | | | | Missing | 2.1% (28 employees) |

Source: *own data*

Due to the fact that the “variable "Hit or pushed someone” at work” (item No. 41 on the list) was characterized by zero variance, it was decided to eliminate it from further analysis. The data were highly reliable – the Cronbach's Alpha coefficient for 49 variables was 0.935 (see Lušňáková et al., 2019). Removing any of the remaining variables would not increase the

value of this coefficient, therefore it was decided to use all 49 variables for further analysis (see *Tables 5 and 6*).

Table 5. Basic statistics in data reliability analysis – summary

| Number of items | Alpha-Cronbach coefficient | Average | Variance |
|-----------------|----------------------------|---------|----------|
| 49 | 0,935 | 1,206 | 0,213 |

Source: *own data*

Table 6. Basic statistics in data reliability analysis – detailed results for each item

| Items | Average of the scale after deleting an item | Scale variance after items removing | Total items correlation | Alpha-Cronbach after items removing |
|--|---|-------------------------------------|-------------------------|-------------------------------------|
| 1. Purposely wasted your employer's materials | 57.93 | 121.133 | .337 | .935 |
| 2. Daydreamed rather than did your work | 57.28 | 113.790 | .532 | .935 |
| 3. Complained about work | 57.28 | 113.365 | .543 | .935 |
| 4. Told people outside the job what a lousy place you work for | 57.70 | 1.303 | .588 | .933 |
| 5. Purposely did your work incorrectly | 58.06 | 120.920 | .600 | .934 |
| 6. Came to work late or left work earlier without permission | 57.59 | 116.420 | .468 | .935 |
| 7. Stayed home from work and said you were sick when you weren't | 58.02 | 121.756 | .484 | .934 |
| 8. Purposely damaged a piece of company's property | 58.08 | 122.803 | .568 | .935 |
| 9. Purposely dirtied your place of work | 58.08 | 123.236 | .451 | .935 |
| 10. Stolen something belonging to your company | 57.92 | 121.435 | .381 | .935 |
| 11. Continued a harmful rumor at work | 58.03 | 121.633 | .518 | .934 |
| 12. Been nasty to someone at work or customer | 57.56 | 117.213 | .542 | .934 |
| 13. Purposely worked slowly when things needed to get done quickly | 57.98 | 119.933 | .582 | .934 |
| 14. Refused to take on an assignment | 58.02 | 121.681 | .480 | .934 |
| 15. Purposely came late to an appointment or meeting | 58.04 | 122.529 | .451 | .935 |
| 16. Failed to report a specific problem so it would get worse | 57.90 | 120.260 | .442 | .934 |
| 17. Taken a longer break than you were allowed to take | 57.65 | 117.935 | .444 | .935 |
| 18. Purposely failed to follow instructions / orders | 58.00 | 120.169 | .595 | .934 |
| 19. Insulted someone at work | 58.02 | 122.011 | .442 | .935 |
| 20. Made fun of someone's personal life | 57.84 | 117.560 | .608 | .933 |
| 21. Took company's supplies or tools home without permission | 57.91 | 119.311 | .516 | .934 |
| 22. Tried to look busy while doing nothing important | 57.48 | 115.105 | .608 | .933 |
| 23. Put in to be paid for more hours than you worked | 58.08 | 123.676 | .393 | .935 |
| 24. Took money belonging to your employer | 58.07 | 121.799 | .551 | .934 |
| 25. Ignored someone at work | 57.81 | 119.953 | .400 | .935 |
| 26. Refused to help someone at work | 57.89 | 118.204 | .620 | .933 |

