

Knowledge sabotage as an extreme form of counterproductive knowledge behavior: the role of narcissism, Machiavellianism, psychopathy, and competitiveness

Alexander Serenko and Chun Wei Choo

Abstract

Purpose – This study empirically tests the impact of the Dark Triad personality traits (narcissism, Machiavellianism, psychopathy) and co-worker competitiveness on knowledge sabotage.

Design/methodology/approach – A model was constructed and tested by means of Partial Least Squares with data from 150 participants recruited via Amazon's Mechanical Turk.

Findings – The individual personality traits of narcissism, Machiavellianism, and psychopathy are significant predictors of individual knowledge sabotage behavior, whereas co-worker Machiavellianism and psychopathy trigger co-worker knowledge sabotage. Out of the three Dark Triad traits, individual and co-worker psychopathy emerged as the strongest knowledge sabotage predictor. Co-worker competitiveness has a positive effect on co-workers' knowledge sabotage behavior. There is a relatively strong relationship between co-worker and individual knowledge sabotage which suggests that knowledge sabotage is a form of contagious workplace behavior. Individuals underestimate their negative behavior and traits and/or overestimate those of their fellow co-workers.

Practical implications – Managers should realize that the Dark Triad personality traits could predispose certain individuals to engage in extremely harmful counterproductive knowledge behavior. They need to ensure that individuals with these traits are not hired or are identified during their probation periods. It is recommended that organizations include knowledge sabotage measures in their periodic employee surveys. Organizations should help their employees objectively re-evaluate their own traits and knowledge behavior as well as those of their colleagues to ensure that their reciprocating knowledge behavior is more aligned with the reality in their organization.

Originality/value – This study offers a reliable and valid quantitative survey instrument to measure the presence of knowledge sabotage.

Keywords Competitiveness, Personality traits, Counterproductive workplace behavior, Knowledge sabotage, Co-worker, The Dark Triad, Knowledge management

Paper type Research paper

Alexander Serenko is based at the Faculty of Business and IT, University of Ontario Institute of Technology, Oshawa, Canada. Chun Wei Choo is based at the Faculty of Information, University of Toronto, Toronto, Canada.

1. Introduction

This study focuses on knowledge sabotage as an extreme form of counterproductive knowledge behavior that goes beyond simply hiding or hoarding knowledge. Serenko (2019, 2020) defines knowledge sabotage as occurring when an employee intentionally provides incorrect knowledge to another or conceals knowledge from another while being fully aware that the knowledge in question is needed by and extremely important to the other party. The perpetrator realizes that the application of the wrong knowledge or a failure to apply the critically needed knowledge may have devastating consequences for the individual and/or the entire organization. Nevertheless, saboteurs act deliberately and rationally.

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As an illustration of knowledge sabotage, imagine a situation where a team is working on a bid for a major government contract. An employee, Peter, who is not on the team possesses important knowledge on how to satisfy a key requirement of the project. This knowledge is not available in the bidding team, and the team has sought Peter's advice. Peter recognizes the importance of this advice to the team, but he feels slighted that he has not been included in the bidding team. Peter then deliberately feeds incorrect knowledge to the team, knowing full well that basing the bid on this misleading knowledge would scupper the team's chances of success. Subsequently, the bid fails.

One might assume that knowledge sabotage behavior is rare in the workplace, but two recent projects found that more than 40% of employees commit knowledge sabotage incidents and more than 50% become its victims, with many reporting that this happens repeatedly (Serenko, 2019; Serenko, 2020). The consequences of knowledge sabotage for individuals, organizations, and even third parties are truly devastating and are frequently more far-reaching than the perpetrators initially envisioned. For instance, individual victims may be humiliated, reprimanded or dismissed; while organizations may suffer financial losses or reputational damage, or fail to meet their obligations to customers. Given its serious consequences, knowledge sabotage is a phenomenon that requires our attention and further study.

Previous empirical investigations revealed that knowledge sabotage behavior is generally targeted at other employees (i.e., not at an organization) and is mostly driven by three factors: retaliation against other employees, one's malevolent personality, and gratification (to secure extrinsic rewards such as a bonus, a promotion, or a lighter workload) (Serenko, 2019; Serenko, 2020). The present study focuses on all these factors. Particularly, it assumes that retaliation behavior and malevolent personality can be explained by the saboteur's personality traits, and gratification may be related to a highly competitive work environment. Personality traits are of special interest because they represent human characteristics that may trigger various behavioral patterns, including knowledge sabotage.

The present study pursues two objectives. The first is to develop and empirically test a model that explains the existence of knowledge sabotage. The proposed model examines the effect of the Dark Triad personality traits of narcissism, Machiavellianism, and psychopathy of both individuals and their co-workers on their knowledge sabotage behavior. It also accounts for the impact of co-worker competitiveness. Except for one notable example (Pan *et al.*, 2018), the constellation of the Dark Triad traits has been underrepresented in knowledge management research.

The second goal is to design a reliable and valid instrument to measure knowledge sabotage and to subject the proposed model to extensive empirical testing. Both objectives have been fully achieved. The knowledge sabotage construct was operationalized in the form of a quantitative measure (i.e., closed-ended survey items), and the developed model was tested by means of Partial Least Squares (Cepeda-Carrion *et al.*, 2019) with data collected from 150 participants recruited via Amazon's Mechanical Turk. The results reveal the important role of the Dark Triad personality traits and co-worker competitiveness within the nomological network explicating the knowledge sabotage phenomenon. All three personality traits of narcissism, Machiavellianism, and psychopathy are found to be significant predictors of individual knowledge sabotage behavior, with psychopathy being the most important factor. Co-worker competitiveness is linked to the perception that colleagues engage in knowledge sabotage which in turn has a positive direct effect on individual knowledge sabotage.

The rest of the paper is structured as follows. Section 2 reviews past research in Dark Triad personality traits, social exchange theory, and social contagion to develop a set of research hypotheses. Section 3 explains the methodology, including the instrument, participant recruitment, and study design. Section 4 presents the results of the study, including the

measurement and the structural models. Section 5 discusses the results in terms of theoretical implications, practical recommendations, limitations, and future research directions. Section 6 concludes with a summary of the most significant findings.

2. Theoretical background

2.1 Personality and counterproductive workplace behavior

Human personality is “the dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviors in various situations” (Ryckman, 2008, p. 4). Traits may be viewed as individual-specific, organized mental structures or building blocks of personality which have three characteristics. First, traits are stable over time and across contexts. Second, they differ among individuals. Third, traits directly influence overt behavior (Allport, 1937; Matthews *et al.*, 2003).

Management researchers have been traditionally interested in the impact of employees’ personality traits on their workplace behavior. For example, it has been established that personality traits predict both job performance (Oh *et al.*, 2011) and counterproductive workplace behavior, such as interpersonal deviance (Berry *et al.*, 2007), absenteeism (Schaumberg and Flynn, 2017), and harassment (Krings and Facchin, 2009). Recently, it has been demonstrated that personality traits also play an important role in counterproductive knowledge behavior (Wang *et al.*, 2014; de Geofroy and Evans, 2017; Hernaus *et al.*, 2019; Wang *et al.*, 2019).

To better understand the role of personality traits, a comprehensive list of 34 empirical studies that investigated a direct effect of personality traits on various knowledge behaviors was constructed in June 2018 (the list is available from the corresponding author). An analysis of this list leads to several conclusions. First, the Big Five personality traits are the most frequently used constructs, which were tested in two-thirds of the studies. Second, the remaining one-third of the studies focused on a wide range of personality traits, and no major category with a clear causal pattern appeared. Third, the findings are highly inconsistent. For example, a direct effect of agreeableness on knowledge behavior was confirmed and disconfirmed in 11 and 6 studies, respectively, and the corresponding numbers were 10 versus 4 for openness. Publication bias, also referred to as the file-drawer effect which exists in virtually all domains of academic research (Rosenthal, 1979), suggests that the actual number of studies with negative findings (i.e., where the proposed effect was not observed) is much higher because of scientists’ tendency to withhold unconfirmed findings and the preferences of journal gatekeepers to favor supported hypotheses (Rotton *et al.*, 1995). Thus, it is likely that the personality trait – knowledge behavior relationship was not even observed in a majority of empirical investigations. Fourth, out of 20 unique traits that were analyzed in the 34 examined studies, only one – competitiveness (Hernaus *et al.*, 2019) – was mentioned by knowledge saboteurs or their targets as documented in the previous studies (Serenko, 2019; Serenko, 2020). For example, even though the Big Five are the most frequently used traits in KM research, they were not mentioned by the victims of knowledge sabotage which makes them less salient in the context of the present study. Instead, the perpetrators and victims of knowledge sabotage mentioned traits that have not been studied in prior knowledge management research. Thus, all (except one) traits traditionally explored in knowledge management research may not accurately predict employee behavior in the context of extremely counterproductive knowledge behavior, such as knowledge sabotage. This points to a need to identify the traits of remarkably destructive people that may drive their knowledge sabotage actions.

