

Building Intangible Competitive Potential: the Impact of Trust in Supervisors and Perceived Supervisor Support on Counterproductive Work Behaviors

Adam P. Balcerzak, Dawid Szostek, Elżbieta Rogalska

Abstract

This study investigates the influence of trust in supervisors (TS) and perceived supervisor support (PSS) on counterproductive work behaviors (CWB) as the intangible factor influencing competitive potential of organization. Additionally, it examines the moderating role of demographic variables, including sex, age, tenure, and job type in these relationships. A theoretical model aimed to assess the effects of TS and PSS on organizational and interpersonal CWBs (CWB-O and CWB-I), as well as specific behavioral categories (abuse against others, theft, sabotage, withdrawal), is proposed. The model is verified based on a survey results, where Structural Equation Modeling (SEM) is employed to analyze the data. The findings indicate that TS negatively affects withdrawal, while PSS positively influences this category. Other relationships between TS/PSS and CWB were statistically insignificant. The moderating effect of demographic variables was observed only for sex. The obtained outcome is pivotal for building intangible resources of organization, which are critical for keeping competitive advantage.

Keywords: *intangible competitive potential, trust in supervisors, perceived supervisor support, perceived organizational support, counterproductive work behaviors, demographic characteristics*

JEL Classification: M5, M12, M54, C30

Article history: Received: November 2025; Accepted: May 2026; Published: July 2026

1 INTRODUCTION

Trust in supervisors (TS) and perceived organizational support (PSS) are pivotal in shaping employee behavior. Despite their significance, these constructs remain underexplored, particularly regarding their development, nature, and impact on organizational functioning, including employee conduct (Eisenberger et al., 2002; Szostek et al., 2023; 2024; Łucjan et al., 2026). Moreover, limited research exists on how demographic characteristics moderate the influence of TS and PSS on counterproductive work behaviors (CWB). These theoretical gaps may stem from the complexity and intangibility of TS and PSS within organizational dynamics. However, this theoretical gap cannot be considered only as an academic curiosity, but it has also fundamental implications for business and organization practice.

The importance of trust in supervisors (TS) and perceived supervisor support (PSS) should not be reduced solely to their role in shaping employee behavior. From the perspective of contemporary strategic management, these constructs constitute critical components of firms' intangible competitive potential, as they influence the quality of human capital, the efficiency of knowledge exchange, and the stability of organizational relationships (Mares et al., 2023; Luo et al., 2024). In highly competitive and knowledge-based economies, such intangible resources are increasingly recognized as key determinants of long-term competitive advantage.

<https://doi.org/10.7441/joc.2026.02.04>

Therefore, understanding how TS and PSS affect counterproductive work behaviors (CWB) is not only a behavioral or managerial concern, but a problem of direct relevance for most applicable organizational competitiveness and sustainability (see. Szostek et al., 2020; Łucjan et al., 2023; 2026).

Individuals who exhibit higher levels of trust tend to be more cooperative and willing to share sensitive information, thereby enhancing productivity-related outcomes (Rhoades & Eisenberger, 2002; Szostek et al., 2022). Therefore trust in supervisors is tied to important productivity-related outcomes, mainly by influencing employees' work behaviors. However, declining trust in management, often due to perceived violations of employee expectations, poses challenges (Mayer & Davis, 1999). From the perspective of company competitiveness, the problem of keeping trust between main stakeholders of organization, is currently even more demanding due to current "Artificial Intelligence revolution", which has significant influence on human resource relations (Gladden et al., 2022; Zada et al., 2024; Balcerzak & Valaskova, 2024; Lazaroiu et al., 2024, 2025; Hernik et al., 2025; Balcerzak et al., 2025; 2026). This situation can lead to increasing the scale of CWB, undermining the competitive edge of company and its long term sustainability (Balcerzak et al., 2023; Łucjan et al., 2026).

On the other hand, high levels of organizational support are associated with reduced engagement in CWB (Sakurai & Jex, 2012). Transformational leadership, characterized by active and communicative styles, correlates negatively with organizational conflict and counterproductive behaviors, especially when combined with autonomy and control (Kessler et al., 2013). PSS aligns with social exchange theory, wherein favorable treatment fosters reciprocal positive behaviors. The more PSS, the stronger organizational identification, commitment and wellbeing of employees and they engage more in extraordinary behaviors, thus building company competitive edge (Bano et al., 2017). In opposite – when employees perceive that they are treated unfavorably, they can more engage in CWB.

Supervisors play a central role in shaping both TS and PSS, often being perceived as representatives of the organization, particularly in smaller, centralized entities (Mayer & Davis, 1999). Given the substantial economic costs associated with CWB (Parks & Mount, 2003; Szostek et al., 2023), to keep the competitive advantage organizations increasingly invest in initiatives that enhance POS and PSS (Bano et al., 2017).

Although prior studies have examined the relationships between leadership, organizational support, and counterproductive work behaviors, the existing literature remains fragmented in at least three important respects. First, limited attention has been devoted to the joint analysis of trust in supervisors and perceived supervisor support as distinct yet interrelated antecedents of CWB. Second, empirical evidence regarding their differentiated impact on specific categories of counterproductive behaviors (rather than aggregated CWB constructs) remains scarce. Third, there is a lack of research examining these relationships within the context of Central European economies, where institutional, cultural, and organizational conditions may significantly shape employee attitudes and behaviors. Consequently, the precise mechanisms through which (Transformational Leadership) TS and (Perceived Supervisor Support) PSS influence various forms of Counterproductive Work Behavior (CWB), encompassing both organizational (CWB-O) and interpersonal (CWB-I) manifestations, as well as subjective categorizations of CWB, remain theoretically underexplored and empirically insufficiently verified.

Within this context study aims to address presented existing knowledge gaps by pursuing the following objectives:

1. Assess the impact of TS on CWB (including organizational – CWB-O, interpersonal - CWB-I, and specific behavioral categories).
2. Examine the moderating role of demographic characteristics in the TS-CWB relationship.
3. Evaluate the influence of PSS on CWB.
4. Investigate the moderating role of demographic characteristics in the PSS-CWB relationship.

This study contributes to the existing body of knowledge in several ways. First, it advances the literature by simultaneously examining trust in supervisors and perceived supervisor support as complementary drivers of counterproductive work behaviors, thereby extending existing models that typically consider these constructs in isolation. Second, by disaggregating CWB into specific behavioral categories (i.e., withdrawal, abuse, sabotage, and theft), the study provides a more fine-grained understanding of how relational factors translate into different forms of organizational dysfunction. Third, the analysis conducted in the context of a Central European economy offers novel empirical evidence from a region that remains underrepresented in the international literature. Finally, the study refines existing theoretical perspectives by demonstrating that the effects of TS and PSS are selective and context-dependent, thereby challenging the assumption of their uniformly positive influence on employee behavior.

The subsequent sections of this manuscript are structured as follows. We begin by delineating the theoretical framework underpinning the research inquiry, drawing upon relevant conceptual model and empirical precedents. Thereafter, we outline the methodological approach employed to empirically test the proposed research model, including data collection procedures, operationalization of constructs, and analytical techniques. This is followed by a detailed presentation and interpretation of the empirical findings, highlighting their theoretical and practical significance. Finally, we conclude with a critical discussion of the study's limitations, propose avenues for future research, and reflect on the broader implications for organizational practice and policy from the perspective of building company intangible competitive potential.

2 THEORETICAL BACKGROUND

2.1 Trust in supervisors

The expectation that others can be depended upon constitutes a foundational element in the formation of functional relationships and the development of psychologically healthy individuals (Mayer & Davis, 1999). Within organizational settings, where interpersonal dynamics are inherently complex and multifaceted, interpersonal trust, especially trust directed toward supervisors and among colleagues, emerges as a critical determinant of organizational efficacy, cohesion, thus form the brother perspective competitiveness (Pratt & Dirks, 2009; Pavláková Dočekalová et al., 2024).

Trust is inherently subjective and context-dependent, shaped by the unique characteristics of the individual (the trustor) and the specific situational parameters in which interpersonal exchanges occur (Wieselquist et al., 1999). In the absence of trust, the likelihood of open

communication and collaborative engagement among employees is significantly diminished. This is particularly salient in scenarios characterized by temporal asymmetry in benefit realization, wherein one party must assume the risk that the other will reciprocate at a later stage (Palmatier et al., 2006).

Trust in supervisory figures has been empirically linked to a wide array of positive organizational outcomes (Zahra et al., 2006; Gill, 2008; Pratt & Dirks, 2009). These include, but are not limited to: enhanced employee motivation, increased operational efficiency and profitability, greater innovative capacity, psychological safety in expressing divergent or critical viewpoints, elevated job satisfaction, sustained cooperative behavior, conflict mitigation, transparent and effective communication, improved knowledge dissemination, inter-employee collaboration, willingness to engage in calculated risk-taking, and superior problem-solving and decision-making capabilities. Furthermore, trust contributes to reduced employee turnover, heightened engagement in organizational citizenship behaviors (OCB), and a diminished prevalence of CWB. All these behavioral factors must be considered as the constructs building intangible competitive potential of organization.

Notwithstanding the widely acknowledged benefits associated with trust in supervisory relationships, it is imperative to recognize that such trust may also engender adverse consequences for both individual employees and the broader organizational system. These detrimental outcomes are particularly pronounced when trust is misplaced, arising from flawed cognitive appraisals, naivety, informational asymmetries, or developmental immaturity in judgment. In such instances, trust may inadvertently facilitate excessive compliance or deference on the part of subordinates, potentially accelerating decision-making processes at the expense of critical evaluation and independent thought (Zahra et al., 2006).

Despite the increasing scholarly attention devoted to the construct of trust, especially in the context of hierarchical workplace relationships, the underlying mechanisms through which trust influences organizational functioning and employee behavior remain insufficiently elucidated (Zeffane et al., 2011; Anthonius et al. 2025). It is noteworthy that the academic discourse across management science, legal studies, and psychology lacks a universally accepted definition of trust, thereby complicating theoretical integration and empirical operationalization (see Table 1).

Table 1 – Selected definitions of trust in supervisors

Source	Definition
(Rotter, 1967, p. 651)	„Expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon.”
(Morgan & Hunt, 1994, p. 23)	„Trust [is] when one party has confidence in an exchange partner’s reliability and integrity”
(Mayer et al., 1995, p. 712)	„Willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”
(Sheppard & Sherman, 1998, p. 427)	„Most often (...) not an irrational act but a manageable act of faith in people, relationships, and social institutions.”
(Dirks, 1999; Holtzhausen & Fourie, 2009)	The belief that the supervisor in the relationship is reliable and the interest of the other party is important to him.
(Mayer & Davis, 1999, p. 123)	„Willingness to be vulnerable to the actions of another party.”
(Wieselquist et al., 1999)	Expectation / hope that you can rely on the supervisor to respond to your needs and behave in the right (desired) way.

(Zahra et al., 2006)	"The function of risk and mutual dependence of the parties to the relationship."
(Bortree & Waters, 2008; Zeffane et al., 2011)	"Expecting the supervisor to keep a given word or a written / word promise."
(Duffy & Lee, 2012)	"The degree of certainty that the supervisor shares the concern for the common good."

Source: own work.