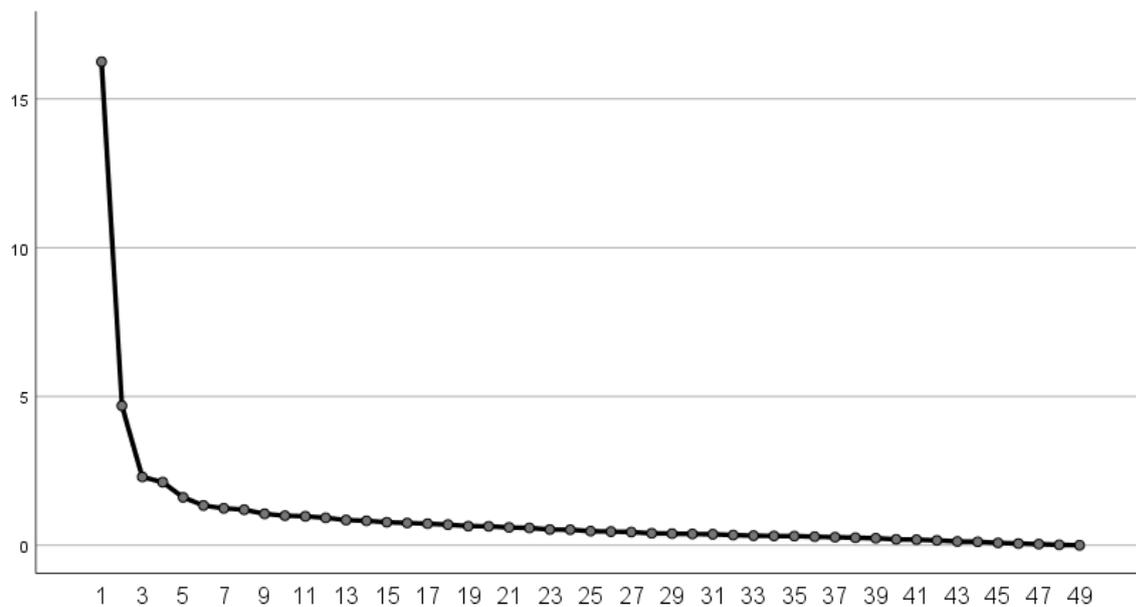
| | | | | |
|--|-------|---------|------|------|
| 27. Withheld needed information from someone at work | 58.00 | 121.493 | .479 | .934 |
| 28. Interfered with someone at work doing his/her job without permission | 57.94 | 118.939 | .583 | .933 |
| 29. Blamed someone at work for error you made | 57.99 | 120.460 | .545 | .934 |
| 30. Started an argument / quarrel with someone at work | 57.92 | 119.274 | .591 | .933 |
| 31. Stole something belonging to someone at work | 58.09 | 123.128 | .564 | .935 |
| 32. Verbally abused someone at work | 57.96 | 120.257 | .580 | .934 |
| 33. Made an obscene gesture (the finger) to someone at work | 57.99 | 121.092 | .489 | .934 |
| 34. Threatened someone at work | 58.07 | 122.934 | .535 | .935 |
| 35. Said something obscene to someone at work to make them feel bad | 57.93 | 119.165 | .598 | .933 |
| 36. Hid something so someone at work couldn't find it | 58.06 | 121.362 | .553 | .934 |
| 37. Did something to make someone at work look bad | 58.03 | 120.296 | .636 | .933 |
| 38. Played a mean prank to embarrass someone at work | 57.99 | 120.354 | .550 | .934 |
| 39. Destroyed property belonging to someone at work | 58.09 | 123.128 | .564 | .935 |
| 40. Looked at someone at work's private mail without permission | 58.06 | 123.320 | .374 | .935 |
| 41. Avoided returning a phone call to someone you should at work | 57.69 | 118.817 | .438 | .935 |
| 42. Was under the influence of alcohol or other drugs at work | 58.05 | 121.506 | .575 | .934 |
| 43. Dealt with private matters during my work | 57.15 | 114.900 | .554 | .934 |
| 44. Cheated or lied to someone at work | 57.98 | 119.671 | .594 | .933 |
| 45. Blackmailed someone at work | 58.09 | 123.149 | .497 | .935 |
| 46. Shared data or information important to the company to others without permission | 58.06 | 121.706 | .587 | .934 |
| 47. Spent time on the Internet (e.g. browsing the profile on social media, e-shopping, watching movies) instead of working | 57.26 | 114.294 | .531 | .935 |
| 48. Attributed to myself the merits of another person from work | 58.06 | 123.535 | .283 | .935 |
| 49. Manipulated other people at work | 58.02 | 121.204 | .517 | .934 |

Source: *own data*

The next step was to identify the final categories of counterproductive behaviors at work. In the counterimage correlation matrix, none of the sampling adequacy measures was below 0.5, therefore all the 49 variables were chosen to factor analysis using the Oblimin simple rotation method with Kaiser normalization.