2.2 The Dark Triad

Among a variety of aversive personality traits (Kowalski, 2001), the Dark Triad – a constellation of subclinical narcissism, Machiavellianism, and psychopathy – represents one of the most extreme sides of human nature (Paulhus and Williams, 2002; Jonason *et al.*, 2012b). These traits do not meet the formal clinical criteria of mental disorders described in DSM-5 (APA, 2013) or ICD-11 (WHO, 2018) (i.e., these traits are sub-clinical). Therefore, the Dark Triad traits are studied in personality psychology rather than in psychiatry and may be used in management research. Prior empirical research shows that those who score high on the Dark Triad traits tend to devalue collective interests (Jonason *et al.*, 2015), lack empathy (Jonason and Krause, 2013), exhibit vengefulness (Giammarco and Vernon, 2014), commit fraud (Modic *et al.*, 2018), engage in deception (Baughman *et al.*, 2014), and manipulate others (Jonason and Webster, 2012). Organizational members possessing the Dark Triad traits are often referred to as destructive, abusive, or toxic employees who present problems for their companies, supervisors, and co-workers (Jonason *et al.*, 2012a). As a result, the Dark Triad traits facilitate employees' engagement in various forms of counterproductive workplace behavior (O'Boyle *et al.*, 2012; Palmer *et al.*, 2017) and may also drive their knowledge sabotage behavior.

The Dark Triad concept was coined by Paulhus and Williams (2002) when they theoretically and empirically justified the amalgamation of three previously documented constructs within a universal framework. They argue that, as a constellation of traits, narcissism, Machiavellianism, and psychopathy “entail a socially malevolent character with behavior tendencies toward self-promotion, emotional coldness, duplicity, and aggressiveness” (Paulhus and Williams, 2002, p. 556). Since its introduction, the Dark Triad has gained momentum in personality psychology and organizational behavior research (Muris *et al.*, 2017) and has been shown to have good predictive power in the context of malevolent workplace behavior (O'Boyle *et al.*, 2012; Lyons, 2019). At the same time, the constellation of the Dark Triad traits has been underrepresented in knowledge management research. To the best of our knowledge, only one work used the Dark Triad in the context of knowledge management (Pan *et al.*, 2018). It is likely that the Dark Triad traits are not relevant to productive knowledge behavior, such as knowledge creation, sharing, and transfer, which dominate the present knowledge management research arena (Gaviria-Marin *et al.*, 2018; Gaviria-Marin *et al.*, 2019). Instead, the Dark Triad traits drive an extreme form of counterproductive knowledge behavior, which goes far beyond the knowledge hiding, withholding, and hoarding concepts commonly studied in the knowledge management domain.

Narcissism, the first component of the Dark Triad, reflects one's pursuit of gratification from a pervasive pattern of fantasy or behavioral grandiosity, self-idealization, and egoistic self-admiration (Campbell and Miller, 2011). This term originated in the story by Publius Ovidius Naso (43 BC-17 AD), known as Ovid, a Roman poet who described the young Narcissus who fell in love with his own reflection and rejected others around him (Gildenhard and Zissos, 2000). As an extreme form of self-admiration, narcissism appeared in scientific literature in the late 18th to early 19th centuries (Ellis, 1898; Waelder, 1925; Ellis, 1927) and was later explored in the works of several psychoanalysts, including Freud (1914). The rise of interest in narcissism has been witnessed since the last quarter of the 20th century (Levy *et al.*, 2011) after Raskin and Hall (1979) introduced a measure of narcissism which does not fall under the definition of a personality disorder and can be used in non-clinical research. As a result, researchers have developed a very solid understanding of the behavioral consequences of the narcissism trait which may potentially facilitate knowledge sabotage. Narcissists tend to act selfishly and egoistically (Vazire and Funder, 2006). They dehumanize, belittle, and badmouth others (Locke, 2009) and have a strong sense of entitlement (Miller *et al.*, 2012).

Here is a hypothetical example of narcissism in the workplace. An employee holds a high opinion of himself as having consistently made good decisions in his career. Unfortunately, he has recently made a serious mistake that would damage his reputation and standing. He then does everything he can to prevent this ego-threatening knowledge from reaching his colleagues. He does this despite knowing that the work of others will be badly impacted if they are not informed of the mistake. Moreover, the narcissistic employee would try to deflect blame by berating colleagues, implying that *they* are responsible for the mistake.

Machiavellianism, the second Dark Triad composite, is a “strategy of social conduct that involves manipulating others for personal gain, often against the other’s self-interest” (Wilson *et al.*, 1996, p. 285). Similar to narcissism, Machiavellianism has its roots in philosophical writings. In the 16th century AD, Niccolò di Bernardo dei Machiavelli (1469–1527), an Italian diplomat, published *The Prince* (Machiavelli, 1513/2015), one of the first modern works of political philosophy. This highly innovative (for its time) text offers advice on how to gain and retain political power based solely on expediency while ignoring the traditional values of trust, decency, and honor (Wilson *et al.*, 1996). For centuries, the term Machiavellianism had been used predominantly in philosophy and political science until Christie and Geis (1970) linked the concept of Machiavellianism to interpersonal behavior and presented a series of Mach Scales to measure one’s Machiavellian traits. The trait of Machiavellianism and its behavioral outcomes quickly captured the attention of the research community (Geis and Moon, 1981; Jones and Paulhus, 2009), and it was included as a Dark Triad component (Paulhus and Williams, 2002). The behavioral consequences of Machiavellianism fit the context of knowledge sabotage well. It has been found that people who possess Machiavellian traits are deceptive (Jones and Paulhus, 2017), manipulative (Braginsky, 1970), power-hungry (Kessler *et al.*, 2010), opportunistic (Czibor *et al.*, 2017), exploitative (Bereczkei *et al.*, 2015), and unethical (Jones and Kavanagh, 1996). Generally, they are uncooperative, are devoid of social values, and disregard collective interests, believing that the ends justify the means (Bereczkei and Czibor, 2014). The Machiavellian trait facilitates various counterproductive workplace behaviors, including workplace sabotage (Dahling *et al.*, 2013).

To illustrate Machiavellianism, consider an organization that is selecting a manager to lead a high-profile project. John, an ambitious manager, is very keen to lead the project, but another manager Joan is seen as more qualified. To make the final choice, each manager is asked to propose their implementation approach for the project. Joan consults John about the feasibility of an attractive option that she has thought of. John has specialized knowledge relevant to that option and recognizes that Joan’s proposal would be well-received. John then deliberately misinforms Joan that her option would *not* be feasible, but instead presents that option in his own proposal. John is selected but Joan feels deceived, and the sense of rivalry and distrust between them intensifies.

Psychopathy refers to having a cold, uncaring attitude and limited empathy toward other people, which leads to unreasonable interpersonal aggression (Jonason *et al.*, 2012b). In contrast to narcissism and Machiavellianism, the construct of psychopathy has been brought to personality psychology from mental health research. The term “psychopathy” initially appeared in German psychiatric literature in the 1840s (Horley, 2014), but its underlying symptoms were documented much earlier (Pinel, 1806; Rush, 1812). In the late 19th and the early 20th centuries, psychopathy was further studied and applied in criminology research and practice (McCord and McCord, 1964), and it entered mainstream psychology and psychiatry research after Cleckley (1941) published his seminal book titled *The Mask of Sanity*, which formalized a clinical description of psychopathy. Due to the antisocial, violent, and criminal consequences of psychopathic behavior (Millon *et al.*, 1998), psychopathy is considered the most sinister Dark Triad trait which may lead to various antisocial and counterproductive organizational behaviors (Blickle and Schütte, 2017).

