UNIVERSITAT DE
BARCELONA

Breaking the Cycle of Perpetration: Longitudinal and Diary Studies on How Bullying is Triggered and How Perpetrators are Impacted

Gülüm Özer

DOCTORAL THESIS

BREAKING THE CYCLE OF PERPETRATION:

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BULLYING IS TRIGGERED AND HOW PERPETRATORS

ARE IMPACTED

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2023

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DOCTORAL THESIS

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With International Mention from

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May 2023

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Abstract

Workplace bullying (WB) remains a serious psychosocial risk at workplaces. However, research examining WB from the perspective of perpetrators remains limited, and interventions designed for perpetrators are non-existent. Initially, a systematic review was conducted to suggest evidence-based interventions for perpetrators (1st Study of the Doctoral Thesis). Therefore, the empirical studies that examine the antecedents, mediators, moderators and outcomes of WB perpetration from the viewpoint of perpetrators were analyzed systematically. Search in Scopus, ProQuest, Science Direct, PubMed, and Web of Science electronic databases yielded 50 empirical articles in English, published between 2003-2023, in peer-reviewed journals, corresponding to the inclusion criteria. Antecedent–perpetration relationships were primarily examined based on social and aggression theories and analyzed in the silos of work or individual factors without diverse moderators and mediators, and largely lacked causality analysis. Research on outcomes of WB perpetration was rare. Perpetration was associated with task-focused, conflict-prone, poorly organized, stressful work environments, undesirable personality characteristics, and being bullied. The suggestions to curb perpetration seemed unattainable for the same management that created the toxic environment. Based on the systematic review, and as a second step, a 3-wave longitudinal research was conducted investigating whether organizational trust and justice predicted perpetration six months later, mediated by physical and psychological health. The study was based on the Conservation of Resources Theory (COR) (2nd Study of the Doctoral Thesis, 1st Empirical Study). The sample consisted of 2447 employees, mainly from Spain and Turkey, from various industries, such as services, manufacturing, and education. The results indicated that organizational injustice predicted psychological and physical health deterioration, while unexpectedly, organizational

trust also predicted lower psychological and physical health. Health conditions did not predict perpetration after three months; organizational conditions did not predict perpetration directly or indirectly after six months. As the relationship between health status and current perpetration incidents was established, active and potential perpetrators were invited to a 24-week daily and weekly study disguised under a wellness program (3rd and final Study of the Doctoral Thesis, 2nd Empirical Study). For objective data collection, participants wore fitness bands for nine months while WB perpetration events were observed. Based on the COR Theory, sleep, physical activity (PA), and being bullied were investigated as predictors of WB perpetration at a within-person level. On a between-person level, supervisory position, psychological distress and mental illnesses were control variables. The sample contained 38 employees from Spain and Turkey, with an average age of 38.84 years ($SD = 11.75$) from diverse sectors, with diverse professions such as finance manager, psychologist, academic, and human resources professionals. Data collection was conducted over 24 consecutive work weeks, where only 31 participants were involved in perpetration (final observations = 720). Data were analyzed using multi-level structural equation modeling decomposed into within-and-between-person variance. The results indicated that at a within-person level, increased PA as steps taken during the work week and increased reports of being bullied predicted higher reports of perpetration the same week, while sleep quality did not. Organizations should actively inhibit WB and be mindful of employees' physical activities at work or commuting to work. Managers should also be attentive to physical fatigue that employees may feel due to their responsibilities in their private lives and allow employees to rest and recuperate to inhibit negative behaviors at work. Assessing and improving organizational trust and justice practices may help employee health improve over time. To sum up, the three innovative research studies included in the present

Ph.D. thesis broadened the WB perpetration literature by (1) presenting the first systematic review from the perspective of perpetrators and bullies; by (2) showing how physical and psychological health is related to WB perpetration incidences (with monthly, weekly and daily data); by (3) demonstrating an empirical example of resource loss spirals within COR Theory; and by (4) providing evidence for organizations and policymakers to intervene against WB with more rigorous rules.