The predominant conceptualization of trust in organizational literature is grounded in Social Exchange Theory, wherein trust is construed as the expectation that the other party in a relational dyad will reciprocate with commensurate contributions or benefits (Pratt & Dirks, 2009). This theoretical framing inherently acknowledges a fundamental limitation of trust: the acceptance of uncertainty regarding the intentions and future behaviors of the relational counterpart. Thus, trust entails a calculated risk, wherein the trustor consents to vulnerability in anticipation of mutual gain.

There are two main types of trust in supervisors: calculative and relational. The first is based on an individual risk-benefit assessment (more pragmatic). Relational trust is based on social interactions between the parties (Zahra et al., 2006). Trust in supervisor consists of various components like (Wieselquist et al., 1999):

- a) predictability – the belief that the behavior of supervisors will be in line with the expectations of the subordinates,
- b) dependability – the belief that supervisors can be counted on their honesty, reliability and proper behavior,
- c) faith – the belief that the reasons of supervisors are not instrumental.

In turn, Hon & Grunig (1999) distinguishes the following trust components:

- a) integrity – belief in fair treatment by the supervisor,
- b) dependability – consistency between what the supervisor says and does,
- c) competences – the level to which the supervisors can implement what they say.

Trust within organizational contexts is not a static or binary construct, but rather a dynamic and evolving phenomenon shaped by cumulative interpersonal experiences and influenced by a multitude of situational factors (Oyster, 2000). Conceptually, trust exists along a continuum ranging from deep-seated distrust to robust and resilient trust. It is not conferred instantaneously nor permanently, but emerges through an iterative process of experiential learning, mutual empowerment, sustained interaction, and open dialogue (Mayer & Davis, 1999).

Traditional antecedents of trust in supervisory relationships include shared professional experiences, reciprocal openness, the fulfilment of commitments, and the ethical restraint from exploiting subordinates' vulnerabilities (Meyerson et al., 1996). Mayer and Davis (1999) further posit that the cultivation of trust in supervisors can be facilitated through the implementation of performance appraisal systems perceived as fair and transparent. Moreover, trust is often reinforced by perceived similarities between supervisors and subordinates, such as shared values, cultural background, or common origins, which serve to enhance relational affinity and mutual understanding. Effective communication also plays a pivotal role in fostering trust, serving as a conduit for clarity, transparency, and emotional resonance (Zeffane et al., 2011).

According to Mayer et al. (1995), the perceived trustworthiness of supervisors is underpinned by three core dimensions: ability, benevolence, and integrity. *Ability* refers to the possession of relevant skills, competencies, and domain-specific expertise that confer influence and credibility. *Benevolence* denotes the extent to which the supervisor is believed to act in the interest of the subordinate, independent of self-serving motives. *Integrity* reflects the alignment between the supervisor's espoused values and their actual behavior, as well as the degree to which those values are deemed acceptable by the subordinate.

In addition to these interpersonal and structural factors, exogenous variables, such as cultural norms, political environments, and macroeconomic conditions, also exert a significant influence on the development and sustainability of trust. This factor positions "trust" as a critical country-specific issue for empirical inquiry within organizational sciences and business practice. Particularly in times of organizational crisis or uncertainty, the behavior of supervisors becomes a critical determinant of their perceived trustworthiness. When such behavior is oriented toward preserving and strengthening relational bonds, it tends to reinforce trust among subordinates (Ariño, 1999; Wieselquist et al., 1999).

It is worth investing in a trust in supervisor for the sake of the organization. This should be understood as (Zahra et al., 2006; Gill, 2008):

- creating a team and partnership working environment (this increases mutual understanding as well as the emotional relationship of employees with supervisor),
- communicating to employees the principles of procedural and distributional organizational justice,
- promoting open communication,
- implementing fair procedures to strengthen emotional relationships between employees and supervisors,
- implementing fair distribution methods (e.g. remuneration commensurate with the effort and time invested in relationship by the employee),
- equal treatment of employees, also in the event of personnel conflicts,
- being consistent with employees,
- regular employee training to improve working conditions (including mentoring, coaching, etc.).

2.2 Perceived Supervisor Support (PSS)

Social support within organizational contexts can be conceptualized in two distinct forms: perceived support and received support. *Perceived Supervisor Support (PSS)* refers to an individual's subjective belief that their supervisor is supportive, whereas *Received Supervisor Support (RSS)* pertains to the actual assistance provided in specific situations. Paradoxically, empirical evidence suggests that perceived support is a more robust predictor of employee well-being than received support. In personal domains, support from family members and professionals is paramount, while in occupational settings, support from supervisors and colleagues plays a critical role in shaping psychological and behavioral outcomes (Baka, 2019).

The construct of PSS is derived from Organizational Support Theory (OST), which posits that employees develop global beliefs concerning the extent to which their organization values their contributions and cares about their well-being (Eisenberger et al., 2002; Rhoades & Eisenberger, 2002; Bano et al., 2017). PSS is conceptually related to both Perceived Organizational Support (POS) and Perceived Social Support, though these constructs remain

analytically distinct. While numerous studies have explored the correlation between PSS and POS (e.g., Eisenberger et al., 2002), there is a notable paucity of empirical research examining the relationship between PSS and broader forms of perceived social support.

The relationship between PSS and POS is bidirectional: support provided by supervisors is often interpreted by employees as indicative of organizational support, and conversely, organizational support is frequently perceived through the lens of supervisory behavior. POS has been defined as “employees’ perceptions regarding the extent to which the organization they work for values their contributions and cares for their general well-being” (Bano et al., 2017, p. 105; see also Eisenberger et al., 2002). It represents an assurance that organizational assistance will be available when needed to perform job duties effectively and to navigate stressful circumstances (Rhoades & Eisenberger, 2002). In essence, POS reflects the perceived commitment of the organization to the welfare of its employees (Shore & Wayne, 1993), and employees tend to form generalized beliefs about whether the organization holds a favorable or unfavorable orientation toward them (Eisenberger et al., 2002).

Supervisors, by virtue of their role in directing and evaluating employee performance, are often viewed as agents of the organization. Consequently, their behavior is interpreted as representative of organizational values and intentions (Bano et al., 2017). The strength of this identification is contingent upon the extent to which employees perceive the supervisor as embodying the organization itself (Eisenberger et al., 2002). As Levinson (1965) observed, actions undertaken by supervisors are frequently attributed to the organization rather than to personal motives. This perception is reinforced by the organization's legal, moral, and financial accountability for the conduct of its agents, as expressed through organizational culture, norms, and formal policies that delineate the scope of supervisory authority (Rhoades & Eisenberger, 2002).

Employees’ perceptions of beneficial treatment from their organization can be broadly categorized into three principal domains: fairness, supervisor support, and organizational rewards and favorable job conditions (Rhoades & Eisenberger, 2002). Each of these dimensions plays a pivotal role in shaping employee attitudes, behaviors, and overall well-being.

Fairness encompasses three interrelated forms of justice: a) *Distributive justice* refers to the perceived equity in the allocation of organizational resources among employees; b) *Procedural justice* pertains to the fairness embedded in formal decision-making processes, including the use of transparent policies, consultation with employees prior to implementing decisions, and the provision of accurate and timely information; c) *Interactional justice* involves the quality of interpersonal treatment employees receive from supervisors, particularly in terms of respect, dignity, and consideration.

Perceived Supervisor Support (PSS) is defined as employees’ global/generalized beliefs regarding the extent to which their supervisors value their contributions and care about their well-being (Rhoades & Eisenberger, 2002; Eisenberger et al., 2002). Due to its conceptual proximity to POS, PSS is frequently measured by adapting POS scales, substituting the term “organization” with “supervisor” (Rhoades & Eisenberger, 2002). Notably, PSS tends to be rated higher than POS, largely because supervisors maintain more frequent and direct contact with employees than upper-level management (Eisenberger et al., 2002).

Organizational rewards encompass both tangible and intangible benefits, including compensation, recognition, promotional opportunities, job security, autonomy, access to training, and mitigation of role stressors. Favorable job conditions, on the other hand, refer to the extent to which the work environment is free from stress-inducing factors such as: *Work overload*, which can be understood as demands that exceed an employee's capacity within a given timeframe; *Role ambiguity*, defined as lack of clarity regarding job responsibilities; and *Role conflict*, which can be explained as incompatibility among assigned tasks or expectations (Rhoades & Eisenberger, 2002).

PSS is also defined as the degree to which individuals feel supported by their social networks, including family, friends, and other significant figures (Bano et al., 2017). This construct encompasses both formal support, typically provided by supervisors and peers within the workplace; and informal support, which originates from personal relationships outside the organizational context. Social support is essential for the development of positive attitudinal outcomes and captures dimensions of support that are not fully addressed by POS (Bano et al., 2017).

Empirical research has consistently demonstrated that PSS is positively associated with a range of favorable outcomes for both employees and organizations. For instance, Bano et al. (2017) found that PSS enhances job satisfaction and improves employee mood, primarily through its stress-buffering effects. Riggie et al. (2009) also confirmed that PSS is positively correlated with organizational commitment, affective commitment, information sharing, and job performance, while being negatively associated with psychological strain, turnover intentions, and withdrawal behaviors (Eisenberger et al., 2002; Rhoades & Eisenberger, 2002).

To maximize these outcomes, it is essential that employees perceive organizational actions as discretionary rather than obligatory. This perception fosters a sense of obligation to reciprocate, fulfills socioemotional needs, and reinforces performance-reward expectations (Rhoades & Eisenberger, 2002). Importantly, resources and support provided by supervisors are more highly valued when they are perceived as voluntary and autonomous, rather than mandated by external constraints such as union agreements or regulatory requirements (Rhoades & Eisenberger, 2002).

2.3 Counterproductive Work Behaviors (CWB)

The conceptual foundation for the study of Counterproductive Work Behaviors (CWB) originates from research on workplace aggression, with early contributions by Spector (1978), who posited that such behaviors, while not always directly targeted at colleagues, invariably result in indirect harm to them (Fox & Spector, 1999). CWB has since evolved into a distinct domain within organizational behavior, encompassing a wide range of voluntary actions that deviate from established norms and threaten the integrity and functioning of the organization and its stakeholders.

CWB is classified as a form of extra-role behavior, meaning it falls outside the formal expectations of job performance (Ariani, 2013). Spector et al. (2006) define CWB as “distinct acts that share the characteristics that they are volitional (as opposed to accidental or mandated) and harm or intend to harm organizations and/or organization stakeholders, such as clients, coworkers, customers, and supervisors” (Spector et al., 2006, p. 447). Similarly, Robinson and Bennett (1995, p. 556) describe CWB as “a voluntary behavior that violates significant

organizational norms and in so doing threatens the wellbeing of an organization, its members, or both”.

The literature has employed various terminologies to describe behaviors analogous to CWB, including deviant behavior (Robinson & Bennett, 1995), antisocial behavior (Miller et al., 2003), destructive or hazardous behavior (Murphy, 1993), unethical conduct, audacious acts, unruliness at work (Hunt, 1996), vindictive actions, and even organizational attacks (Bagyo, 2016). While these terms capture overlapping phenomena, they are not synonymous. The term *counterproductive work behavior* has gained prominence due to its conceptual clarity and comprehensive scope.