2.3 Social exchange theory

The impact of the Dark Triad traits on knowledge sabotage may be explained by using social exchange theory (Homans, 1974; Emerson, 1976; Molm, 2003; Molm *et al.*, 2007) as a lens of analysis. Social exchange theory was created in the sociology field, but it can be fruitfully adapted to the context of knowledge behavior (Liu *et al.*, 2012; Serenko and Bontis, 2016a). The theory suggests that an organization may be considered a social system which consists of interdependent exchange processes among its employees and that these exchange processes are governed by the rules of reciprocity because employees are motivated by their individual self-interest. It assumes that employees possess valuable knowledge and also require knowledge from others. Every act of knowledge exchange is expected to prompt reciprocation by the receiver, and the inter-employee knowledge exchange is a two-way communication process. At the same time, the reciprocation of knowledge behavior may be positive or negative (Haas and Park, 2010; Serenko and Bontis, 2016b). Positive reciprocation occurs when one employee shares knowledge with another, and the recipient returns the favor later by sharing his or her valuable knowledge in return. Negative reciprocation takes place when an employee engages in knowledge sabotage as a response to perceived injustice or as a form of revenge. In the latter case, the saboteur intentionally attempts to put the target at disadvantage to negatively affect his or her performance and/or to gain something of value.

In social exchanges, reciprocal decisions are strongly influenced by people's emotions (Lawler, 2006; Lawler, 2007). Particularly, negative emotions amplify employees' decisions to engage in knowledge sabotage. First, negative workplace emotions last for a long time, sometimes throughout the entire employment period (Kube *et al.*, 2013). Thus, a knowledge sabotage episode may be a response to a conflict that happened a long time ago, and the saboteur had had enough time to meticulously develop an effective retaliation strategy. Second, the magnitude of negative reciprocation is generally very strong and exceeds that of a positive one (Offerman, 2002). Third, compared to positive emotions, negative emotions are more easily accessible in one's memory and may be evoked very quickly. Thus, negative emotions may trigger knowledge sabotage behavior. Most importantly, the Dark Triad traits dramatically amplify the effect of negative emotions on counterproductive workplace behavior because the cognitive processes and subsequent behaviors of narcissists, Machiavellians, and psychopaths are different from those of most people. As a result, the Dark Triad traits make employees violate the principles of social exchange by engaging in counterproductive workplace behavior (O'Boyle *et al.*, 2012).

Narcissist employees are obsessed with their own grandiosity, self-idealization, and perceived superiority over their fellow co-workers. First, these delusions make them believe that formal and informal organizational rules do not apply to them (O'Boyle *et al.*, 2012). Thus, they assume that they are exempt from the obligation of positive reciprocation and may even cause harm to others with impunity as long as their behavior reinforces their distorted self-beliefs. Second, narcissists are generally dissatisfied with their current jobs (Mathieu, 2013), and, according to the self-serving hypothesis of attribution theory (Kelly, 1972; Weiner *et al.*, 1972), they are likely to attribute the cause of their dissatisfaction to their co-workers and seek revenge by means of knowledge sabotage. Third, narcissists have a long memory of routine organizational conflicts which threatened their vanity (Brunell and Davis, 2016), and they can spend a lot of time ruminating on the incidents and developing sophisticated and ruthless revenge strategies by any means, including knowledge sabotage. In addition, their targets may be publicly humiliated, which makes narcissists look more competent compared to their victims.

Machiavellian employees pursue their own self-interest at the expense of other workers and their entire organizations by engaging in counterproductive workplace behavior (O'Boyle *et al.*, 2012; Hmieleski and Lerner, 2016), including knowledge sabotage. First, Machiavellian traits are strongly associated with distrust (Dahling *et al.*, 2009). As a result,

Machiavellians are likely to assume that honest work effort may not pay off so they should take advantage of others and take what is “rightfully theirs.” Machiavellian employees may also assume that their fellow co-workers are trying to deceive them. They may become emotionally aroused and proactively offer wrong knowledge or withhold critical knowledge as a form of negative proactive reciprocation. Second, Machiavellians exhibit low levels of organizational citizenship behavior, especially in terms of prosocial values (Becker and O’Hair, 2007). They try to create an impression of being caring employees, but, instead, they experience negative emotions (e.g., envy) when watching other people’s success which, in turn, makes them engage in knowledge sabotage to destroy their perceived competitors. Third, Machiavellians are highly manipulative (Braginsky, 1970) and try to achieve their goal through political machination and the humiliation of their opponent rather than through honest effort. Human capital theory posits that employees are supposed to continuously improve their skills and abilities through training, education, and experience which would boost their performance and result in various rewards (Becker, 1993) and career success (Cillo *et al.*, 2019). Instead, Machiavellians tend to disregard an honest, ethical way of promoting their careers. In this case, knowledge sabotage may serve as an effective tool when Machiavellians choose to engage in manipulative behavior.

Employees with psychopathic dispositions are heartless and insensitive workers who engage in antisocial and aggressive behavior toward others. Psychopaths are career-focused (Chiaburu *et al.*, 2013), and they frequently excel in organizational recruitment and promotion due to their superficial charisma and calculative approaches to career advancement, but they can cause enormous damage to other workers and their employers (Babiak and Hare, 2006). First, they easily gain other employees’ trust due to fake charm (McHoskey *et al.*, 1998) and insincere altruism. In fact, they can offer valuable knowledge to others multiple times merely to make them lower their guard, and then they wait for a perfect moment to unleash the truly devastating potential of their dark side. Second, psychopaths may sabotage their co-workers because they enjoy watching their fellow employees suffer. Third, they disregard the conventional norms of social interaction and never help others except for their own advancement (Smith *et al.*, 2016). Fourth, they can exaggerate the magnitude of a trivial workplace conflict or difference of opinion and overreact by trying to destroy their adversary’s career while enjoying watching their downfall. For this, psychopaths may use knowledge sabotage as an effective retaliation tool.

Overall, narcissists, Machiavellians, and psychopaths violate the conventional norms of social exchange. Their perceptions of organizational injustice and envy dramatically amplify their negative emotions which, in turn, make them engage in knowledge sabotage against their fellow co-workers. The magnitude of knowledge sabotage is positively related to the extent of the perceived self-gratification or a perceived threat when knowledge saboteurs believe that their ego is threatened (narcissists), they may be deprived of something of value (Machiavellians), or they have a chance to cause harm to others (psychopaths) (Baka, 2018). Therefore, the following hypotheses are proposed:

- H1.* Individual narcissism has a positive direct effect on individual knowledge sabotage.
- H2.* Individual Machiavellianism has a positive direct effect on individual knowledge sabotage.
- H3.* Individual psychopathy has a positive direct effect on individual knowledge sabotage.

2.4 The social contagion effect

The social contagion effect refers to the spread of emotions and/or behaviors among group participants when one person serves as a stimulus for the imitative emotional state and/or actions of another (Marsden, 1998a). More than a century ago, Baldwin (1894) and Le Bon (1897) recognized the power of crowd psychology and behavioral imitation. Subsequent

empirical research has evolved in two major directions: emotional contagion (Doherty, 1997), which is the tendency to mimic the expressions, mood, and affect of others by mere exposure, and behavioral contagion (Wheeler, 1966), which is the propensity to imitate the actions of others after observing them. In both types of social contagion, the initiators of emotional and/or behavioral changes do not explicitly communicate their intent to influence others (Marsden, 2001). Thus, the phenomenon of contagious behavior differs from the other forms of social influence such as conformity, social pressure, coercion, persuasion and social norms, and it exists in many areas of human activities including the workplace. For example, research shows that individual employees often mimic the counterproductive workplace behavior of their fellow colleagues, subordinates, and supervisors (Robinson and O'Leary-Kelly, 1998; Robinson *et al.*, 2014; Liang *et al.*, 2018). Recently, Arain *et al.* (2020) confirmed the existence of the social contagion effect in the knowledge management domain, and it seems reasonable to assume its presence with respect to knowledge sabotage. This study uses the notion of behavioral social contagion to explicate the effect of co-workers' knowledge sabotage on the knowledge sabotage behavior of individual employees.