Table 7. The sum of the squares of charges for the items

| Item number | Total | % of variance | % cummulated |
|-------------|---------------|---------------|--------------|
| 1 | 16.248 | 33.160 | 33.160 |
| 2 | 4.686 | 9.564 | 42.724 |
| 3 | 2.295 | 4.684 | 47.408 |
| 4 | 2.120 | 4.326 | 51.734 |
| 5 | 1.610 | 3.285 | 55.019 |
| 6 | 1.337 | 2.729 | 57.748 |
| 7 | 1.242 | 2.535 | 60.283 |
| 8 | 1.193 | 2.435 | 62.718 |
| 9 | 1.056 | 2.155 | 64.872 |

Source: *own data*

Graph 1. Scree diagram

Source: *own data*

After analyzing the squares sum of loads (see *Table 7*) and the diagramm (see *Graph 1*), it must be said that the first four factors play the most important role. Therefore, after limiting the number of factors to be distinguished to 4, and also after removing 14 items with converged rotation, a model matrix of 35 items with different load values was obtained (see *Table 8*). Importantly, the identified factors are characterized by high reliability, calculated by the Alpha-Cronbach coefficient (see: Cong Doanh, et. al. 2021; Streimikiene & Ahmed, 2021).

Table 8. Model matrix*

| Items | Original CWB category (A – abuse; P – production dev–ance; S – sabotage; W – withdrawal; T – theft) | Fars | | | |
|--|--|---|---|---|--|
| | | 1. Abuse (Alfa Cronbacha = 0,830) | 2. Withdrawal (Alfa Cronbacha = 835) | 3. Sabotage (Alfa Cronbacha = 0,667) | 4. Theft (Alfa Cronbacha = 0,652) |
| 1. Blackmailed someone at work | A | .786 | | | |
| 2. Insulted someone at work | A | .746 | | | |
| 3. Continued a harmful rumor at work | A | .668 | | | |
| 4. Manipulated other people at work | A | .642 | | | |
| 5. Started an argument / quarrel with someone at work | A | .614 | | | |
| 6. Attributed to myself the merits of another person from work | A | .571 | | | |
| 7. Threatened someone at work | A | .531 | | | |
| 8. Cheated or lied to someone at work | A | .497 | | | |
| 9. Ignored someone at work | A | .481 | | | |
| 10. Interfered with someone at work doing his/her job without permission | P | .438 | | | |
| 11. Said something obscene to someone at work to make them feel bad | A | .368 | | | |
| 12. Made fun of someone's personal life | A | .338 | | | |
| 13. Spent time on the Internet (e.g. browsing the profile on social media, e-shopping, watching movies) instead of working | W | | .867 | | |
| 14. Daydreamed rather than did your work | W | | .836 | | |
| 15. Tried to look busy while doing nothing important | W | | .761 | | |
| 16. Purposely came late to an appointment or meeting | W | | .752 | | |
| 17. Taken a longer break than you were allowed to take | W | | .709 | | |
| 18. Refused to take on an assignment | W | | .700 | | |
| 19. Dealt with private matters during my work | P | | .686 | | |
| 20. Purposely worked slowly when things needed to get done quickly | P | | .555 | | |
| 21. Came to work late or left work earlier without permission | W | | .521 | | |
| 22. Avoided returning a phone call to someone you should at work | W | | .498 | | |
| 23. Stayed home from work and said you were sick when you weren't | W | | .336 | | |
| 24. Purposely dirtied your place of work | S | | | .965 | |
| 25. Purposely damaged a piece of company's property | S | | | .922 | |
| 26. Complained about work | S | | | .656 | |
| 27. Told people outside the job what a lousy place you work for | S | | | .484 | |
| 28. Purposely wasted your employer's materials | S | | | .463 | |
| 29. Purposely failed to follow instructions / orders | P | | | .367 | |
| 30. Failed to report a specific problem so it would get worse | P | | | .309 | |
| 31. Took money belonging to your employer | T | | | | .975 |
| 32. Put in to be paid for more hours than you worked | T | | | | .881 |
| 33. Stole something belonging to someone at work | T | | | | .804 |
| 34. Stolen something belonging to your company | T | | | | .403 |
| 35. Took company's supplies or tools home without permission | T | | | | .387 |

* Rotation converged in 6 iterations.

Source: *own data*

The identified four factors are consistent with the categories of counterproductive work behaviors proposed on the original CWB-C scale. On the scale validated and adapted to Central

European cultural conditions, only the category of "production deviance" was missing – some of the variables originally assigned to this category were included in the following categories: withdrawal (2 variables), sabotage (2) and abuse (1). The remaining 30 variables on the validated CWB-C PL were assigned to the same behavior categories as on the original CWB-C scale.

Moreover, the category of 'abuse against others' is also the most important for the measurement of CWB. The percentage value of variance for the sum of the squares of the charges of the 4 factors was 30.113 (see Table 9).