For a behavior to be classified as counterproductive, three essential criteria must be satisfied (Spector & Fox, 2010):

1. The behavior must contravene organizational rules and norms.
2. The behavior must be intentional or voluntary, rather than accidental or externally mandated.
3. The behavior must cause, or have the potential to cause, harm to the organization and/or its stakeholders.

Importantly, CWB encompasses a broad spectrum of actions, ranging from seemingly benign infractions, such as engaging in personal online shopping during work hours, to serious violations of organizational policies and legal standards, including harassment and mobbing (Bagyo, 2016).

Numerous classification systems for CWB have been proposed (e.g., Hollinger & Clark, 1982; Robinson & Bennett, 1995; Gruys & Sackett, 2003; Vardi & Weitz, 2004), though few offer both exhaustive and mutually exclusive categories. One of the most widely adopted frameworks is that of Spector et al. (2006), which distinguishes between behaviors directed at individuals (CWB-I) and those directed at the organization (CWB-O) (Robinson & Bennett, 1995). Within this framework, five specific categories of CWB are identified:

1. Abuse Against Others – Actions that cause harm to other individuals, such as blaming, ignoring, or violating interpersonal boundaries.
2. Production Deviance – Deliberate reduction in work quality or quantity, including carelessness and violation of safety protocols.
3. Sabotage – Intentional damage to organizational assets, both tangible and intangible (e.g., destruction of property or reputational harm).
4. Theft – Unauthorized appropriation of property belonging to the organization or its members.
5. Withdrawal – Reduction in work effort or time commitment, such as leaving work early without permission or feigning illness.

3 RESEARCH METHODOLOGY AND DATA

3.1 The model and research hypotheses

The theoretical framework and research objectives presented herein have facilitated the development of a conceptual model encompassing four principal hypotheses (refer to Figure 1 for the research model). The empirical validation of this model was conducted using survey data, which were subjected to statistical analysis within the Structural Equation Modeling (SEM) framework, currently considered as one of the most effective statistical strategy for primary data analysis (Teng & Wu, 2025; Rudawska & Nickell, 2024; Chatzoudes et al., 2024).

The selection of Structural Equation Modeling (SEM) as the primary analytical technique is theoretically and methodologically justified by the nature of the research problem and the structure of the proposed model. SEM enables the simultaneous estimation of multiple dependent relationships between latent constructs and their observable indicators (Dehghanpouri et al., 2025; Skypalova et al., 2025), which is consistent with the multidimensional character of trust in supervisors (TS), perceived supervisor support (PSS), and counterproductive work behaviors (CWB). Moreover, SEM allows for the explicit modeling of measurement error and the validation of the measurement model through Confirmatory Factor Analysis (CFA), thereby increasing the reliability and internal validity of the results. Given that the study examines both direct and indirect relationships among constructs, as well as interdependencies between different categories of CWB, SEM constitutes a theoretically coherent and empirically appropriate analytical framework (Balcerzak & Pietrzak, 2016; Hair *et al.*, 2011, 2022).

The 4 hypotheses were formulated with the construction of the final theoretical model.

Trust in supervisors and counterproductive work behaviors

The relationship between trust in supervisors (TS) and counterproductive work behaviors (CWB) can be theoretically grounded in Social Exchange Theory and the norm of reciprocity (see: Li *et al.*, 2022). According to this perspective, employees who trust their supervisors are more likely to perceive the relationship as fair and mutually beneficial, which reduces the motivation to engage in behaviors that harm the organization or its members. Trust fosters psychological safety, enhances identification with the organization, and strengthens internalized norms of cooperation, thereby limiting the occurrence of deviant behaviors (Yang et al., 2024). Conversely, low levels of trust may generate feelings of uncertainty, injustice, and disengagement, which in turn increase the likelihood of withdrawal and other forms of CWB. Empirical studies suggest that trust is negatively associated with various forms of counterproductive behavior, although these effects may vary across specific behavioral categories. Therefore, it is theoretically justified to expect that trust in supervisors reduces the prevalence of counterproductive work behaviors (Aman & Surwanti, 2025; Pinheiro & Palma-Moreira, 2025).

H1: Transformational Leadership (TS) exerts a statistically significant influence on the prevalence and intensity of Counterproductive Work Behaviors (CWB), encompassing CWB-O, CWB-I, as well as subjective perceptions and self-reported manifestations of CWB.

Perceived supervisor support and counterproductive work behaviors

The relationship between perceived supervisor support (PSS) and CWB is primarily explained by Organizational Support Theory and Social Exchange Theory (see Caesens & Stinglhamber, 2020; Kurtessis et al., 2015; Łucjan et al., 2026). When employees perceive that their supervisor values their contributions and cares about their well-being, they develop a sense of obligation to reciprocate through positive attitudes and behaviors. This reciprocal mechanism reduces the likelihood of engaging in counterproductive activities that could harm the organization. Additionally, supervisor support functions as a buffer against job stressors (Sugiarto et al., 2025; Walsh & Kabat-Farr, 2022), thereby limiting frustration-driven behaviors that are often associated with CWB. However, recent studies suggest that the relationship between PSS and specific forms of CWB may be more complex and context-dependent, especially in situations where higher support may lead to reduced perceived accountability. Despite these nuances, the dominant theoretical expectation remains that higher PSS should be associated with lower levels of counterproductive work behaviors.

H3: Perceived Supervisor Support (PSS) significantly affects the degree to which employees engage in Counterproductive Work Behaviors (CWB), including both organizational (CWB-O) and interpersonal (CWB-I) dimensions, as well as subjective assessments of such behaviors.

The moderating role of demographic characteristics

The moderating role of demographic characteristics in the relationship between TS, PSS, and CWB can be justified by drawing on contingency theory and individual differences perspectives (Pacheco-Cubillos et al., 2024; Yu et al., 2026). Employees differ in their perceptions, expectations, and behavioral reactions depending on variables such as gender, age, tenure, and type of work. These characteristics may influence both the interpretation of supervisor behavior and the tendency to reciprocate through either constructive or counterproductive actions. For example, prior research indicates that gender differences may shape relational expectations and sensitivity to social exchange processes, while tenure and job type may affect organizational identification and perceived costs of deviant behavior. As a result, the impact of TS and PSS on counterproductive work behaviors is unlikely to be uniform across all employee groups, and demographic variables may significantly moderate these relationships. Therefore, it is theoretically justified to expect that the strength and direction of the relationships between TS, PSS, and CWB vary depending on employee characteristics.

H2: The relationship between Transformational Leadership (TS) and Counterproductive Work Behaviors (CWB) is subject to moderation by specific demographic attributes of employees. These moderating variables include: H2a: Gender of the employee; H2b: Age of the employee; H2c: Length of organizational tenure; H2d: Nature or classification of work performed

H4: The impact of Perceived Supervisor Support (PSS) on Counterproductive Work Behaviors (CWB) is moderated by employee demographic characteristics, specifically: H4a: Gender; H4b: Age; H4c: Length of service within the organization; H4d: Type or category of work undertaken. Based on the discussed theoretical background the theoretical research model presented in figure 1 is verified.

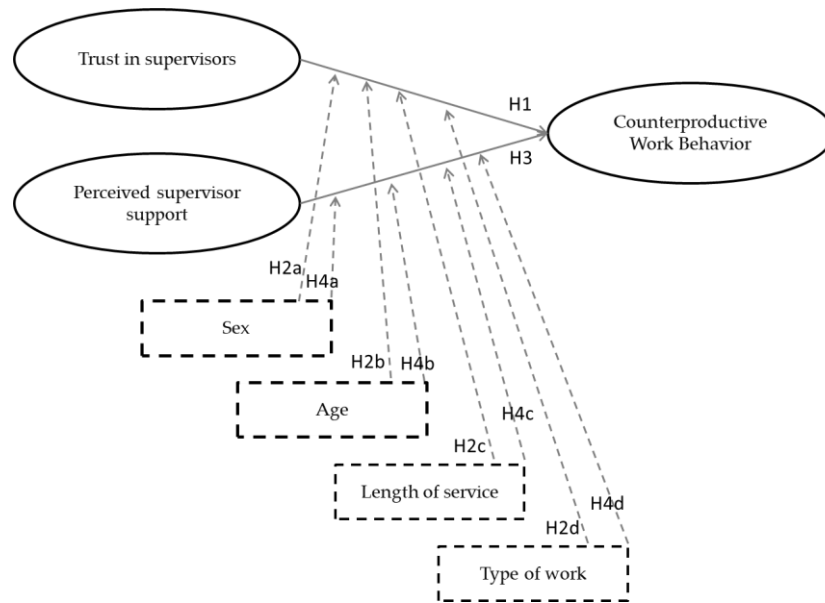


Figure 1 – The research model with hypotheses visualization

Source: own work.

3.2 Sampling Procedures and Participant Characteristics

The present study constitutes a component of a broader research initiative launched in 2020, aimed at examining the multifaceted determinants and consequences of Counterproductive Work Behaviors (CWB) within organizational environments in Central Europe (Szostek et al., 2022; 2023; 2024). The empirical data analyzed herein were derived from an online survey administered to a sample of 454 professionally active individuals residing in Poland.

The sampling strategy employed was non-probabilistic in nature. Specifically, participation was solicited through targeted invitations extended to selected groups of employees. These invitations were disseminated via professional networks, organizational mailing lists, and social media platforms, with the objective of capturing a diverse cross-section of the Polish workforce. Although the sampling method does not permit statistical generalization to the broader population, it facilitates the exploration of patterns and relationships within a relevant and contextually grounded sample.

The demographic characteristics of the respondents are included in Table 2.

Table 2 – Demographic characteristic of respondents

Sex	F	75.1% (341 employees)	Employment sector	Public	54.8% (249 employees)
	M	24.7% (112 employees)		Private	44.7% (203 employees)
	Missing	0.2% (1 employee)		Missing	0.4% (2 employees)
Age	Mean	42.03 years	Region of Poland (voivodship)	dolnośląskie	4.8% (22 employees)
	MIN	20 years		kujawsko-pomorskie	10.1% (46 employees)

	MAX	67 years		
	SD	9.84 years		
	Missing	14 employees		
	Higher	90.5% (411 employees)		
	Secondary	8.6% (39 employees)		
Education	Vocational	0.4% (2 employees)		
	No education	0.2% (1 employee)		
	Missing	0.2% (1 employee)		
Length of service	Mean	12.94 years		
	MIN	1 years		
	MAX	52 years		
	SD	10.83 years		
	Missing	11 employees		
Type of work	Office / clerical	72.5% (329 employees)		
	Managerial	26.9% (122 employees)		
	Blue collar	0.4% (2 employees)		
	Missing	0.2% (1 employee)		
	lubelskie	3.7% (17 employees)		
	lubuskie	2.2% (10 employees)		
	łódzkie	6.2% (28 employees)		
	małopolskie	6.6% (30 employees)		
	mazowieckie	10.8% (49 employees)		
	opolskie	2.4% (11 employees)		
	podkarpackie	9.0% (41 employees)		
	podlaskie	6.6% (30 employees)		
	pomorskie	8.4% (38 employees)		
	śląskie	2.9% (13 employees)		
	świętokrzyskie	3.7% (17 employees)		
	warmińsko-mazurskie	7.0% (32 employees)		
	wielkopolskie	13.2% (60 employees)		
	zachodniopomorskie	2.2% (10 employees)		

Source: own study.