The social contagion effect can be understood by using the memetic stance as a lens of analysis (Marsden, 1998a; Marsden, 1998b). From this perspective, knowledge sabotage is the object of contagion (i.e., a meme – a unit of transmission) and the process by which an individual employee's behavior is influenced by co-workers' actions is the process of contagion (Marsden, 2001). The memetic stance posits that it is vital to understand the unique attributes of knowledge sabotage that make individual employees mimic this behavior when they observe similar actions of their fellow co-workers. The first characteristic of knowledge sabotage is its ability to trigger extremely negative emotions in both its victims and observers. Because counterproductive workplace behavior is driven by negative emotions (Michalak *et al.*, 2019), those who perceive themselves as being victims or observers of knowledge sabotage may fall into extremely negative affective states and channel their anger toward the alleged perpetrators or others by reciprocally engaging in knowledge sabotage. The second attribute of knowledge sabotage manifests in its dramatic impact on the cognition and behavior of its victims and witnesses. Because "bad is stronger than good" (Baumeister *et al.*, 2001, p. 323), a single knowledge sabotage episode may completely wipe out the memory of all positive events of workplace interaction and negatively predispose employees toward their co-workers. As a result, it will be easier for them to replicate knowledge sabotage behavior in the future.

The third facet of knowledge sabotage that makes it contagious is its resistance to disconfirmation. After employees experienced or observed the extremely unethical actions of their fellow co-workers, it may be difficult to convince them that these were isolated events that would not happen in the future because many knowledge sabotage offenders do so repeatedly (Serenko, 2019; Serenko, 2020). The fourth feature of knowledge sabotage is its high memorability. Knowledge sabotage represents vivid, unorthodox workplace events which are likely to remain in people's long-term memory during their entire organizational tenure (Kube *et al.*, 2013). As a result, an example of knowledge sabotage may be always accessible in employees' memory and imply that this is a possible course of action. The fifth aspect that makes knowledge sabotage contagious pertains to its efficiency in terms of the ease with which one may satisfy his or her urge to inflict harm on others and/or obtain extrinsic rewards. Engaging in knowledge sabotage does not require much mental and physical effort: it is merely a piece of knowledge delivered to or concealed from other employees. However, the consequences of the application of wrong knowledge or the inability to apply the critically needed knowledge may be truly devastating. Thus, knowledge sabotage behavior exhibits an extremely high "return on investment" with respect to the exerted effort vs the generated harm. The last feature of knowledge sabotage is its learnability. People are generally familiar with deception and information withholding and many apply them in various real-life scenarios. Thus, knowledge sabotage builds upon

the existing behavioral principles and does not require the acquisition of new skills. In sum, these attributes of knowledge sabotage: negative emotions, strong cognitive and behavioral impacts, resistance to disconfirmation, high memorability, the ease of application, and learnability make it a good candidate for a socially contagious behavior.

The theory of behavioral contagion suggests that individuals who have the ability to perform the contagious behavior refrain from doing so due to internal control processes (Wheeler, 1966). However, when they observe others performing this behavior, their control mechanism weakens and they are more likely to mimic others' actions. With respect to the context of the present study, it is argued that when individual employees become direct targets or witnesses of knowledge sabotage incidents, they are extremely likely to mimic this highly contagious behavior by deliberately or subconsciously suppressing their control over it. Because knowledge sabotage is a potentially contagious behavior, co-workers' knowledge sabotage actions may instigate a similar behavior of individual employees (Ferguson and Barry, 2011). It is hypothesized that:

H4. Co-worker knowledge sabotage has a positive direct effect on individual knowledge sabotage.

2.5 The co-worker-related factors

H1–H3 focused on the impact of individual personality traits on knowledge sabotage. In addition, it is proposed that the co-workers' Dark Triad traits (Paulhus and Williams, 2002) – narcissism, Machiavellianism, and psychopathy – facilitate their engagement in knowledge sabotage. The rationale is similar to the one used to justify H1–H3 – employees possessing the Dark Triad personality traits differ from those who lack these characteristics because they are driven by extreme negative emotions, ignore social rules, attribute their negative emotions to others, continuously ruminate on their negative work experiences, distrust their colleagues, ignore prosocial values, exhibit insincere altruism, exaggerate the magnitude of trivial disagreements, and enjoy manipulating, humiliating and tormenting others. For them, knowledge sabotage represents an effective mechanism to pursue their dark goals. Thus:

H5. Co-worker narcissism has a positive direct effect on co-worker knowledge sabotage.

H6. Co-worker Machiavellianism has a positive direct effect on co-worker knowledge sabotage.

H7. Co-worker psychopathy has a positive direct effect on co-worker knowledge sabotage.

The previous investigation of knowledge sabotage victims discovered that organizations often facilitate and even encourage the presence of knowledge sabotage by increasing co-worker competitiveness (Serenko, 2020) – defined as inter-employee competition for a limited pool of tangible or intangible valuable resources and rewards (Brown *et al.*, 1998). Therefore, it seems reasonable to hypothesize that co-worker competitiveness has a positive direct effect on knowledge sabotage.

This phenomenon may be explicated from the perspective of Deutsch's (2012) theory of cooperation and competition which emphasizes the destructive side of the latter because of impaired communication between the parties, misinformation, work duplication, and coercive, obstructive, exploitative, harmful and unhelpful behavior. This happens because, *first*, management creates structural competition by developing a win/lose framework based on mutually exclusive goal attainment where one's success requires another's failure. In this case, the pool of available rewards (e.g., monetary incentives, promotions, prizes) cannot be enlarged through employee cooperation, and each individual has to act in his or her own interests at the expense of others. *Second*, organizations often develop hiring and retention policies favoring those with extremely competitive attitudes (Kohn, 1992). Whereas this strategy may bring short-term benefits, it eventually fails because it ruptures inter-employee

relationships (Kohn, 1999). In a highly competitive work environment, even the most conscientious employees may engage in questionable, unethical, and even illegal practices when placed under extreme pressure – for example, when they risk failing a probation because only a select few top performers are expected to pass. *Third*, the functioning of competitive environments contradicts the very principles of inter-employee knowledge exchange when individuals are expected to altruistically help one another without expecting any direct benefits (Serenko and Bontis, 2016a). *Fourth*, overreliance on various forms of tangible and intangible rewards reduces employees' intrinsic motivation to honestly exchange knowledge and may promote knowledge sabotage.

Imagine an employee Elaine who is competing with a colleague Ben for an upcoming promotion. Both Ben and Elaine know that promotions are rare and hard-fought in their organization, and that recent evidence of success or failure would weigh heavily in the decision-making. Ben is presently leading a social media campaign the success of which would bolster his chances of promotion greatly. When Ben asks Elaine for help based on her technical expertise, she deliberately supplies incorrect advice to mislead Ben, thereby undermining his performance and prospects for promotion. As a result, Ben becomes demoralized and the campaign fails, harming the organization.

A number of previous studies have already documented the impact of one's competitiveness or a competitive environment on counterproductive knowledge behavior (Vuori and Okkonen, 2012; Connelly *et al.*, 2014; Jha and Varkkey, 2018; Hernaus *et al.*, 2019). Thus:

H8. Co-worker competitiveness has a positive direct effect on co-worker knowledge sabotage.

Figure 1 presents the proposed model.