Keywords: Workplace bullying perpetration, systematic review, three-wave longitudinal study, daily and weekly diary study, antecedents and mediators, organizational trust and justice, psychological distress and physical symptoms, being bullied, physical activity and sleep, fitness trackers

Resumen

El acoso laboral (AL) sigue siendo un riesgo psicosocial grave en los lugares de trabajo. Sin embargo, la investigación que examina el AL desde la perspectiva de los perpetradores sigue siendo limitada y las intervenciones diseñadas para los perpetradores son inexistentes. Inicialmente, se realizó una revisión sistemática para sugerir intervenciones basadas en la evidencia para los agresores (1er Estudio de la Tesis Doctoral). Por lo tanto, los estudios empíricos que examinan los antecedentes, mediadores, moderadores y resultados de la perpetración de AL desde el punto de vista de los perpetradores fueron analizados sistemáticamente. La búsqueda en las bases de datos electrónicas Scopus, ProQuest, Science Direct, PubMed y Web of Science arrojó 50 artículos empíricos en inglés, publicados entre 2003 y 2023, en revistas revisadas por pares, correspondientes a los criterios de inclusión. Las relaciones entre antecedentes y perpetración se examinaron principalmente con base en teorías sociales y de agresión y se analizaron en los silos de trabajo o factores individuales sin diversos moderadores y mediadores, y en gran medida carecieron de análisis de causalidad. La investigación sobre los resultados de la perpetración de AL fue escasa. La perpetración se asoció con entornos de trabajo estresantes, centrados en tareas, propensos a conflictos, mal organizados, características de personalidad indeseables y ser víctima de acoso. Las sugerencias para frenar la perpetración parecían inalcanzables para el equipo de gestión que creó el ambiente tóxico. Con base en la revisión sistemática, y como segundo paso, se realizó una investigación longitudinal de 3 olas investigando si la confianza y justicia organizacional predecían la perpetración seis meses después, mediada por la salud física y psicológica. El estudio se basó en la Teoría de la Conservación de los Recursos (COR) (2º Estudio de la Tesis Doctoral, 1º Estudio Empírico). La muestra estuvo compuesta por 2447 empleados,

principalmente de España y Turquía, de diversas industrias, como servicios, manufactura y educación. Los resultados indicaron que la injusticia organizacional predijo el deterioro de la salud física y psicológica, mientras que, inesperadamente, la confianza organizacional también predijo una salud física y psicológica más baja. Las condiciones de salud no predijeron la perpetración; las condiciones organizacionales no predijeron la perpetración directa o indirectamente después de seis meses. Al establecer la relación entre el estado de salud y los incidentes de perpetración actuales, los perpetradores activos y potenciales fueron invitados a un estudio diario y semanal de 24 semanas disfrazado bajo un programa de bienestar (3er y último Estudio de la Tesis Doctoral, 2º Estudio Empírico). Para la recopilación de datos objetivos, los participantes usaron pulseras de actividad durante nueve meses mientras se observaban los eventos de perpetración de AL. Con base en la Teoría COR, el sueño, la actividad física (AF) y el acoso se investigaron como predictores de la perpetración de AL a nivel personal. En un nivel interpersonal, la posición de supervisión, la angustia psicológica y las enfermedades mentales fueron variables de control. La muestra estuvo compuesta por 38 empleados de España y Turquía, con una edad media de 38,84 años ($DE = 11,75$) de diversos sectores, con diversas profesiones como directores financieros, psicólogos, académicos y profesionales de recursos humanos. La recopilación de datos se llevó a cabo durante 24 semanas laborales consecutivas, donde solo 31 participantes estuvieron involucrados en perpetración (observaciones finales = 720). Los datos se analizaron utilizando modelos de ecuaciones estructurales multinivel descompuestos en varianza personal e interpersonal. Los resultados indicaron que, a nivel personal, el aumento de la actividad física, medida en pasos dados durante la semana laboral, y el aumento de los informes de acoso predijeron informes más altos de perpetración en la misma semana, mientras que la calidad del sueño no lo hizo. Las

organizaciones deben inhibir activamente el AL y tener en cuenta la actividad física de los empleados en el trabajo o en los desplazamientos al trabajo. Los directivos también deben estar atentos a la fatiga física que los empleados pueden sentir debido a sus responsabilidades en su vida privada y permitir que los empleados descansen y se recuperen para inhibir comportamientos negativos en el trabajo. Evaluar y mejorar las prácticas de justicia y confianza organizacional puede ayudar a que la salud de los empleados mejore con el tiempo. En resumen, los tres estudios de investigación innovadores incluidos en la presente tesis de Ph.D. ampliaron la literatura sobre la perpetración de AL al (1) presentar la primera revisión sistemática desde la perspectiva de perpetradores y acosadores; al (2) mostrar cómo la salud física y psicológica se relaciona con las incidencias de perpetración de AL (con datos mensuales, semanales y diarios); (3) demostrando un ejemplo empírico de espirales de pérdida de recursos dentro de la teoría COR; y (4) proporcionando evidencia para que las organizaciones y los formuladores de políticas intervengan contra el AL con reglas más rigurosas.