3.3 Measurement Scales

To operationalize the key constructs under investigation, validated measurement instruments were employed, each selected for its theoretical relevance and empirical robustness.

Trust in Supervisors was assessed using a four-item scale developed by Mayer and Davis (1999). This scale has been widely utilized in organizational research and demonstrates strong psychometric properties.

Perceived Supervisor Support (PSS) was measured using a nine-item scale originally proposed by Rhoades and Eisenberger (2002). For practical reasons, many empirical studies investigating TS and PSS utilize abbreviated versions of these scales, comprising only a few items (Rhoades & Eisenberger, 2002).

Counterproductive Work Behaviors (CWB) were measured using the Polish adaptation of the Counterproductive Work Behavior Checklist (CWB-C PL), originally developed by Spector et al. (2006) and subsequently validated for the Polish organizational context by Szostek (2022). The adaptation process was comprehensive and methodologically rigorous, involving multiple stages of qualitative and quantitative inquiry. These included: In-depth group interviews with

subject-matter experts, managers, and employees to evaluate the relevance and clarity of scale items, verify the categorization of behaviors into CWB-I (interpersonal) and CWB-O (organizational), and refine the subjective categories (abuse against others, production deviance, theft, sabotage, withdrawal); Participant and covert observations conducted within organizational settings to confirm the real-world occurrence of behaviors described in the scale; A large-scale online survey involving 1,351 professionally active individuals in Poland, which provided the empirical basis for factor analysis. The factor analysis enabled the optimization of the scale's reliability and construct validity by identifying the most salient items. Notably, the analysis revealed that, within the Polish cultural context, the original five-category structure proposed by Spector et al. (2006) required modification. Specifically, the category of *production deviance* was excluded, resulting in a four-category model that better reflects the behavioral patterns observed in Polish organizations. The scale with presentation of its development is given by Szostek (2022).

4 RESULTS AND DISCUSSION

4.1 Reliability Values

The application of Confirmatory Factor Analysis enabled the identification of those observable variables within the constructs of Transformational Leadership (TS), Perceived Supervisor Support (PSS), and the subjective dimensions of Counterproductive Work Behaviors (CWB) that most significantly contributed to the latent structure of each construct. Specifically, CFA facilitated the selection of indicators exhibiting the highest factor loadings, thereby ensuring the robustness and conceptual clarity of the measurement model.

This analytical step was of particular importance in the context of the Structural Equation Modeling (SEM) procedure employed in the subsequent phase of the study, as it ensured that only the most theoretically and empirically valid indicators were retained for model estimation. A summary of the extracted factors, along with the corresponding observable variables that define them, is presented in Table 3.

Table 3 – List of factors with the measurable variables describing them and the calculated Alpha-Cronbach statistics

Factor	Measurable variables	Alpha-Cronbach statistics
TS	T1, T2, T3, T4	0,573
PSS	P1, P4, P6, P8	0,917
Sabotage	C1, C3, C4, C14	0,643
Theft	C9, C19, C21, C26	0,648
Abuse against others	C18, C25, C28, C35	0,756
Withdrawal	C2, C20, C30, C33	0,845

Source: own study.

Alpha-cronbach statistics in the case of trust, sabotage and theft are below 0.7, but due to their significance, it was decided to use them in further analysis. The statistical values for the remaining factors were higher than 0.7, which means good reliability of the measurement scales.

In order to verify the hypotheses, in the IBM SPSS Amos v.16 package, there was estimated the SEM model using the maximum likelihood method. The model adopted a significance coefficient of 0.05.

4.2 Hypothesis Testing

Several critical modeling decisions were made to ensure the interpretability and robustness of the estimated SEM model. First, only indicators with the highest factor loadings identified through CFA were retained, which improves construct validity and reduces measurement noise. Second, the model assumes directional relationships between different categories of CWB (e.g., withdrawal influencing sabotage and theft), reflecting a theoretically grounded escalation mechanism in counterproductive behaviors. Third, the maximum likelihood estimation method was applied, as it is considered efficient and appropriate for relatively large samples and continuous data structures. Fourth, the decision to retain constructs with Cronbach's alpha values below the conventional threshold of 0.7 (e.g., TS) was based on their theoretical importance and prior validation in the literature, although this may slightly affect internal consistency and should be interpreted with caution. These modeling choices directly influence the interpretation of the results and therefore need to be explicitly acknowledged.

The visualisation of the model is presented in Figure 2. It is a hypothetical model adopted for the purpose of establishing the structural relationships between TS and PSS and the subjective categories of CWB. It also assumes the existence of relationships between the categories of counterproductive work behaviors. It was assumed that the least harmful activities have an impact on those that increasingly disrupt the work of the team and the organization. Thus, it was assumed that withdrawal and abuse against others prevent sabotage and theft, while sabotage itself is related to theft. In the model, the set of these variables is identical to the list presented in Table 3.

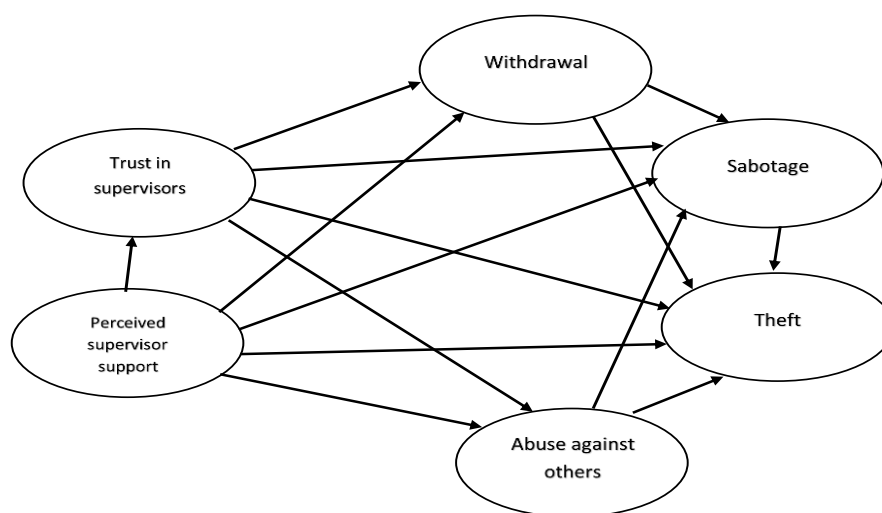


Figure 2 – The visualisation of the modelu SEM (the influence of TS and PSS on subjective categories of CWB)

Source: own work.

Table 4 contains the results of the maximum likelihood estimation of the external model SEM (factor analysis), table 5 – the results of the estimation for the internal model (regression

analysis), and table 6 – the values of total effects (direct and indirect) of the TS- and PSS-impact on subjective categories of CWB. Table 7 contains measures of the degree of fit between the model and the empirical data.

Table 4 – The estimation results of the external model SEM

Relationship	Parameter	Parameter evaluation	P-value
T1 $\leftarrow$ TS	α_1	0.526	
T2 $\leftarrow$ TS	α_2	0.492	0.000
T3 $\leftarrow$ TS	α_3	0.447	0.000
T4 $\leftarrow$ TS	α_4	0.504	0.000
P1 $\leftarrow$ PSS	α_5	0.833	
P4 $\leftarrow$ PSS	α_6	0.877	0.000
P6 $\leftarrow$ PSS	α_7	0.862	0.000
P8 $\leftarrow$ PSS	α_8	0.853	0.000
C1 $\leftarrow$ Sabotage	α_9	0.316	0.000
C3 $\leftarrow$ Sabotage	α_{10}	0.839	0.000
C4 $\leftarrow$ Sabotage	α_{11}	0.739	0.000
C14 $\leftarrow$ Sabotage	α_{12}	0.319	
C9 $\leftarrow$ Theft	α_{13}	0.546	0.000
C19 $\leftarrow$ Theft	α_{14}	0.680	0.000
C21 $\leftarrow$ Theft	α_{15}	0.587	0.000
C26 $\leftarrow$ Theft	α_{16}	0.512	
C18 $\leftarrow$ Abuse against others	α_{17}	0.687	
C25 $\leftarrow$ Abuse against others	α_{18}	0.659	0.000
C28 $\leftarrow$ Abuse against others	α_{19}	0.694	0.000
C35 $\leftarrow$ Abuse against others	α_{20}	0.645	0.000
C2 $\leftarrow$ Withdrawal	α_{21}	0.771	
C20 $\leftarrow$ Withdrawal	α_{22}	0.724	0.000
C30 $\leftarrow$ Withdrawal	α_{23}	0.722	0.000
C33 $\leftarrow$ Withdrawal	α_{24}	0.840	0.000

Source: own study.

Table 5 – The estimation results of the internal model SEM

Relationship	Parameter	Parameter evaluation	Assessment of standardized parameters	P-value
TS $\rightarrow$ Sabotage	β_1	0.022	0.099	0.362
TS $\rightarrow$ Theft	β_2	0.016	0.081	0.522
TS $\rightarrow$ Abuse against others	β_3	-0.100	-0.179	0.162
TS $\rightarrow$ Withdrawal	β_4	-0.300	-0.274	0.030
PSS $\rightarrow$ Sabotage	β_5	-0.007	-0.068	0.465
PSS $\rightarrow$ Theft	β_6	-0.003	-0.032	0.765
PSS $\rightarrow$ Abuse against others	β_7	0.042	0.156	0.157
PSS $\rightarrow$ Withdrawal	β_8	0.123	0.233	0.030
Withdrawal $\rightarrow$ Sabotage	β_9	0.133	0.657	0.000
Withdrawal $\rightarrow$ Theft	β_{10}	0.087	0.494	0.000
Abuse against others $\rightarrow$ Sabotage	β_{11}	0.137	0.346	0.000
Abuse against others $\rightarrow$ Theft	β_{12}	0.255	0.738	0.000
Sabotage $\rightarrow$ Theft	β_{13}	-0.242	-0.278	0.016
PSS $\rightarrow$ TS	β_{14}	0.345	0.720	0.000

Source: own study.

Table 6 – Standardized total effects of TS and PSS impact on the CWB subjective categories

Relationship	Withdrawal	Abuse against others	Sabotage	Theft
TS	-0.274	-0.179	-0.143	-0.146
PSS	0.036	0.027	0.036	0.054
Withdrawal			0.657	0.311
Abuse against others			0.346	0.642
Sabotage				-0.278

Source: own study.

Table 7 – Measures of the degree of model SEM fit to data

Model	IFI	PNFI	RMSEA	CMIN/DF
Estimated	0.884	0.664	0.068	3.065
Saturated	1			
Independent	0		0.176	14.923

Source: own study.

The results for the external model (see Table 4) indicate that all factor loadings are statistically significant. When interpreting the obtained results (see Table 5), it should be noted that TS and PSS had a direct impact only on withdrawal. Specifically, TS led to a reduction in this type of CWB (β_4), and PSS leads to more withdrawal (β_8). The impact of TS and PSS on other subjective categories of CWB did not turn out to be statistically significant. These relationships have a logical explanation. First of all, withdrawal is a form of counterproductive behavior aimed at the organization represented by the superior. Hence, an increase in TS leads to a reduction in withdrawal, and in opposite – a decrease in TS leads to greater involvement in this behavior. The positive relationship between PSS and withdrawal seems to be a kind of paradox. This can be explained by a kind of calculation of employees. In view of the greater support from the superior, they can simulate involvement in work, and in fact avoid it, less fearing the consequences from a more sympathetic supervisor.