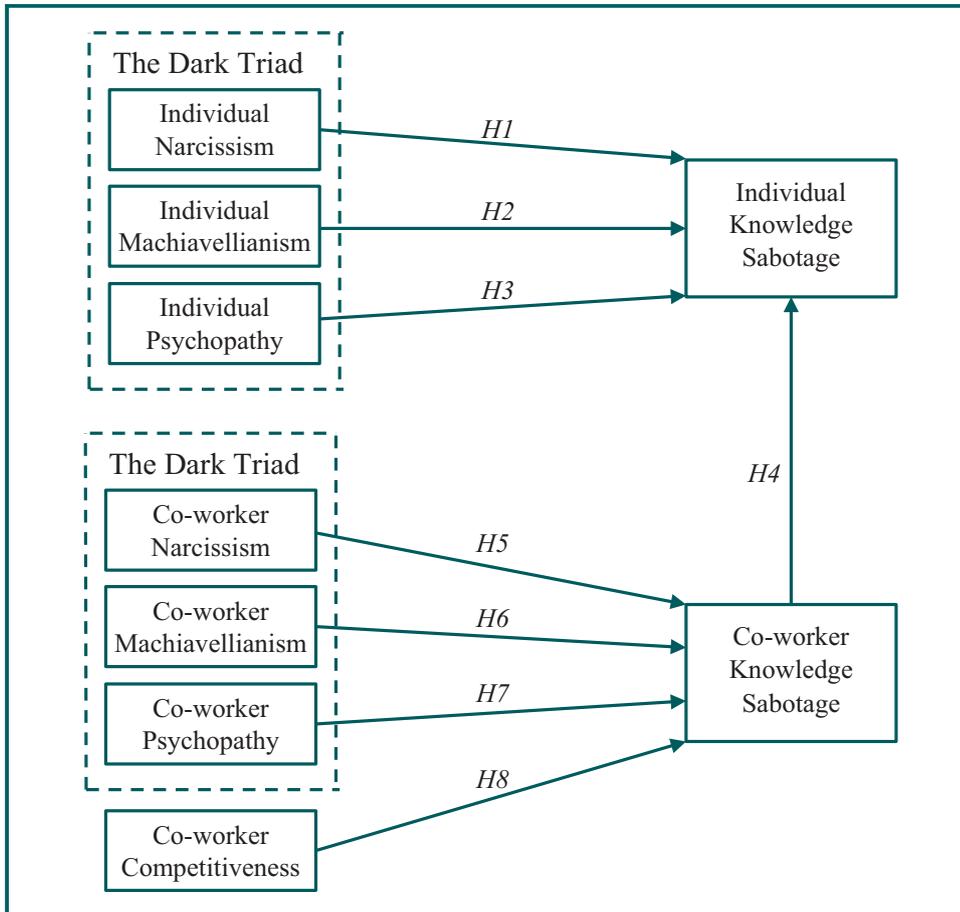
3. Methodology

3.1 The instrument

The original Fletcher and Nusbaum's (2010) scale was used to measure co-worker competitiveness. The 12-item Dark Triad scale developed by Jonason and Webster (2010) was used to measure individual narcissism, Machiavellianism, and psychopathy. To measure co-worker narcissism, Machiavellianism, and psychopathy, the referent shift approach (Chan, 1998) was employed by changing the referent for the conceptual definition and operationalization of the construct. According to this approach, instead of answering the question with respect to yourself (e.g., I tend to lack remorse), respondents were asked to reflect on their workplace colleagues (e.g., My colleagues tend to lack remorse). This method is frequently used in management research to assess how employees perceive the traits and behaviors of their co-workers, managers, and customers (Brown *et al.*, 1998; Fletcher *et al.*, 2008).

The knowledge sabotage constructs were operationalized in this study by relying on four distinct situations developed by Serenko (2019, 2020). A concise definition of knowledge sabotage was developed, and the individual and co-worker knowledge sabotage constructs were operationalized with four questions each (i.e., four for individual and four for co-worker knowledge sabotage, eight questions in total). For individual knowledge sabotage, the questions pertained to the respondent's behavior, whereas for co-worker knowledge sabotage, the questions focused on his or her colleagues' behavior [the referent shift approach as recommended by Chan (1998)]. The instructions emphasized the importance of answering all questions in the context of one's current workplace. The instrument also included a number of basic demographic questions and one attention check question (see Appendix). The questionnaire was preceded by a consent form outlining the study and describing various research ethics issues.

Figure 1 The proposed model



3.2 Participants and study design

Participants were recruited from the Amazon's Mechanical Turk (mTurk). mTurk is the largest online marketplace which employs up to half a million workers who are ready to perform various human intelligence tasks (HITs), including participation in scholarly research. For this study, mTurk was selected for five reasons. First, because there are more than 2,000 active workers available at mTurk at any given moment (Difallah *et al.*, 2018), it allows researchers to collect a required sample size relatively quickly. Second, mTurk ensures full anonymity of its workers, which dramatically reduces social desirability bias (Crowne and Marlowe, 1960). Researchers may only see mTurk workers' ID but not their names or other identifiable information. This is especially important in research focusing on socially undesirable and questionable behavior, such as knowledge sabotage. Third, by using mTurk, researchers are not limited to a particular geographical location and may obtain diverse data sets (Buhrmester *et al.*, 2011), which improves the generalizability of their findings. Fourth, researchers may reject poor quality surveys. This negatively affects the mTurk workers' ratings and future work prospects. As a result, they are highly motivated to carefully read the instructions and diligently answer survey questions to the best of their ability. Fifth, mTurk allows the implementation of various screening criteria. In this study, the following mTurk built-in screening criteria were used for participant recruitment:

- country of residence – USA;

- HIT approval rate = 98%; and
- the number of previous HITs approved > 5,000.

In addition, only those who were employed full-time for at least two years in an organization that had ten or more full-time employees were allowed to participate in the study. For the full completion of the questionnaire, the respondents were offered a monetary incentive of US \$2.00. To avoid order bias, two versions of the instrument were developed and randomly administered where individual and co-worker constructs were presented in different sequences. After rejecting three poor-quality surveys that failed the attention check question, 150 valid responses were retained and used for analysis.

4. Results

4.1 Overview

The respondents had been employed in their current organization for 6.4 years on average, ranging from 2 to 40 years. Their organizations varied in terms of their size, employing from 10 to more than 10,000 people. In total, 46% of the respondents were women. Their average age was 37, ranging from 21 to 64 years old. They had 16 years of full-time work experience on average, ranging from 2 to 44. Most of them were very highly educated: 33% had an associate (2-year) degree or some college; 38%, a bachelor's degree; 8%, a master's degree; 2%, a PhD; and only 19% had a high school diploma or less.

A MANOVA test confirmed that the order in which individual and co-worker constructs were presented had no effect on construct means ($p > 0.3$). No mean differences between men and women respondents were found for individual and co-worker knowledge sabotage constructs ($p > 0.1$). Table 1 summarizes the means of the knowledge sabotage and the Dark Triad constructs and shows that the respondents rate their co-workers higher on these negative measures than they rate themselves ($p < 0.01$). To test the presence of common method bias, Harman's (1967) single-factor test was done. Because the first factor captured only 36% of the overall variance, it was concluded that common method bias did not affect the validity of the measurement model.

4.2 The measurement model

SmartPLS version 3 (Ringle *et al.*, 2015) was used for further analysis. Partial Least Squares structural equation modeling (PLS-SEM) is a second-generation, variance-based technique that is frequently applied in empirical knowledge management research (Cepeda-Carrion *et al.*, 2019). Many knowledge management constructs, for instance, attitude toward knowledge sharing, learning/unlearning, and organizational culture, are theoretical thought products operationalized with indicator data collected by means of surveys which are considered design constructs, better modeled as composites (Henseler, 2017) and estimated by means of PLS-SEM (Rigdon, 2016; Cepeda-Carrion *et al.*, 2019). The constructs used in the present study (e.g., knowledge sabotage) are also best modelled as composites representing latent variables and are most suitable for PLS-SEM. In addition, the purpose of this study is to test relationships among several variables instead of measuring the model fit, which, again, may be achieved by using PLS-SEM. The

	KS	NAR	MAC	PSY
Individual (myself)	1.53	2.99	2.26	2.33
Co-workers (others)	2.21	4.24	3.27	2.84

Notes: Scales: KS – knowledge sabotage; NAR – narcissism; MAC – Machiavellianism; PSY – psychopathy

measurement model was analyzed in Mode A (composite reflective) (Sarstedt *et al.*, 2016) which is a default option of SmartPLS 3.