Palabras clave: perpetración de acoso laboral, revisión sistemática, estudio longitudinal de tres olas, estudio diario y semanal del diario, antecedentes y mediadores, confianza y justicia organizacional, angustia psicológica y síntomas físicos, acoso, actividad física y sueño, pulseras de actividad

BREAKING THE CYCLE OF PERPETRATION

Resum

L'assetjament laboral (AL) continua sent un risc psicosocial greu als llocs de treball. No obstant això, la investigació que examina AL des de la perspectiva dels perpetradors continua sent limitada i les intervencions dissenyades per als perpetradors són inexistents. Inicialment, es va fer una revisió sistemàtica per suggerir intervencions basades en l'evidència per als agressors (1r Estudi de la Tesi Doctoral). Per tant, es van analitzar sistemàticament els estudis empírics que examinen els antecedents, els mediadors, els moderadors i els resultats de la perpetració de l'AL des del punt de vista dels perpetradors. La recerca a les bases de dades electròniques Scopus, ProQuest, Science Direct, PubMed i Web of Science va donar lloc a 50 articles empírics en anglès, publicats entre 2003 i 2023, en revistes revisades per parells, corresponents als criteris d'inclusió. Les relacions antecedents-perpetració es van examinar principalment a partir de teories socials i d'agressivitat i es van analitzar en els grups de treball o factors individuals sense moderadors i mediadors diversos i, en gran part, mancaven d'anàlisis de causalitat. La investigació sobre els resultats de la perpetració d'AL va ser escassa. La perpetració es va associar amb entorns de treball centrats en les tasques, propensos a conflictes, mal organitzats i estressants, característiques de personalitat indesitjables i ser víctima d'assetjament. Els suggeriments per frenar la perpetració semblaven inassequibles per l'equip de gestió que va crear l'entorn tòxic. A partir de la revisió sistemàtica, i com a segon pas, es va dur a terme una investigació longitudinal de 3 ones per investigar si la confiança i la justícia de l'organització van predir la perpetració sis mesos després, mitjançada per la salut física i psicològica. L'estudi es va basar en la Teoria de la Conservació dels Recursos (COR) (2n Estudi de la Tesi Doctoral, 1r Estudi Empíric). La mostra estava formada per 2.447 empleats, principalment d'Espanya i Turquia, de diverses indústries, com ara serveis, indústria

manufacturera i educació. Els resultats van indicar que la injustícia organitzativa va predir un deteriorament de la salut psicològica i física, mentre que inesperadament, la confiança organitzativa també va predir una salut física i psicològica més baixa. Les condicions de salut no preveien la perpetració; les condicions organitzatives no van predir la perpetració directa o indirectament després de sis mesos. A mesura que es va establir la relació entre l'estat de salut i els incidents de perpetració actuals, els perpetradors actius i potencials van ser convidats a un estudi diari i setmanal de 24 setmanes disfressat sota un programa de benestar (3r i últim estudi de la tesi doctoral, 2n estudi empíric). Per a la recollida de dades objectives, els participants van portar polseres d'activitat durant nou mesos mentre es van observar esdeveniments de perpetració d'AL. Basant-se en la teoria COR, el son, l'activitat física (AF) i l'assetjament es van investigar com a predictors de la perpetració d'AL a nivell personal. A nivell interpersonal, la posició de supervisió, el malestar psicològic i les malalties mentals eren variables de control. La mostra incloïa 38 empleats d'Espanya i Turquia, amb una edat mitjana de 38,84 anys ($DE = 11,75$) de diversos sectors, amb professions diverses com ara directors financers, psicòlegs, acadèmics i professionals de recursos humans. La recollida de dades es va dur a terme durant 24 setmanes de treball consecutives, on només 31 participants van participar en la perpetració (observacions finals = 720). Les dades es van analitzar mitjançant un modelatge d'equacions estructurals multinivell descompost en variància personal i interpersonal. Els resultats van indicar que, a nivell personal, l'augment de l'activitat física, mesurada en passos fets durant la setmana laboral, i l'augment dels informes d'assetjament va predir informes més alts de perpetració la mateixa setmana, mentre que la qualitat del son no. Les organitzacions haurien d'inhibir activament l'AL i tenir en compte l'activitat física dels empleats a la feina o els desplaçaments a la feina. Els directius també haurien d'estar atents a la fatiga física que els