At the same time, sabotage and theft are usually much more serious manifestations of CWB, hence they are less likely to occur and employees are less willing to admit them. This may have determined the negligible impact of TS and PSS on these CWB categories.

It is worth taking a look at the total effects of TS and PSS impact on the CWB subjective categories (see Table 6). When analyzing the results, it can be seen that the influence of TS on withdrawal is much stronger than the influence of PSS on this CWB category.

Moreover, as expected (see Table 5), it turned out that withdrawal and abuse against others were related to sabotage and theft. However, the relationship between sabotage and theft turned out to be the negative (β_{13}), suggesting that these two categories of counterproductive behavior are not usually combined by employees.

When assessing the degree of fit of the model to empirical data (see Table 7), it should be noted that the value of the IFI index is 0.884, while the RMSEA is 0.068, which means satisfactory fit of the model to empirical data.

The SEM model of the TS / PSS impact on the CWB subjective categories was also estimated in the subgroups of respondents distinguished by sex. The analysis in other subgroups (in terms

of age, length of service, type of work) was impossible due to the obtaining of unsatisfactory quality indicators of such models or the inability to estimate them for these subgroups. This may be due to the relatively small size of the entire sample or to the collinearity of the sample.

The results of the estimation of the internal SEM model for two subgroups distinguished on the basis of respondents' sex are summarized in Table 8. Tables 9-11 present internal SEM models for subgroups distinguished on the basis of age, length of service and type of job.

Table 8 – The results of the estimation of the internal SEM model in subgroups defined by the sex of the respondents

Relationship	Men			Women	
	Parameter	Assessment of standardized parameters	P-value	Assessment of standardized parameters	P-value
TS → Sabotage	β_1	0.109	0.294	-0.013	0.934
TS → Theft	β_2	0.106	0.300	-0.090	0.735
TS → Abuse against others	β_3	0.013	0.915	-0.453	0.023
TS → Withdrawal	β_4	-0.106	0.364	-0.387	0.036
PSS → Sabotage	β_5	-0.067	0.448	0.011	0.934
PSS → Theft	β_6	-0.078	0.372	0.204	0.382
PSS → Abuse against others	β_7	0.005	0.958	0.363	0.036
PSS → Withdrawal	β_8	0.080	0.427	0.354	0.030
Withdrawal → Sabotage	β_9	0.631	0.000	0.693	0.003
Withdrawal → Theft	β_{10}	0.227	0.011	0.615	0.018
Abuse against others → Sabotage	β_{11}	0.360	0.000	0.230	0.058
Abuse against others → Theft	β_{12}	0.794	0.000	0.999	0.000
Sabotage → Theft	β_{13}	-0.210	0.053	-0.420	0.140
PSS → TS	β_{14}	0.664	0.000	0.634	0.000
Measures of the degree of model fit		IFI = 0.868 RMSEA = 0.076		IFI = 0.797 RMSEA = 0.090	

Source: own study.

It is worth to mention that only among women both TS and PSS have a direct impact on such categories of counterproductive behaviors as abuse against others and withdrawal. It should be noted that in this subgroup, the increase in TS reduces the tendency to withdrawal as well as abuse against others (β_3, β_4). In turn, higher PSS favors the intensification of these categories of CWB (β_3, β_4). It is worth noting that in the subgroup of women, TS and PSS also affect abuse against others (counterproductive behaviors against other people – not only superiors, but also colleagues or clients). Higher (lower) TS reduces (increases) the tendency to such abuse, and this seems to be a logical relationship. On the other hand, the link between PSS and abuse against others is positive. This paradox can also be explained by the calculation of human nature, which is prone to abuse the stronger support or trust of the superior.

The model assumes the impact of PSS on TS and it is worth analyzing the total effects of PSS impact, which are 0.076 in the case of abuse against others and 0.109 in the case of withdrawal. The impact is positive, but much weaker. In the subgroup of women, the relationships between abuse against others and sabotage / theft (β_{11} and β_{13}) were statistically insignificant.

Table 9 – The results of the estimation of the internal SEM model in subgroups defined by the age of the respondents

Relationship	Under 41 years			At least 40 years	
	Parameter	Assessment of standardized parameters	P-value	Assessment of standardized parameters	P-value
TS → Sabotage	β_1	-0.457	0.930	0.124	0.277
TS → Theft	β_2	-1.126	0.871	-0.065	0.582
TS → Abuse against others	β_3	-3.175	0.146	-0.102	0.456
TS → Withdrawal	β_4	-10.563	0.665	-0.092	0.484
PSS → Sabotage	β_5	0.441	0.933	-0.043	0.669
PSS → Theft	β_6	1.152	0.869	-0.065	0.703
PSS → Abuse against others	β_7	3.172	0.133	0.087	0.480
PSS → Withdrawal	β_8	10.553	0.662	0.044	0.712
Withdrawal → Sabotage	β_9	0.548	0.627	0.673	0.000
Withdrawal → Theft	β_{10}	-0.067	0.965	0.217	0.102
Abuse against others → Sabotage	β_{11}	0.163	0.648	0.432	0.000
Abuse against others → Theft	β_{12}	0.912	0.016	0.611	0.000
Sabotage → Theft	β_{13}	-0.161	0.572	0.005	0.973
PSS → TS	β_{14}	0.992	0.000	0.680	0.000
Measures of the degree of model fit		IFI = 0.827		IFI = 0.874	
		RMSEA = 0.086		RMSEA = 0.073	

Source: own study.

Table 10 –The results of the estimation of the internal SEM model in subgroups defined by the length of service

Relationship	Under 10 years			At least 10 years	
	Parameter	Assessment of standardized parameters	P-value	Assessment of standardized parameters	P-value
TS → Sabotage	β_1			0.098	0.470
TS → Theft	β_2			0.119	0.417
TS → Abuse against others	β_3			-0.078	0.625
TS → Withdrawal	β_4			-0.213	0.185
PSS → Sabotage	β_5			-0.042	0.719
PSS → Theft	β_6			-0.087	0.486
PSS → Abuse against others	β_7			0.110	0.426
PSS → Withdrawal	β_8			0.212	0.122
Withdrawal → Sabotage	β_9			0.639	0.000
Withdrawal → Theft	β_{10}			0.418	0.000
Abuse against others → Sabotage	β_{11}			0.409	0.000
Abuse against others → Theft	β_{12}			0.917	0.000
Sabotage → Theft	β_{13}			-0.324	0.029
PSS → TS	β_{14}			0.708	0.000
Measures of the degree of model fit		Notg possible to estimate		IFI = 0.858	
				RMSEA = 0.079	

Source: own study.

Table 11 – The results of the estimation of the internal SEM model in subgroups defined by the type of work

Relationship	Office / clerical		Managerial	
	Parameter	Assessment of standardized parameters	P-value	Assessment of standardized parameters
TS → Sabotage	β_1	0.073	0.517	
TS → Theft	β_2	-0.142	0.301	
TS → Abuse against others	β_3	-0.118	0.382	
TS → Withdrawal	β_4	-0.229	0.086	
PSS → Sabotage	β_5	-0.092	0.335	
PSS → Theft	β_6	0.119	0.303	
PSS → Abuse against others	β_7	0.092	0.417	
PSS → Withdrawal	β_8	0.215	0.052	
Withdrawal → Sabotage	β_9	0.670	0.000	
Withdrawal → Theft	β_{10}	0.361	0.005	
Abuse against others → Sabotage	β_{11}	0.322	0.000	
Abuse against others → Theft	β_{12}	0.529	0.000	
Sabotage → Theft	β_{13}	-0.130	0.300	
PSS → TS	β_{14}	0.666	0.000	
Measures of the degree of model fit		IFI = 0.858 RMSEA = 0.073		Not possible to estimate

Source: own study.

In the SEM model concerning the influence of TS and PSS on CWB-O and CWB-I, the factors related to these types of CWB proved to be reliable (see table 12), all factor loadings were statistically significant (see table 13). However, when interpreting the results (see table 14), neither TS nor PSS had a direct impact on CWB-O and CWB-I. When assessing the degree of fit of this model to empirical data (see table 15), it should be noted that the IFI value was 0.883, while the RMSEA was 0.073, which means a satisfactory fit of the model. Also the SEM model of the TS and PSS impact on CWB-O and CWB-I for individual subgroups defined by demographic variables of respondents (sex, age, length of service and type of work) brought similar results, i.e. in any of the subgroups no direct TS or PSS influence on these CWB categories was observed.

Table 12 – List of factors with the measurable variables describing them and the calculated Alpha-Cronbach statistics

Factor	Measurable variables	Alpha-Cronbach statistics
TS	T1, T2, T3, T4	0.573
PSS	P1, P4, P6, P8	0.917
CWB-I	C10, C18, C24, C25, C28, C31, C35	0.827
CWB-O	C2, C3, C4, C15, C20, C30, C33	0.865

Source: own study.

Table 13 – The results of the estimation of the external SEM model

Relationship	Parameter	Parameter evaluation	P-value
T1 $\leftarrow$ TS	α_1	0.531	
T2 $\leftarrow$ TS	α_2	0.491	0.000
T3 $\leftarrow$ TS	α_3	0.456	0.000
T4 $\leftarrow$ TS	α_4	0.506	0.000
P1 $\leftarrow$ PSS	α_5	0.833	
P4 $\leftarrow$ PSS	α_6	0.877	0.000
P6 $\leftarrow$ PSS	α_7	0.862	0.000
P8 $\leftarrow$ PSS	α_8	0.853	0.000
C2 $\leftarrow$ CWB-O	α_9	0.781	
C3 $\leftarrow$ CWB-O	α_{10}	0.663	0.000
C4 $\leftarrow$ CWB-O	α_{11}	0.562	0.000
C15 $\leftarrow$ CWB-O	α_{12}	0.566	0.000
C20 $\leftarrow$ CWB-O	α_{13}	0.728	0.000
C30 $\leftarrow$ CWB-O	α_{13}	0.704	0.000
C33 $\leftarrow$ CWB-O	α_{15}	0.824	0.000
C10 $\leftarrow$ CWB-I	α_{16}	0.655	0.000
C18 $\leftarrow$ CWB-I	α_{17}	0.682	0.000
C24 $\leftarrow$ CWB-I	α_{18}	0.634	0.000
C25 $\leftarrow$ CWB-I	α_{19}	0.681	0.000
C28 $\leftarrow$ CWB-I	α_{20}	0.634	0.000
C31 $\leftarrow$ CWB-I	α_{21}	0.576	0.000
C35 $\leftarrow$ CWB-I	α_{22}	0.656	

Source: own study.

Table 14 – The results of the estimation of the internal SEM model

Relationship	Parameter	Parameter evaluation	Assessment of standardized parameters	P-value
TS $\rightarrow$ CWB-I	β_1	-0.033	-0.098	0.413
TS $\rightarrow$ CWB-O	β_2	-0.203	-0.185	0.121
PSS $\rightarrow$ CWB-I	β_3	0.015	0.093	0.368
PSS $\rightarrow$ CWB-O	β_4	0.088	0.164	0.107
PSS $\rightarrow$ TS	β_5	0.346	0.713	0.000

Source: own study.