Table 2 outlines descriptive statistics and reliability assessment. First, both scales of individual and co-worker knowledge sabotage exhibited excellent levels of reliability with very high values of item-to-total correlation, Cronbach's alpha, loadings, composite reliability, and average variance extracted (AVE). Second, most of the Dark Triad items (narcissism, Machiavellianism, psychopathy) were also reliable. The loadings of several Dark Triad items were below a recommended threshold of 0.7 for excellent items, but they exceeded the cut-off value of 0.5 and were retained to ensure content validity of the scale. Strong correlations among each construct's indicators confirm that composite reflective Mode A was appropriate (Cepeda-Carrion *et al.*, 2019). Third, the co-worker competitiveness scale was also found to be very reliable.

Table 2 Descriptive statistics and reliability assessment

Item	Mean	SD	ITC	Alpha	Loading	CR	AVE
CKS1	2.18	1.63	0.88	0.95	0.941	0.962	0.865
CKS2	2.12	1.52	0.90		0.946		
CKS3	2.23	1.60	0.87		0.922		
CKS4	2.29	1.65	0.85		0.911		
IKS1	1.50	1.14	0.83	0.93	0.901	0.952	0.830
IKS2	1.52	1.20	0.83		0.907		
IKS3	1.53	1.14	0.86		0.920		
IKS4	1.57	1.09	0.84		0.916		
CNAR1	4.44	1.62	0.66	0.84	0.773	0.886	0.661
CNAR2	4.58	1.42	0.77		0.838		
CNAR3	4.49	1.58	0.67		0.803		
CNAR4	3.43	1.65	0.57		0.835		
INAR1	3.50	1.73	0.69	0.81	0.674	0.851	0.589
INAR2	3.27	1.62	0.75		0.784		
INAR3	2.98	1.82	0.66		0.753		
INAR4	2.21	1.54	0.44		0.850		
CMAC1	2.77	1.67	0.78	0.88	0.922	0.915	0.732
CMAC2	3.17	1.79	0.79		0.896		
CMAC3	4.15	1.84	0.57		0.662		
CMAC4	2.99	1.70	0.80		0.914		
IMAC1	1.87	1.37	0.68	0.83	0.908	0.883	0.660
IMAC2	2.36	1.65	0.70		0.810		
IMAC3	2.91	1.97	0.47		0.572		
IMAC4	1.88	1.36	0.71		0.912		
CPSY1	2.58	1.53	0.83	0.90	0.921	0.933	0.777
CPSY2	2.69	1.64	0.82		0.923		
CPSY3	2.72	1.73	0.84		0.918		
CPSY4	3.36	1.59	0.65		0.751		
IPSY1	1.94	1.46	0.78	0.86	0.935	0.906	0.712
IPSY2	1.95	1.55	0.77		0.933		
IPSY3	2.23	1.64	0.77		0.867		
IPSY4	3.19	1.93	0.50		0.594		
CCOMP1	4.02	1.82	0.87	0.95	0.936	0.962	0.864
CCOMP2	3.61	1.84	0.90		0.940		
CCOMP3	3.58	1.95	0.89		0.947		
CCOMP4	3.46	1.85	0.84		0.894		

Notes: Columns: SD – Standard deviation; ITC – corrected item-to-total correlation; Alpha – Cronbach's alpha; CR – composite reliability; AVE – average variance extracted. Scales: CKS – co-worker knowledge sabotage; IKS – individual knowledge sabotage; CNAR – co-worker narcissism; INAR – individual narcissism; CMAC – co-worker Machiavellianism; IMAC – individual Machiavellianism; CPSY – co-worker psychopathy; IPSY – individual psychopathy; CCOMP – co-worker competitiveness

A two-tailed *t*-value distribution was selected to test the significance of all values. All loadings were significant at the 0.01 level. Construct correlations presented in Table 3 reveal that the square root of the AVE exceeds the inter-construct correlations which confirms discriminant validity of the measures, including the knowledge sabotage constructs. Analysis of heterotrait-monotrait (HTMT) ratio of correlations (Henseler *et al.*, 2015) showed that only one ratio (co-worker Machiavellianism-co-worker psychopathy) was 0.878 (yet below the cut-off value of 0.9), and all others were below 0.8 (with a vast majority below 0.6). The bootstrapping procedure was done to assess HTMT_{inference}. All intervals were below the cut-off value of 1.0 (i.e., 1.0 was not included in any of the intervals) (Henseler *et al.*, 2015) which further confirmed discriminant validity of the measures.

4.3 The structural model

Figure 2 presents the structural model. As recommended by Henseler *et al.* (2016) and Cepeda-Carrion *et al.* (2019), bootstrapping was used to estimate the statistical significance of the structural relationships. Because the bootstrap confidence interval for the relationship between co-worker narcissism and co-worker knowledge sabotage contained a zero, this relationship was not supported. Overall, out of eight hypotheses, seven were supported and one was rejected.

5. Discussion

The purpose of this study was two-fold: to understand the impact of personality traits and co-worker competitiveness on individual and co-worker knowledge sabotage behavior; and to operationalize the knowledge sabotage construct. For this, psychology and management literature was extensively reviewed, an instrument was developed, and a model was constructed and empirically tested with data from 150 participants recruited via Amazon's mTurk. This section takes a closer look at several significant findings and discusses the theoretical and practical implications that emerged from this study.

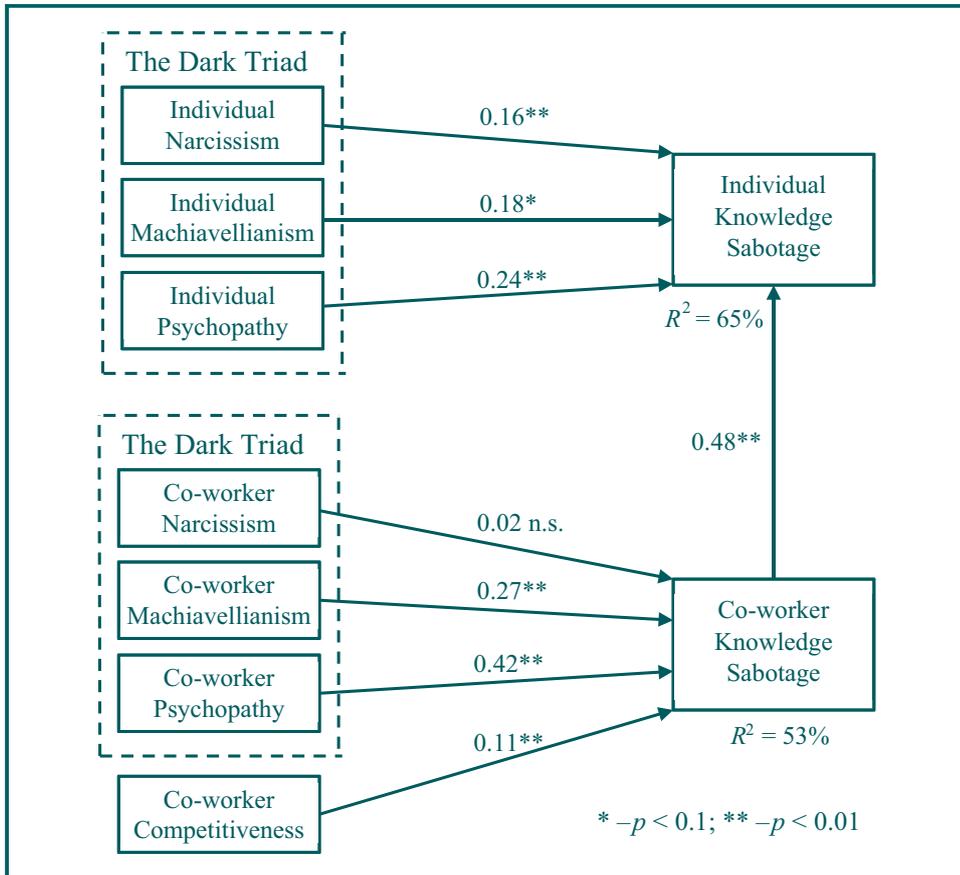
5.1 Theoretical implications

First, the results of this study show that the personality traits of narcissism, Machiavellianism, and psychopathy are significant predictors of individual knowledge