Table 9. The sum of the squares of charges for the factors

| Item number | Total | % of variance | % cummulated |
|----------------|-------|---------------|--------------|
| 1 (abuse) | 8.130 | 30.113 | 30.113 |
| 2 (withdrawal) | 2.980 | 11.036 | 41.149 |
| 3 (sabotage) | 1.922 | 7.120 | 48.269 |
| 4 (theft) | 1.455 | 5.391 | 53.659 |

Source: *own data*

It should be noted that such a high consistency of the validated CWB-C PL scale, despite the use of various methods of measurement and data analysis (focus interviews, observations, questionnaires), confirms the reliability and validity of the author's own research and of the validated and adapted to Central European cultural conditions checklist (see Table 10).

Table 10. Validated and adapted to Central European cultural conditions CWB-C PL

| How often have you done each of the following things on your present job? (1 – never, 2 – one or two times, 3 – one or two times per month, 4 – one or two times per week, 5 – every day) | Never | One or twice | One or twice per month | One or twice per week | Everyday |
|--|-------|--------------|------------------------|-----------------------|----------|
| | | | | | |
| 1. Purposely wasted your employer's materials | 1□ | 2□ | 3□ | 4□ | 5□ |
| 2. Daydreamed rather than did your work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 3. Complained about work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 4. Told people outside the job what a lousy place you work for | 1□ | 2□ | 3□ | 4□ | 5□ |
| 5. Came to work late or left work earlier without permission | 1□ | 2□ | 3□ | 4□ | 5□ |
| 6. Stayed home from work and said you were sick when you weren't | 1□ | 2□ | 3□ | 4□ | 5□ |
| 7. Purposely damaged a piece of company's property | 1□ | 2□ | 3□ | 4□ | 5□ |
| 8. Purposely dirtied your place of work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 9. Stolen something belonging to your company | 1□ | 2□ | 3□ | 4□ | 5□ |
| 10. Continued a harmful rumor at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 11. Purposely worked slowly when things needed to get done quickly | 1□ | 2□ | 3□ | 4□ | 5□ |
| 12. Refused to take on an assignment | 1□ | 2□ | 3□ | 4□ | 5□ |
| 13. Purposely came late to an appointment or meeting | 1□ | 2□ | 3□ | 4□ | 5□ |
| 14. Failed to report a specific problem so it would get worse | 1□ | 2□ | 3□ | 4□ | 5□ |
| 15. Taken a longer break than you were allowed to take | 1□ | 2□ | 3□ | 4□ | 5□ |

| | | | | | |
|--|----|----|----|----|----|
| 16. Purposely failed to follow instructions / orders | 1□ | 2□ | 3□ | 4□ | 5□ |
| 17. Insulted someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 18. Made fun of someone's personal life | 1□ | 2□ | 3□ | 4□ | 5□ |
| 19. Took company's supplies or tools home without permission | 1□ | 2□ | 3□ | 4□ | 5□ |
| 20. Tried to look busy while doing nothing important | 1□ | 2□ | 3□ | 4□ | 5□ |
| 21. Put in to be paid for more hours than you worked | 1□ | 2□ | 3□ | 4□ | 5□ |
| 22. Took money belonging to your employer | 1□ | 2□ | 3□ | 4□ | 5□ |
| 23. Ignored someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 24. Interfered with someone at work doing his/her job without permission | 1□ | 2□ | 3□ | 4□ | 5□ |
| 25. Started an argument / quarrel with someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 26. Stole something belonging to someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 27. Threatened someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 28. Said something obscene to someone at work to make them feel bad | 1□ | 2□ | 3□ | 4□ | 5□ |
| 29. Avoided returning a phone call to someone you should at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 30. Dealt with private matters during my work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 31. Cheated or lied to someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 32. Blackmailed someone at work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 33. Spent time on the Internet (e.g. browsing the profile on social media, e-shopping, watching movies) instead of working | 1□ | 2□ | 3□ | 4□ | 5□ |
| 34. Attributed to myself the merits of another person from work | 1□ | 2□ | 3□ | 4□ | 5□ |
| 35. Manipulated other people at work | 1□ | 2□ | 3□ | 4□ | 5□ |

Sabotage: 1, 3, 4, 5, 7, 8, 14,

Withdrawal: 2, 5, 6, 11-13, 15, 20, 29, 30, 33

Theft: 9, 19, 21, 22, 26

Abuse against others: 10, 17, 18, 23-25, 27, 28, 31, 32, 34, 35

CWB-O: 1-9, 11-16, 19-22, 30, 33

CWB-I: 10, 17, 18, 23-28, 29, 31, 32, 34, 35

Source: *own data*

Conclusion

Baka et al. (2015) conclude on the basis of their own research that the scale consisting of the four subjective categories of CWB (except 'production deviance' category) is best suited to the empirical data, and therefore the authors recommend this version of the scale for use in Central European conditions. Similar conclusions are provided by the results of t'e author's study. Nevertheless, Baka et al. (2015) worked on the 32-item version of the CWB-C scale (the author worked on the 45-item version), and they did not adjust this scale to Central European cultural conditions, which in turn was done by the author using the qualitative research methods. It should be emphasized that Baka et al. (2015) obtained slightly better measures of fit for their 4-factor model compared to t'e author's model (the cumulative % of variance is 58.6339 compared to 53.659 for the author's scale).