Table 15 – Measures of the degree of fit of the SEM model

Model	IFI	PNFI	RMSEA	CMIN/DF
Estimated	0.883	0.678	0.073	23.382
Saturated	1			
Independent	0		0.189	17.187

Source: own study.

Beyond the statistical significance of individual path coefficients, it is important to assess the predictive value of the proposed model. In this study, the predictive capacity of the SEM model can be interpreted through the magnitude and direction of standardized path coefficients, as well as the overall structure of relationships between latent variables. The results indicate that the model demonstrates limited but meaningful predictive power, particularly with respect to the withdrawal dimension of counterproductive work behaviors. Specifically, trust in

supervisors (TS) and perceived supervisor support (PSS) significantly predict withdrawal, while the predictive relationships for other categories of CWB remain weak or statistically insignificant. This suggests that the explanatory and predictive strength of the model is selective rather than universal, being stronger for less severe forms of counterproductive behavior.

4.3 Discussion and limitations of the research

The findings of this study should be interpreted not only as empirical observations, but also as contributions to broader theoretical debates within organizational behavior research. While prior studies have generally assumed a uniformly beneficial role of trust and perceived support in shaping employee behavior, the present results suggest a more nuanced and conditional relationship. Specifically, the selective impact of trust in supervisors (TS) and perceived supervisor support (PSS) on withdrawal behavior, coupled with the lack of significant effects for other categories of CWB, challenges the implicit assumption of linear and universal behavioral responses to relational variables. This indicates that the mechanisms linking relational constructs to counterproductive behaviors are more complex and context-dependent than previously suggested.

From a theoretical perspective, the study contributes to the refinement of Social Exchange Theory and Organizational Support Theory by demonstrating that reciprocity mechanisms do not operate uniformly across all behavioral domains. While these theories predict that positive relational inputs (e.g., support, trust) should lead to positive employee behaviors, the findings suggest that such relationships may be conditional, asymmetric, and behavior-specific. This implies that employees may selectively reciprocate support depending on perceived costs, opportunities, and context. As a result, the study extends existing theoretical frameworks by introducing the notion of selective reciprocity, highlighting that positive workplace relationships do not necessarily eliminate all forms of counterproductive behavior.

From a predictive perspective, the findings suggest that relational constructs such as trust in supervisors and perceived supervisor support have differentiated explanatory power across various forms of counterproductive work behavior. The model provides stronger predictive insight into withdrawal behaviors than into more severe or less frequently reported forms such as theft or sabotage. This pattern indicates that the predictive value of the model is context-dependent and behavior-specific. Consequently, while the model contributes to understanding certain aspects of employee behavior, its predictive applicability should be interpreted with caution when generalizing across all categories of CWB.

Moving into detailed discussion, the empirical findings of this study offer partial support for the proposed model and research hypotheses. With respect to H1, the data revealed a statistically significant negative relationship between Transformational Leadership (TS) and the *withdrawal* dimension of Counterproductive Work Behaviors (CWB). However, no significant effects were observed for other dimensions, including CWB directed at the organization (CWB-O), CWB directed at individuals (CWB-I), or other subjective categories of CWB.

Regarding H2, the moderating effect of demographic variables on the relationship between TS and CWB was confirmed only in the case of *gender*. Specifically, gender moderated the influence of TS on both *withdrawal* and *abuse against others*, while other demographic factors such as age, tenure, and type of work did not exhibit significant moderating effects.

In the case of H3, Perceived Supervisor Support (PSS) was found to have a statistically significant negative effect solely on *withdrawal*. No significant associations were identified between PSS and other forms of CWB, including CWB-O, CWB-I, or subjective categories. Similarly, H4 was partially supported, with gender again emerging as the sole significant moderator of the relationship between PSS and CWB.

Although the results are partially consistent with prior studies indicating that TS and PSS may reduce undesirable behaviors (e.g., Eisenberger et al., 2002; Bano et al., 2017; Yang et al. 2024; Jankelová et al. (2021), the present findings diverge from the dominant narrative by demonstrating that these effects are not uniformly observed across all categories of CWB (see also Łucjan et al. 2026). In contrast to research suggesting a broadly negative relationship between perceived support and counterproductive behavior, this study identifies a positive association between PSS and withdrawal (Mayer & Davis, 1999). This apparent inconsistency highlights the importance of considering alternative theoretical explanations, such as reduced perceived accountability or strategic employee behavior under supportive leadership conditions. Therefore, rather than merely confirming prior findings, the study contributes to the international literature by identifying boundary conditions under which relational constructs may produce unintended behavioral outcomes (see also Szostek et al., 2025; Najafabadi et al., 2025).

Importantly, the findings also have implications for research on organizational competitiveness. By demonstrating that trust and perceived support do not uniformly mitigate all forms of counterproductive behavior, the study suggests that the development of intangible competitive potential based on relational capital may be more complex than previously assumed. While TS and PSS contribute to improving certain behavioral outcomes (e.g., reducing withdrawal), they may simultaneously fail to address or even unintentionally reinforce other forms of disengagement. This indicates that organizations cannot rely solely on relational strategies to enhance competitiveness, but must adopt a more comprehensive approach that integrates relational, structural, and control-based mechanisms.

Overall, the study advances existing international research by moving beyond a confirmatory approach and offering a more differentiated understanding of the relationships between trust, support, and counterproductive work behaviors. Rather than assuming universally positive effects of relational variables, the findings demonstrate that these effects are selective, context-dependent, and in some cases paradoxical. This contributes to the development of organizational behavior theory by identifying important limitations of dominant frameworks and by highlighting the need for more nuanced models that account for behavioral heterogeneity and situational variability.

Despite yielding valuable insights, the present study is subject to several limitations that constrain the generalizability and interpretability of its findings.

First, the sampling procedure was non-random, which limits the extent to which the results can be extrapolated to the broader population. Future research would benefit from employing probabilistic sampling techniques and incorporating a more demographically diverse sample, stratified by variables such as gender, industry sector, and other relevant socio-economic characteristics.

Second, the measurement of CWB relied exclusively on self-reported data, which may be subject to social desirability bias and underreporting due to fear of potential repercussions

(Skarlicki et al., 1999). Although self-reports offer valuable subjective insights, future studies should consider triangulating data sources by incorporating peer or supervisor evaluations (Mount et al., 2006). To mitigate bias, anonymity should be ensured, and multi-source assessments may help reduce common method variance.

Third, the current model does not account for a range of perceptual and situational variables that may moderate the observed relationships. Beyond demographic factors, variables such as organizational climate, leadership style, job stressors, and interpersonal dynamics may significantly influence the manifestation of CWB. Future research should expand the analytical framework to include these dimensions and explore their interactive effects.

Fourth, the operationalization of CWB could be broadened to reflect culturally specific behaviors, particularly within the Central European organizational context. The inclusion of culturally nuanced items would enhance the ecological validity of the measurement instrument and provide deeper insights into localized manifestations of counterproductive conduct.

Then, the cross-sectional nature of the data collection precludes the analysis of temporal dynamics and causal inferences. Longitudinal research designs would enable the examination of how trust in supervisors and perceptions of support evolve over time and influence behavioral outcomes. Given the relative scarcity of longitudinal studies in this domain, such an approach would represent a valuable contribution to the literature.

From a methodological perspective, several limitations and robustness concerns should be also acknowledged. First, although SEM provides a powerful framework for testing complex relationships, the results remain sensitive to model specification and the selection of indicators. Alternative model configurations could potentially yield different parameter estimates. Second, the relatively low reliability of certain constructs (e.g., TS) may limit the precision of the estimated relationships and should be considered when interpreting the findings. Third, the use of non-probability sampling restricts the generalizability of the results and may introduce selection bias. Fourth, the cross-sectional design of the study prevents causal inference, as the observed relationships reflect associations rather than temporal dynamics.

Additionally, as already mentioned, the reliance on self-reported data raises the potential risk of common method bias and social desirability effects, particularly in the case of sensitive behaviors such as CWB. Although anonymity was ensured, respondents may have underreported certain behaviors. Finally, robustness of the findings could be further enhanced in future research by applying alternative estimation techniques, longitudinal data, or multi-source datasets, which would allow for stronger validation of the proposed relationships.

Final limitation concerns the predictive strength of the estimated model. Although the SEM framework allows for the identification of statistically significant relationships, the overall predictive capacity of the model is moderate and uneven across different dependent variables. The relatively weak predictive performance for certain categories of CWB may result from measurement limitations, low variance in sensitive behaviors, or omitted variables not included in the model. Therefore, future research should aim to enhance predictive accuracy by incorporating additional explanatory factors (e.g., organizational climate, personality traits, or job stressors) and by testing alternative model specifications.

4.4 Practical Implications

The findings of this study yield several important practical implications for organizational management, human resource development, and workplace monitoring systems:

- a) **Implications for Employee Management:** Organizations should actively foster Transformational Leadership (TS) and Perceived Supervisor Support (PSS) as strategic levers to mitigate the occurrence of Counterproductive Work Behaviors (CWB). Cultivating these leadership and support mechanisms not only reduces the likelihood of deviant workplace conduct but also contributes to a range of positive organizational outcomes, including enhanced employee motivation, job satisfaction, and cooperative behavior.
- b) **Implications for Organizational Training Programs:** Managerial training initiatives should incorporate dedicated modules that emphasize the prevalence, cost, and organizational impact of CWBs. These programs should equip supervisors with evidence-based strategies for promoting TS and PSS, thereby enabling them to proactively address behavioral risks and foster a supportive work environment.
- c) **Implications for CWB Detection and Monitoring:** Given that CWBs are often covert and less observable than formal job performance metrics, organizations may benefit from the implementation of advanced electronic monitoring systems. Such systems can be designed to detect patterns indicative of counterproductive behavior, thereby enabling timely intervention and safeguarding organizational integrity.

The aforementioned three domains represent strategically constructive components that contribute to the development of intangible organizational assets—resources that are inherently difficult to imitate or replicate by competitors. These assets, which may include organizational culture, trust-based relationships, and leadership dynamics, form the foundation of a firm's sustained competitive advantage. Their non-material nature and embeddedness within the organizational fabric make them particularly resilient to external appropriation, thereby enhancing the enterprise's long-term strategic positioning and market differentiation.

5 CONCLUSION

This study contributes to the growing body of literature on organizational behavior by empirically examining the influence of trust in supervisors (TS) and perceived supervisor support (PSS) on counterproductive work behaviors (CWB), with particular attention to their role as intangible assets that shape the competitive potential of organizations. By integrating demographic moderators into the analytical framework, the research offers a nuanced understanding of how individual characteristics—most notably gender—interact with leadership and support mechanisms to influence behavioral outcomes in the workplace.

The findings underscore the selective effectiveness of TS and PSS in mitigating withdrawal behaviors, while revealing limited impact on other forms of CWB. These results suggest that while trust and perceived support are valuable organizational resources, their influence may be context-dependent and behavior-specific. Moreover, the observed moderating effect of gender highlights the importance of tailoring managerial strategies to the diverse needs and perceptions of employees.