	CKS	IKS	CNAR	INAR	CMAC	IMAC	CPSY	IPSY	CCOMP
CKS	0.930								
IKS	0.676	0.911							
CNAR	0.458	0.137	0.813						
INAR	0.302	0.482	0.338	0.767					
CMAC	0.672	0.469	0.594	0.268	0.856				
IMAC	0.413	0.638	0.184	0.558	0.445	0.812			
CPSY	0.699	0.488	0.514	0.183	0.809	0.348	0.881		
IPSY	0.323	0.575	0.138	0.325	0.439	0.715	0.395	0.844	
CCOMP	0.445	0.335	0.603	0.366	0.476	0.252	0.472	0.210	0.930

Notes: The diagonal elements are the square root of the AVE of a respective construct; Scales: CKS – co-worker knowledge sabotage; IKS – individual knowledge sabotage; CNAR – co-worker narcissism; INAR – individual narcissism; CMAC – co-worker Machiavellianism; IMAC – individual Machiavellianism; CPSY – co-worker psychopathy; IPSY – individual psychopathy; CCOMP – co-worker competitiveness

Figure 2 The structural model



sabotage behavior. In isolation from the other constructs, these traits collectively explain around 50% of the variance in individual knowledge sabotage behavior observed in the study. This is an interesting result as it establishes an important relationship between personality traits and counterproductive knowledge behavior, a relationship that has hitherto received little attention in the knowledge management literature. As discussed in Section 2, the Dark Triad traits drive knowledge sabotage because narcissists, Machiavellians, and psychopaths disregard the conventional norms of social exchange when interacting with their fellow employees. Their actions, instead, are driven by negative emotions which are unreasonably amplified due to a threatened ego (narcissists), greed (Machiavellians), and a desire to hurt others (psychopaths).

Second, it was found that individuals underestimate their negative behavior and traits, and/or overestimate those of their fellow co-workers. Recall that Table 1 indicates that the means of co-worker knowledge sabotage and the Dark Triad constructs are higher than those of individual ones ($p < 0.01$), which implies that, on average, employees rate their co-workers' negative traits and behaviors higher than they rate their own. This finding parallels that of another study on knowledge hiding (Serenko and Bontis, 2016b) which reported that employees believe they engage in knowledge hiding to a lesser degree than their colleagues hide knowledge from them. The authors suggest that employees either overstate their colleagues' knowledge hiding behavior and/or

underestimate their own knowledge hiding behavior. A similar phenomenon was observed in the context of knowledge sabotage.

The finding above may be explained from the perspective of social comparison theory which posits that people are driven by a desire for self-evaluation and they frequently self-assess by comparing themselves with those around them (Festinger, 1954). Particularly, they engage in self-enhancement to boost their self-esteem and to feel good about themselves (Hoorens, 1993). As a result, compared with their referent groups, they overstate their positive traits and behaviors and diminish negative ones – the phenomenon referred to as the “better-than-average effect” (Alicke *et al.*, 1995). This effect is particularly salient in highly negative contexts (e.g., knowledge sabotage) and/or when a comparison is done against a general group of people (e.g., other employees). As a result, employees tend to position themselves in a favorable light and consider themselves more ethical than their referent groups, including their co-workers (Reynolds, 2003). As this study demonstrates, social comparison theory applies in the context of knowledge sabotage and the Dark Triad traits because employees engage in self-enhancement behavior and believe that they are better than an average employee in their organization.

Third, one of this study’s interesting findings is a relatively strong link between co-worker and individual knowledge sabotage behavior. This relationship implies that, when individual employees form the perception that others in the organization engage in knowledge sabotage, they themselves are more likely to behave in a similar manner. More generally, we may infer that, when employees observe their fellow co-workers engaging in knowledge sabotage, they are more likely to mimic this behavior. Earlier in the paper, we discussed how the social contagion effect could be an explanation for this tendency. Most importantly, the negative impact of co-worker knowledge sabotage on individual employees is dramatically amplified because, as argued above, individual employees tend to overstate others’ engagement in counterproductive workplace behavior.

Fourth, among the personality traits tested in this study, psychopathy emerged as the strongest predictor of knowledge sabotage behavior. Psychopathy refers to a lack of empathy, self-regulation, and remorse, leading to aggressive or antisocial behavior toward others. Employees exhibiting psychopathy symptoms constitute a tiny fraction of the entire workforce, but they are responsible for a vast majority of internal conflicts and, as the present study demonstrates, also for many knowledge sabotage incidents. This study shows that corporate psychopaths express their antisocial behavior by engaging in knowledge sabotage as a means to undermine their fellow co-workers. *Fifth*, despite a leading role of psychopathy in the context of co-worker knowledge sabotage, the importance of the other two Dark Triad traits – narcissism and Machiavellianism – should not be ignored. Narcissism refers to one’s unwarranted self-grandiosity, self-idealization, and self-admiration. Consequently, narcissists disregard organizational procedures, norms, and principles; attribute their job dissatisfaction to others; and disproportionately magnify routine workplace disagreements. Corporate Machiavellians manipulate their fellow employees for personal gain because they assume that honest effort does not pay off. They are so suspicious of others that they proactively try to harm them, exhibit little organizational citizenship behavior, and are highly manipulative. Even though the impact of narcissism and Machiavellianism on individual and co-worker knowledge sabotage is less significant than that of psychopathy, they should not be overlooked because even a presumably trivial knowledge sabotage incident may trigger dramatically negative consequences for both the victims and entire organizations.

Sixth, as expected, co-worker competitiveness is linked to the perception that colleagues may engage in knowledge sabotage behavior. While the relationship is

significant, its effect is relatively modest when compared with that of co-worker psychopathy and co-worker Machiavellianism. Nevertheless, it confirms the relevance and predictive power of the theory of cooperation and competition (Deutsch, 2012) in the context of counterproductive knowledge behavior. Consistent with this study's findings, the theory of cooperation and competition posits that as intra-organizational competition for a limited pool of resources increases, unhelpful, obstructive, and harmful inter-employee behavior emerges, including knowledge sabotage.

Last, as the present study discovered, counterproductive knowledge behavior is most likely driven by the truly sinister personality traits. It is for this reason, out of the three Dark Triad traits, psychopathy occupies the leading position. It is possible that by using the Dark Triad and other negative personality traits, researchers may form a better understanding of the factors driving these undesirable and even destructive behaviors.

5.2 Practical recommendations

First, organizations should help their employees to be able to objectively re-evaluate their own traits and knowledge behavior as well as those of their colleagues to ensure that their reciprocating knowledge behavior is more aligned with the reality in their organization. For this, organizations may offer formal and informal training sessions on the existence and impact of cognitive biases. They can also ask their employees to rely on objective measures – for example, count the number of knowledge sabotage incidents that they caused and experienced – to form a more valid opinion. *Second*, managers are advised to look out for an undesirable scenario in which employees somehow form the belief that counterproductive knowledge behavior is common practice in the organization when that is, in fact, not the case. For this, managers may include knowledge sabotage measures in their periodic employee surveys. Note, however, that even a small rate of knowledge sabotage incidents is alarming because, as the previous knowledge sabotage studies reveal (Serenko, 2019; Serenko, 2020), the consequences of knowledge sabotage may be truly devastating for both individual employees and their organizations.

Third, managers and leaders need to understand and take into account the possibility that personality traits could predispose certain individuals to engage in extremely harmful counterproductive knowledge behavior. If knowledge sabotage behavior tends to be persistent over time, the best course of action for organizations may be to take steps to ensure that individuals with these traits are not hired in the first place or are identified and terminated during their probation periods. For in-service employees, organizations might do well to introduce training or communication programs that emphasize the importance of ethical behavior as well as the need for collegiality and a shared sense of responsibility.