empleats poden sentir a causa de les seves responsabilitats en la seva vida privada i permetre que els empleats descansin i es recuperin per inhibir comportaments negatius a la feina. Avaluar i millorar les pràctiques de confiança i justícia de l'organització pot ajudar a millorar la salut dels empleats amb el temps. En resum, els tres estudis de recerca innovadors inclosos en la present tesi del doctorat van ampliar la literatura sobre perpetracions de l'AL mitjançant (1) la presentació de la primera revisió sistemàtica des de la perspectiva dels perpetradors i els assetjadors; (2) mostrant com la salut física i psicològica està relacionada amb les incidències de perpetració d'AL (amb dades mensuals, setmanals i diàries); (3) demostrant un exemple empíric d'espirals de pèrdua de recursos dins de la teoria COR; i (4) proporcionant proves perquè les organitzacions i els responsables polítics intervinguin contra l'AL amb regles més rigoroses.

Paraules clau: perpetració d'assetjament laboral, revisió sistemàtica, estudi longitudinal de tres ones, estudi diari i setmanal del diari, antecedents i mediadors, confiança i justícia organitzacional, malestar psicològic i símptomes físics, assetjament, activitat física i son, polseres d'activitat

SECTION 1: GENERAL INTRODUCTION

1. GENERAL INTRODUCTION

1.1. Overview

This thesis aims to identify the factors contributing to workplace bullying (WB) perpetration from the perspective of the perpetrators, using innovative approaches and objective measures. The goal is to identify new opportunities for evidence-based interventions on perpetrators to help reduce this harmful behavior.

This introduction (Section 1) defines the phenomenon, providing estimations of its prevalence and detrimental impacts on all actors of the phenomenon. Additionally, the section summarizes why this research is needed and how it contributes to the knowledge of WB perpetration. The introduction is followed by the systematic review (Section 2), the longitudinal study (Section 3), the diary study (Section 4), the general discussion (Section 5), and the general conclusion (Section 6) of the thesis.

1.2. Definition and prevalence of workplace bullying perpetration

WB perpetration refers to severe, persistent, and harmful interpersonal behavior (Akanksha et al., 2021) that occurs over an extended period and is influenced by personal and work-related factors (Rai & Agarwal, 2018). While some researchers believe that perpetrators of WB may not necessarily intend to cause harm, others consider it a deliberate act (Notelaers & Van der Heijden, 2019).

Bullying is measured either by using a questionnaire consisting of a list of bullying behaviors (behavioral method) where the respondents are then regarded as targets or by asking the respondents to label themselves as bullied or not, usually after giving a definition (self-labeling method) where they are then victims of bullying. Regardless of the measurement

method, previous research on the prevalence of bullying in Europe indicates that 3% of employees may experience severe bullying, 10% experience occasional bullying and 10 - 20% may experience low-intensity bullying, which is still stressful for employees. In Mediterranean countries like Spain, the prevalence of bullying ranges between 16.3 and 27.9% based on self-report measures and between 10.1-16.0% based on behavioral methods with the criterion of experiencing bullying at least once a week for at least six months. In Euro-Asian countries, including Turkey, the prevalence of bullying ranges between 2.7 and 13.0% based on self-report measures and between 4.6 and 22.0% based on behavioral methods (León-Pérez et al., 2021).