From a strategic perspective, the study reinforces the notion that intangible relational assets—such as trust and support—are critical components of organizational capital. Their development

and maintenance should be prioritized as part of a broader effort to enhance employee well-being, reduce behavioral risks, and sustain long-term competitive advantage. Future research should continue to explore these dynamics using longitudinal designs and culturally adapted measurement tools, thereby deepening our understanding of the mechanisms through which leadership and support shape organizational outcomes.

In addition to the empirical contributions, the findings of this study indicate several important directions for future research that are grounded in contemporary theoretical debates within organizational behavior and competitiveness studies. Given the observed selective and context-dependent effects of trust in supervisors (TS) and perceived supervisor support (PSS), future research should move beyond linear and universal models and focus on developing more complex, contingency-based frameworks that account for heterogeneity in employee behavior. Such approaches would allow for a deeper understanding of how relational constructs operate under different organizational and cultural conditions.

Future research should directly address the methodological limitations identified in this study. In particular, longitudinal research designs are needed to capture the dynamic evolution of trust and perceived support over time and to establish causal relationships between relational variables and counterproductive behaviors. Additionally, the use of multi-source data (e.g., supervisor ratings, peer evaluations, and objective organizational metrics) would reduce the risk of common method bias and enhance the robustness of empirical findings. Expanding the set of explanatory variables—such as organizational climate, leadership style, personality traits, or job stressors—would also improve the predictive capacity of future models and provide a more comprehensive explanation of counterproductive behaviors.

From a theoretical standpoint, future research should focus on refining existing frameworks such as Social Exchange Theory and Organizational Support Theory by incorporating the concept of selective reciprocity identified in this study. The findings suggest that employees do not respond uniformly to relational inputs, but rather differentiate their behavioral reactions depending on context, perceived risks, and opportunities. This implies a need to move toward more nuanced theoretical models that explicitly account for asymmetry and conditionality in employer–employee relationships. Such developments would contribute to advancing international organizational behavior research by challenging simplified assumptions about the effects of trust and support.

Finally, future research should further explore the role of relational constructs such as TS and PSS in shaping the intangible competitive potential of organizations. In particular, it would be valuable to examine how these factors interact with other dimensions of organizational capital—such as innovation capability, knowledge management, and organizational culture—in influencing long-term competitiveness. Cross-country comparative studies would be especially relevant in this context, as they would allow for the identification of institutional and cultural factors that moderate the effectiveness of trust- and support-based management strategies. Such research would significantly contribute to the international literature by linking micro-level employee behaviors with macro-level organizational outcomes and competitive performance.

In conclusion, this study not only provides empirical evidence on the relationships between trust in supervisors, perceived supervisor support, and counterproductive work behaviors, but also opens up new avenues for theory development and empirical investigation. By identifying the selective and context-dependent nature of these relationships, the study highlights the need

for more sophisticated research approaches that integrate behavioral, relational, and organizational perspectives. Future research building on these directions has the potential to significantly advance both organizational behavior theory and competitiveness research, thereby deepening our understanding of the complex mechanisms that shape organizational performance.

References

1. Anthonius, A., Gunawan, J., & Khosa, A. (2025). Psychological capital and well-being: Do they influence auditors' performance and resolve dysfunctional audit behaviour?. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 20(1), 427-462. <https://doi.org/10.24136/eq.3242>
2. Ariani, D. W. (2013). The relationship between employee engagement, organizational citizenship behavior, and counterproductive work behavior. *International Journal of Business Administration*, 4(2), 46–56. <https://doi.org/10.5430/ijba.v4n2p46>
3. Bagyo, Y. (2016). The role of employee engagement in anticipating counterproductive work behavior: A study of literature. *Journal of Business and Management*, 9(18), 141–147. <https://doi.org/10.9790/487X-180904141147>
4. Baka, Ł. (2019). Explaining active and passive types of counterproductive work behavior: The moderation effect of bullying, the dark triad and job control. *International Journal of Occupational Medicine and Environmental Health*, 32(6), 777–795 <https://doi.org/10.13075/ijomeh.1896.01425>
5. Balcerzak, A. P. & Pietrzak, M. B. (2016). Structural Equation Modeling in Evaluation of Technological Potential of European Union Countries in the Years 2008-2012. In M. Papież & S. Śmiech (Eds.). *The 10th Professor Aleksander Zelias International Conference on Modelling and Forecasting of Socio-Economic Phenomena. Conference Proceedings* (pp. 9-18). Cracow: Foundation of the Cracow University of Economics.
6. Balcerzak, A. P., & Valaskova, K. (2024). Artificial intelligence: Financial management under pressure of transformative technology. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 19(4), 1127-1137. <https://doi.org/10.24136/eq.3394>
7. Balcerzak, A.P., MacGregor, R. K., MacGregor Pelikánová, R., Rogalska, E., & Szostek, D. (2023). The EU regulation of sustainable investment: The end of sustainability trade-offs? *Entrepreneurial Business and Economics Review*, 11(1), 199-212. doi: 10.15678/EBER.2023.110111
8. Balcerzak, A.P., Zinecker, Z., Mičánek, J (2026). Generation Z and artificial intelligence: Usage patterns and delegation boundaries. *Human Technology*, 22(1), 158-177. <https://doi.org/10.14254/1795-6889.2026.22-1.8>
9. Balcerzak, A.P., Zinecker, Z., Mičánek, J (2025). The impact of artificial intelligence on task performance and decision-making: empirical evidence on Generation Z. *Human Technology*, 21(3), 620-639. <https://doi.org/10.14254/1795-6889.2025.21-3.7>.
10. Bano S., Ramzan S., Anjum M. A., & Dapeng L. (2017). Does Perceived Social Support Mediate the Relationship of Perceived Organizational Support and Job

<https://doi.org/10.7441/joc.2026.02.04>

- Satisfaction? A Structural Equation Modeling Approach. *Journal of Managerial Sciences*, 11(3), 105-118
11. Bortree, D., & Waters, R. (2008). Admiring the organization: A study of the relational quality outcomes of the nonprofit organization-volunteer relationship. *Public Relations Journal*, 2(3), 1–17
12. Chatzoudes, D., Kadłubek, M., & Maditinos, D. (2024). Green logistics practices: The antecedents and effects for supply chain management in the modern era . *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 19(3), 991-1034. <https://doi.org/10.24136/eq.2864>
13. Dehghanpour, H., Rostamzadeh, R., Sarlab, R., Šaparauskas, J., & Turskis, Z. (2025). A new model to identify factors affecting sustainable performance of sports business: The role of technology intelligence, sustainable manufacturing, green HR management, CSR and resource management. *Oeconomia Copernicana*, 16(4), 1525-1564. <https://doi.org/10.24136/oc.3407>
14. Duffy, M. K., & Lee, K. Y. (2012). Negative interpersonal exchanges in teams. In L. T. Eby & T. D. Allen (Eds.), *Personal relationships: The effect on employee attitudes, behavior, and well-being* (pp. 195–220). Taylor & Francis Group
15. Eisenberger R., Stinglhamber F., Vandenberghe C., Sucharski I. L., Rhoades L. (2002). Perceived supervisor support: Contributions to perceived organizational support and employee retention. *Journal of Applied Psychology*, 87(3), 565-573. <https://doi.org/10.1037/0021-9010.87.3.565>
16. Fox, S., & Spector, P. E. (1999). A model of work frustration-aggression. *Journal of Organizational Behavior*, 20(6), 915–931. [https://doi.org/10.1002/\(SICI\)1099-1379\(199911\)20:6<915::AID-JOB918>3.0.CO;2-6](https://doi.org/10.1002/(SICI)1099-1379(199911)20:6<915::AID-JOB918>3.0.CO;2-6)
Spector, P. E. (1978). Organizational frustration: A model and review of the literature. *Personnel Psychology*, 31(4), 815–829. <https://doi.org/10.1111/j.1744-6570.1978.tb02125.x>
17. Gill A. S. (2008). The role of trust in employee-manager relationship. *International Journal of Contemporary Hospitality Management*, 20(1), 98-103. <https://doi.org/10.1108/09596110810848613>
18. Gladden, M., Fortuna, P., & Modliński, A. (2022). The Empowerment of Artificial Intelligence in Post-Digital Organizations: Exploring Human Interactions with Supervisory AI. *Human Technology*, 18(2), 98–121. <https://doi.org/10.14254/1795-6889.2022.18-2.2>
19. Gruys, M. L., & Sackett, P. R. (2003). Investigating the dimensionality of counterproductive work behavior. *International Journal of Selection and Assessment*, 11(1), 30–42. <https://doi.org/10.1111/1468-2389.00224>
20. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). Sage
21. Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). *PLS-SEM: Indeed, a silver bullet*. *Journal of Marketing Theory and Practice*, 19(2), 139–152. <https://doi.org/10.2753/MTP1069-6679190202>
22. Hernik, J., Sagan, A., Jarecki, W., & Grinberga-Zalite, G. (2025). Digital transformation in business process management: The role of employee

- engagement. *Human Technology*, 21(1), 203–221. <https://doi.org/10.14254/1795-6889.2025.21-1.10>
23. Hollinger, R. C., & Clark, J. P. (1982). Formal and informal social controls of employee deviance. *Sociological Quarterly*, 23(3), 333–343. <https://doi.org/10.1111/j.1533-8525.1982.tb01016.x>
24. Holtzhausen, L., & Fourie, L. (2009). Employees' perceptions of company values and objectives and employer-employee relationships: A theoretical model. *Corporate Communications: An International Journal*, 14(3), 333–344. <https://doi.org/10.1108/13563280910980104>
25. Hon, L. C., & Grunig, J. E. (1999). *Guidelines for measuring relationships in public relations*. Institute for Public Relations. http://www.instituteforpr.org/wp-content/uploads/Guidelines_Measuring_Relationships.pdf
26. Oyster, C. K. (2000). *Groups: A user's guide*. McGraw-Hill
27. Kessler S. R., Bruursema K., Rodopman B., & Spector P. E. (2013). Leadership, interpersonal conflict, and counterproductive work behavior: An examination of the stressor–strain process. *Negotiation and Conflict Management Research*, 6(3), 180–190. <https://doi.org/10.1111/ncmr.12009>
28. Lazaroïu, G., Gedeon, T., Valaskova, K., Vrbka, J., Šuleř, P., Zvarikova, K., Kramarova, K., Rowland, Z., Stehel, V., Gajanova, L., Horák, J., Grupac, M., Caha, Z., Blazek, R., Kovalova, E., & Nagy, M. (2024). Cognitive digital twin-based Internet of Robotic Things, multi-sensory extended reality and simulation modeling technologies, and generative artificial intelligence and cyber–physical manufacturing systems in the immersive industrial metaverse. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 19(3), 719–748. <https://doi.org/10.24136/eq.3131>
29. Lazaroïu, G., Gedeon, T., Fernando, X., Herciu, M., Grecu, G., Chiru, C., Grecu, I., Pârnu, I., & Guni, C. (2025). The algorithmic management of job loss and creation in the enterprise generative, multimodal, and agentic artificial intelligence economy. *Oeconomia Copernicana*, 16(4), 1491–1524. <https://doi.org/10.24136/oc.3994>
30. Levinson, H. (1965). Reciprocation: The relationship between man and organization. *Administrative Science Quarterly*, 9(4), 370–390. <https://doi.org/10.2307/2391032>
31. Li, M., Jameel, A., Ma, Z., Sun, H., Hussain, A., & Mubeen, S. (2022). Prism of employee performance through the means of internal support: A study of perceived organizational support. *Psychology Research and Behavior Management*, 15, 965–976. <https://doi.org/10.2147/prbm.s346697>
32. Łucjan, K., Szostek, D., Balcerzak, A.P., Rogalska, E. (2023). Relationships between Leadership Style and Organizational Commitment: The moderating role of the System of Work. *Economics and Sociology*, 16(4), 11–39. doi: 10.14254/2071-789X.2023/16-4/1
33. Łucjan, K., Szostek, D., Balcerzak, A.P., Rogalska, E. (2026). Moderating Effects of Work Environment on Leadership–Organizational Commitment Relationship. *Entrepreneurial Business and Economics Review*, 14(3) (forthcoming)
34. Luo, Y., Yang, Z., Ren, Y., Škare, M., & Qin, Y. (2024). Evaluating the Impact of AI Research on Industry Productivity: A Dynamic Qualitative Comparative Analysis