In their studies on the CWB-C Baka et al. (2015) proved a strong correlation between production deviance and sabotage ($r = 0.53$). Also in the case of the scale proposed by the author, some of the items originally assigned to the 'production deviance' category were include' in the 'sabotage' category.

It is also worth to mention the validation of the 45-item CWB-C scale by Italian researchers Barbaranelli et al. (2013). They obtained satisfactory measures of their model fit,

but it took place at the cost of eliminating as many as 18 items (their number dropped from 45 to 27), and the cumulative percentage of explained variance for all factors dropped below 40%. The author, although the number of eliminated items was similar (15) obtained a better fit of the validated and adapted to Central European cultural conditions CWB-C scale. It was possible due to the use of qualitative measurement methods and supplementing the original version of the scale with additional items.

The author proposed a very practical tool for measuring counterproductive work behavior in the form of a validated and adapted to Central European cultural conditions CWB-C PL scale. The scale is 10 items shorter than the original version of this measuring instrument. The literature appreciates the advantages of short measuring instruments (Lim et al., 2007), such as: greater willingness of the respondent to complete the entire questionnaire or the possibility of using extensive tests measuring many variables (Baka et al., 2015). The practical use of organizations operating in Poland on this modified scale will increase the accuracy and reliability, of the entire study. This is a prerequisite for successfully combating various negative behaviors at work.

Of course, the own study has some limitations that will be described below, along with recommendations for future research in this area.

The measurement was made on the basis of self-reporting scale, which causes some drawbacks. The answers are declarative and the respondents indicate the frequency of undertaking selected types of counterproductive behavior at work. Employees do not willingly admit engaging in such behavior (especially in those of violative nature, e.g. stealing something, pushing someone). Consequently, the vast majority of the answers g'ven a'e 'never'. Moreover, a strongly developed need for social approval may mean that employ'e's le's often, even in an anonymous survey, will admit their involvement in CWB (Fox et al., 2001; Sulea et al., 2010). This is probably why in their research Spector et al. (2006) resigned from the confirmatory analysis, being content to establish the category of counterproductive behaviors only on the basis o' experts' opinions.

Is shou'd be also noticed that the list of behaviors on the CWB-C scale is not complete – there are many other manifestations of CWB that have not been included and could have been of great importance. However, it is not physically possible to cover every type of such behaviors.

In connection with the above, more and more researchers postulate the use of an additional measurement method in the measuring of CWB, e.g. observations by superiors and / or colleagues (e.g. Mount et al., 2006). Both measurement methods should complement each other (Lee et al., 2005). CWB measuring by self-report can be valid only when anonymity is assured (Bennett & Robinson, 2000).

However, this solution is not perfect either. Many forms of CWB are not observable (e.g. theft), and additionally, there may be a judgment error (e.g. attribution error; Dalal, 2005). In addition, ethical and legal dilemmas arise (e.g. recording with a hidden camera violates the law). The solution is also not to move away from questions about the frequency of behavior to questions about the re'pondents' attitudes towards specific CWBs. In such a situation, employees will more often be critical of counterproductive work behaviors, because of the social norms, but it does not automatically mean that such an attitude will translate into not engaging in these behaviors.

Hence, in subsequent studies on CWB, it is worth considering the simultaneous measurement of the variable in the form of the need for social approval. It will also be appropriate to use additional measurement methods in addition to the self-reporting itself.

Another drawback of own research is that employee behavior is unstable over time. Moreover, employees can engage in both negative and positive behaviors at the same time or at short intervals (Dalal, 2005; Klotz & Bolino, 2013). In future research, it is worth taking care

of capturing the dynamics of CWB changes collecting longitudinal data. It will also be valuable to take into account many variables that determine the occurrence and frequency of CWB (e.g. sex or age of an employee, fair treatment by superiors, boredom or monotony of work).

Last, but not least, of non-random selection of employee sample in the research is also an important limitation. Despite the fact that the sample was relatively large in number and demographically diverse, it is worth conducting in the future a similar study with random selection of employee sample. It would also seem important to differentiate more the sample by sex and employment sector.

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