5.3 Limitations and future research directions

Despite its potential contribution, this study has several limitations. *First*, the model was tested by relying on data collected from respondents residing in the USA. However, individuals living in the Western world differ from their non-Western counterparts in terms of their values, reasoning, preferences, and behaviors. It is for this reason that models developed and tested in the western context may not always generalize to the other parts of the world (Palvia et al., 2017). Particularly, because national culture may influence people's traits and behaviors, including inter-employee relationships, it is possible that the proposed model will exhibit differences when tested in other cultural contexts. *Second*, this study did not explore the consequences of knowledge sabotage, which may include turnover intentions, poor organizational

citizenship, and lower performance. *Third*, whereas the quantitative approach used in the present study identified the knowledge sabotage phenomenon, it has not explained why it takes place. *Fourth*, all quantitative data analysis techniques, including PLS-SEM, have limitations, and they should be accompanied by other methods to ensure the validity of the findings.

Even though none of the limitations above are fatal, it is recommended that future researchers turn them into fruitful research avenues. *First*, the proposed model should be tested in other countries, and the potential differences in the model's structural relationships should be analyzed in the context of different cultural contexts. *Second*, in addition to the Dark Triad and competitiveness, there are other traits that may be relevant in the context of knowledge sabotage. Examples include negative affectivity, alexithymia, and poor emotional intelligence. *Third*, it is possible that knowledge sabotage is also driven by various organizational factors, such as workplace bullying and organizational identification (Yao *et al.*, 2020), which may be added to this study's model. *Fourth*, this study used traits that are commonly studied in personality psychology and that are not considered formal mental disorders according to DSM-5 (APA, 2013) and ICD-11 (WHO, 2018). However, it is possible that knowledge sabotage is also driven by conditions that meet the clinical criteria of mental disorders, for instance, by an antisocial personality disorder, defined as a "pervasive pattern of disregard for, and violation of, the rights of others" (APA, 2013, p. 659). *Fifth*, it is important to understand the individual and organizational impacts of knowledge sabotage. *Last*, it would be interesting to explore further and more broadly the interaction between co-worker competitiveness and co-worker traits (including, for example, the possible effect of norms of cooperation and reciprocity).

6. Conclusion

This study further draws our attention to knowledge sabotage as an extreme form of counterproductive knowledge behavior. Knowledge sabotage is particularly pernicious as it penalizes not only the employees and the organization but also the customers that the organization serves. We developed and validated an instrument that may be used to measure the presence of knowledge sabotage. We also constructed and tested a model that is able to explain the existence of knowledge sabotage based on the individual personality traits that form the Dark Triad and the extent of co-worker competitiveness in the organization. Our analysis found that all three personality traits of narcissism, Machiavellianism, and psychopathy are significant predictors of individual knowledge sabotage behavior, with psychopathy being the most important factor. Co-worker competitiveness is linked to the perception that colleagues engage in knowledge sabotage which, in turn, has a positive direct effect on individual knowledge sabotage. This last relationship between co-worker and individual knowledge sabotage is interesting: it suggests that when individuals form the belief (whether accurate or not) that others in the organization engage in knowledge sabotage, they become more likely to do so themselves. In other words, knowledge sabotage is a form of contagious behavior, and it deserves further study.

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Appendix. The questionnaire

Note: all items were measured on a seven-point Likert-type agree/disagree scale.

Instructions: You must be currently employed full-time for at least two years in an organization that has 10 or more employees. Please answer the questions below in the context of the organization in which you are currently employed full-time.

Screening questions

- For how long have you worked in your current organization? (years)
- How many employees does your current organization have?

Knowledge sabotage

Please read the following definition:

Knowledge sabotage is an incident when an employee (i.e., the saboteur) *intentionally* provides *wrong* knowledge (information, advice, a document, or a recommendation) to another employee (i.e., the target) or *intentionally* conceals knowledge from another employee when the saboteur:

- possesses the required knowledge;
- knows that this knowledge is *very important* to the target;
- is fully *aware* of the target's critical need for this knowledge; and
- knows that the target would be able to productively *apply* the required knowledge to work-related tasks.

Individual knowledge sabotage

In my current workplace:

- IKS1. I may sabotage the performance of a colleague of mine by deliberately supplying him/her with the wrong information, advice, document, or recommendation when he/she asks for help.
- IKS2. I may sabotage the professional success of a colleague of mine by deliberately supplying him/her with the wrong information, advice, document, or recommendation when I realize that he/she needs it.
- IKS3. I may sabotage the performance of a colleague of mine by deliberately withholding the critical information, advice, document, or recommendation when he/she asks for help.
- IKS4. I may sabotage the professional success of a colleague of mine by deliberately withholding the critical information, advice, document, or recommendation when I realize that he/she needs it.

Co-worker knowledge sabotage

- CKS1. A colleague of mine may sabotage my performance by deliberately supplying me with the wrong information, advice, document, or recommendation when I ask for help.
- CKS2. A colleague of mine may sabotage my professional success by deliberately supplying me with the wrong information, advice, document, or recommendation when he/she realizes that I need it.
- CKS3. A colleague of mine may sabotage my performance by deliberately withholding the critical information, advice, document, or recommendation when I ask for help.

- CKS4. A colleague of mine may sabotage my professional success by deliberately withholding the critical information, advice, document, or recommendation when he/she realizes that I need it.

The Dark Triad

In my current workplace:

Individual narcissism

- INAR1. I tend to want others to admire me.
- INAR2. I tend to want others to pay attention to me.
- INAR3. I tend to seek prestige or status.
- INAR4. I tend to expect special favors from others.

Individual Machiavellianism

- IMAC1. I tend to manipulate others to get my way.
- IMAC2. I have used deceit or lied to get my way.
- IMAC3. I have used flattery to get my way.
- IMAC4. I tend to exploit others toward my own end.

Individual psychopathy

- IPSY1. I tend to lack remorse.
- IPSY2. I tend to be unconcerned with the morality of my actions.
- IPSY3. I tend to be callous or insensitive.
- IPSY4. I tend to be cynical.

In my current workplace:

Co-worker narcissism

- CNAR1. My colleagues tend to want others to admire them.
- CNAR2. My colleagues tend to want others to pay attention to them.
- CNAR3. My colleagues tend to seek prestige or status.
- CNAR4. My colleagues tend to expect special favors from others.

Co-worker Machiavellianism

- CMAC1. My colleagues tend to manipulate others to get their way.
- CMAC2. My colleagues have used deceit or lied to get their way.
- CMAC3. My colleagues have used flattery to get their way.
- CMAC4. My colleagues tend to exploit others toward their own end.

Co-worker psychopathy

- CPSY1. My colleagues tend to lack remorse.
- CPSY2. My colleagues tend to be unconcerned with the morality of their actions.
- CPSY3. My colleagues tend to be callous or insensitive.

- CPSY4. My colleagues tend to be cynical.

Co-worker competitiveness

In my current workplace:

- CCOMP1. My co-workers are very competitive individuals.
- CCOMP2. My co-workers work hard to outperform each other.
- CCOMP3. My co-workers are constantly competing with one another.
- CCOMP4. Everyone at work wants to win by outperforming their co-workers.

About the authors

Alexander Serenko is an Associate Professor of Management Information Systems in the Faculty of Business and IT, University of Ontario Institute of Technology, and a Lecturer in the Faculty of Information, University of Toronto. Dr Serenko holds a PhD in Management Information Systems from McMaster University. His research interests pertain to scientometrics, knowledge management, technology addiction, and implicit cognitive processes. Alexander has published 90 articles in refereed journals, including *MIS Quarterly*, *European Journal of Information Systems*, *Information & Management*, *Communications of the ACM*, and *Journal of Knowledge Management*, and his works have received more than 8,000 citations. Alexander has also won six Best Paper awards at Canadian and international conferences. In 2018, he was ranked one of the most productive and influential academics in the knowledge management discipline. Alexander Serenko is the corresponding author and can be contacted at: a.serenko@utoronto.ca

Chun Wei Choo is a Professor at the Faculty of Information, University of Toronto. His research interests include knowledge and information management, information behavior, early warning and risk information seeking.

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