- Approach. *Journal of Competitiveness*, 16(3), 187-203. <https://doi.org/10.7441/joc.2024.03.09>
35. Mares, A., Sabadka, D., Vierslav M., Gabriel Fedorko & Fedorko, G. (2023). Improving competitiveness of an assembly line by simulation based productivity increase – A case study. *Journal of Competitiveness*, 15(3), 43-59. <https://doi.org/10.7441/joc.2023.03.03>
36. Mayer R. C., & Davis J. H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology*, 84(1), 123-136. <https://doi.org/10.1037/0021-9010.84.1.123>.
37. Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734. <https://doi.org/10.5465/amr.1995.9508080335>
38. Meyerson, D., Weick, K. E., & Kramer, R. M. (1996). Swift trust and temporary groups. In R. M. Kramer & T. R. Tyler (Eds.). *Trust in organizations: Frontiers of theory and research* (pp. 166–195). Sage Publications
39. Miller, J. D., Lynam, D., & Leukefeld, C. (2003). Examining antisocial behavior through the lens of the Five Factor Model of personality. *Aggressive Behavior*, 29(6), 497–514. <https://doi.org/10.1002/ab.10064>
40. Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20–38. <https://doi.org/10.1177/002224299405800302>
41. Mount, M., Ilies, R., & Johnson, E. (2006). Relationship of personality traits and counterproductive work behaviors: The mediating effects of job satisfaction. *Personnel Psychology*, 59(3), 591–622. <https://doi.org/10.1111/j.1744-6570.2006.00048.x>
42. Murphy, K. R. (1993). *Honesty in the workplace*. Brooks/Cole.
- Hunt, S. T. (1996). Generic work behavior: An investigation into the dimensions of entry-level, hourly job performance. *Personnel Psychology*, 49(1), 51–83. <https://doi.org/10.1111/j.1744-6570.1996.tb01791.x>
43. Najafabadi, N.M., Balcerzak, A.P. & Szostek, D. (2025). The Moderating Role of Negative Affect in the Relationship Between Counterproductive Work Behavior and Turnover Intentions: Evidence from the Steel Industry. *Acta Montanistica Slovaca*, 30(4), 875-887. <https://doi.org/10.46544/AMS.v30i4.04>.
44. Palmatier R. W., Dant R. P., Grewal D., & Evans K. R. (2006). Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis. *Journal of Marketing*, 70(4), 136-153. <https://doi.org/10.1509/jmkg.70.4.136>
45. Parks L., & Mount M. K. (2005). The “Dark Side” of Self-Monitoring: Engaging in Counterproductive Behaviors at Work. *Academy of Management Best Conference Paper*, 1(August), 11-16. <https://doi.org/10.5465/ambpp.2005.18778875>
46. Pavláková Dočekalová, M., Balcerzak, A.P., Luňáček, J., Doubravský, K., Meluzín, T., & Ľapiňská, J. (2024). Impact of ISO 14 001, ISO 9 001 and ISO 45 001 on economic performance and competitive potential of European companies. *Journal of Competitiveness*, 16(4), 219-241. <https://doi.org/10.7441/joc.2024.04.11>

47. Pratt M. G., & Dirks K. T. (2009). Rebuilding Trust and Restoring Positive Relationships: A Commitment-Based View of Trust. In J. E. Dutton & B. R. Ragins (Eds.). *Exploring Positive Relationships at Work. Building a Theoretical and Research Foundation* (pp. 117-136). East Sussex/New York: Psychology Press.
48. Rhoades L., & Eisenberger R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), 698-714. <https://doi.org/10.1037/0021-9010.87.4.698>
49. Riggle, R. J., Edmondson, D. R., & Hansen, J. D. (2009). A meta-analysis of the relationship between perceived organizational support and job outcomes: 20 years of research. *Journal of Business Research*, 62(10), 1027–1030. <https://doi.org/10.1016/j.jbusres.2008.05.003>
50. Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38(2), 555–752. <https://doi.org/10.2307/256693>
51. Rotter, J. B. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 35(4), 651–665. <https://doi.org/10.1111/j.1467-6494.1967.tb01454.x>
52. Rudawska, E., & Nickell, D. (2024). Internal marketing activities in creating employee engagement in B2B marketing: The moderating role of cultural differences based on a comparative analysis of Polish and US markets. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 19(4), 1449-488. <https://doi.org/10.24136/eq.3371>
53. Sakurai K., & Jex S. M. (2012). Coworker incivility and incivility targets' work effort and counterproductive work behaviors: The moderating role of supervisor social support. *Journal of Occupational Health Psychology*, 17(2), 150-161. <https://doi.org/10.1037/a0027350>
54. Sheppard, B. H., & Sherman, D. M. (1998). The grammars of trust: A model and general implications. *Academy of Management Review*, 23(3), 422–437.
Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology*, 84(3), 445–455. <https://doi.org/10.1037/0021-9010.84.3.445>
55. Shore, L. M., & Wayne, S. J. (1993). Commitment and employee behavior: Comparison of affective commitment and continuance commitment with perceived organizational support. *Journal of Applied Psychology*, 78(5), 774–780. <https://doi.org/10.1037/0021-9010.78.5.774>
56. Skarlicki, D. P., Folger, R., & Tesluk, P. (1999). Personality as a moderator in the relationship between fairness and retaliation. *Academy of Management Journal*, 42(1), 100–108. <https://doi.org/10.2307/256877>
57. Skypalova, R., Zvarikova, K., & Chaudhuri, S. (2025). Model of relationships between corporate social responsibility, human resources management, and artificial intelligence. *Oeconomia Copernicana*, 16(3), 1021-1060. <https://doi.org/10.24136/oc.3875>.
58. Spector, P. E., & Fox, S. (2010). Counterproductive work behavior and organisational citizenship behavior: Are they opposite forms of active behavior?

Applied Psychology: An International Review, 59(1), 21–39.

<https://doi.org/10.1111/j.1464-0597.2009.00414.x>

59. Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior*, 68(3), 446–460.
<https://doi.org/10.1016/j.jvb.2005.10.005>
60. Szostek, D. (2022). Central European version of Counterproductive Work Behavior Checklist (CWB-C PL). *Economics and Sociology*, 15(2), 74-94.
doi.org/10.14254/2071-789X.2022/15-2/5
61. Szostek, D., & Balcerzak, A. P., Rogalska, E., N., & MacGregor Pelikánová, R. (2022). Personality traits and counterproductive work behaviors: The moderating role of demographic characteristics. *Economics and Sociology*, 15(4), 231-263.
<https://doi.org/10.14254/2071-789X.2022/15-4/12>
62. Szostek, D., Balcerzak, A. P., Rogalska, E. (2020). The relationship between personality, organizational and interpersonal counterproductive work challenges in industry 4.0. *Acta Montanistica Slovaca*, 25(4); 577-592. doi: 10.46544/AMS.v25i4.11
63. Szostek, D., Balcerzak, A.P. & Rogalska, E. (2023). Impact of employees' counterproductivity on interpersonal relationships in the context of company competitive potential: Application of SEM methodology for Poland. *Journal of Competitiveness*, 15(3), 19-42. <https://doi.org/10.7441/joc.2023.03.02>
64. Szostek, D., Balcerzak, A. P., & Rogalska, E. (2024). Job satisfaction and work engagement impact on counterproductive work behaviors: Moderating influence of demographic characteristic of employees. *Economics and Sociology*, 17(2), 126-150. doi: 10.14254/2071-789X.2024/17-2/6
65. Szostek, D., Balcerzak, A.P., & Rogalska, E. (2025). Exploring the role of work meaningfulness and affective commitment in mitigating counterproductive work behaviors. *Economics and Sociology*, 18(4), 61-83. <https://doi.org/10.14254/2071-789X.2025/18-4/3>
66. Teng, Y.-M., & Wu, K.-S. (2025). Integrating green transformational leadership, green HRM, and green innovation to enhance sustainable performance in hotels: Insights from PLS-SEM, NCA, and cIPMA. *Oeconomia Copernicana*, 16(4), 1565-1614. <https://doi.org/10.24136/oc.3797>
67. Vardi, Y., & Weitz, E. (2004). *Misbehavior in organizations*. Lawrence Erlbaum Associates.
68. Wieselquist J., Rusbult C. E., & Foster C. A. (1999). Commitment, Pro-Relationship Behavior, and Trust in Close Relationships. *Journal of Personality and Social Psychology*, 77(5), 942-966. <https://doi.org/10.1037/0022-3514.77.5.942>
69. Zada, M., Khan, S., Mehmood, S., & Contreras-Barraza, N. (2024). Generative artificial intelligence in FinTech: Applications, environmental, social, and governance considerations, and organizational performance: The moderating role of ethical dilemmas. *Oeconomia Copernicana*, 15(4), 1303-1347. <https://doi.org/10.24136/oc.3323>

<https://doi.org/10.7441/joc.2026.02.04>

70. Zahra S. A., Yavuz R. I., & Ucbasaran D. (2006). How Much Do You Trust Me? The Dark Side of Relational Trust in New Business Creation in Established Companies. *Entrepreneurship Theory and Practice*, 30(4), 541-559.
<https://doi.org/10.1111/j.1540-6520.2006.00134.x>
71. Zeffane R., Tipu S. A., & Ryan J. C. (2011). Communication, Commitment & Trust: Exploring the Triad. *International Journal of Business and Management*, 6(6), 77-87. <https://doi.org/10.5539/ijbm.v6n6p77>

Contact information

Dr hab. Adam P. Balcerzak, prof. UWM

University of Warmia and Mazury in Olsztyn, Poland

Brno University of Technology, Czechia

European Centre for Business Research, Pan-European University, Czechia

E-mail: a.balcerzak@uwm.edu.pl

ORCID ID: orcid.org/0000-0003-0352-1373

Dr hab. Dawid Szostek, prof. UMK

Nicolaus Copernicus University in Toruń

Poland

E-mail: dawid.szostek@umk.pl

ORCID ID: orcid.org/0000-0001-6743-854X

Dr Elżbieta Rogalska

University of Warmia and Mazury in Olsztyn

Poland

E-mail: elzbieta.rogalska@uwm.edu.pl

ORCID ID: orcid.org/0000-0003-4995-5791