WB has been acknowledged as a prevalent and significant organizational issue for over three decades, but the vast majority of research has focused on the experiences of victims and targets, with relatively little attention paid to perpetrators and bullies. Research on WB from the perspective of the perpetrators began in the early 2000s. The first WB perpetration scale was formed ten years after the first bullying scale (Escartín, Vranjes, et al., 2021). A limited number of studies have published perpetration prevalence rates. Studies with large sample sizes have found the prevalence of perpetration to be 5% ($n = 4742$, Matthiesen & Einarsen, 2007), 3% ($n = 2359$; Hauge et al., 2009) and 2.8% ($n = 1650$, Glambek et al., 2016) in Norway; while Escartín, Ceja, et al. (2013) reported WB perpetration to be 4% in Spain ($n = 4848$). However, it is important to note that, given the low incidence rate of WB perpetration, people with high levels of social desirability are likely to underreport their perpetration conduct. This social desirability effect introduces bias into the assessment of perpetration (Spector, 2006). Therefore, perpetration prevalence may be well over the mentioned levels.

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1.3. Consequences of workplace bullying

Scientific literature initially reported mostly on bullying effects on targets and victims. Research shows a range of effects on targets, from sleep problems (Nielsen et al., 2020) to mental health issues (Verkuil et al., 2015); frequent job changes or unemployment (Einarsen et al., 2020); increased absenteeism, presenteeism, intention to leave their job, early retirement (Mikkelsen et al., 2020); suicidal thoughts (Gunn & Goldstein, 2020); and possible suicidal behavior (Conway et al., 2022).

When other actors are included in the research, it is observed that many other parties are also adversely affected by this phenomenon. (e.g., witnesses, spouses, perpetrators, departments, organizations, and society). Witnesses showed depressive symptoms (Emdad et al., 2012), reported increased turnover intentions, reduced organizational commitment (Salin & Notelaers, 2018), and increased mental distress (Nielsen et al., 2021). Witnesses also reported higher odds of becoming a victim after being inactive towards bullying (Rosander & Nielsen, 2023) and a significant increase in mental health problems (Nielsen et al., 2021).

Research on perpetrators found that they suffered from psychological distress and physical symptoms (Özer et al., 2022) and reported personal and health problems (De Wet & Jacobs, 2014). Accused bullies experienced negative psychological health outcomes, such as depression, anxiety, post-traumatic stress, and suicidal ideation (Jenkins, Winefield, et al., 2011).

Once employees are bullied, this situation has a spillover effect on personal life, negatively affecting spouses' well-being (Rodríguez-Muñoz et al., 2020), creating conflicts and strain for spouses (Liang, 2019). Research showed that WB negatively impacted organizations and work

units, increasing bystander turnover intentions and burnout (Escartín, Dollard, et al., 2021). Finally, scholars examining the economic cost of WB on a national level showed that WB drains taxpayer funds. They indicated that increases in hospitalizations, sickness absence, presenteeism, staff replacement costs, legal costs due to litigations and decreases in productivity adversely impacted national economies (Kline & Lewis, 2018; Cullinan et al., 2020).

1.4. Need for research on workplace bullying perpetration

According to three decades of studies on the subject, it is clear that WB has revealed a wide range of adverse consequences for many parties causing psychological, physical and financial deterioration. As a result, dealing with and avoiding WB is crucial from the perspective of morality, humanitarian values, and economic factors for every society.

During the thirty years of research on WB, many intervention strategies were developed to limit bullying. Redesigning the work environment, training employees on conflict management and leadership, developing and applying anti-bullying policies and procedures, and raising awareness of bullying and its repercussions are typical primary interventions designed to prevent bullying from emerging. Secondary interventions are implemented when primary interventions fail and bullying behavior has already occurred. Formal interventions may involve an HR investigation and possible punitive actions. Informally human resources or managers may step in to de-escalate the conflicts by speaking to both parties. If bullying harms the health of targets and victims, tertiary interventions are suggested, which include changing the target's workplace, counseling, and other forms of rehabilitation that may be implemented outside the organization to reduce and heal potential damages (Zapf & Vartia, 2020). According to a systematic review of interventions, despite the implementation of various interventions

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specifically aimed at preventing bullying and addressing its consequences, it is important to note that while these efforts have led to increased awareness and improved health outcomes for targets and victims, they have not necessarily resulted in a significant reduction in the prevalence of bullying (Escartin, 2016).

Achieving a bullying-free environment within organizations is not solely dependent on implementing interventions; it also relies heavily on the commitment and actions of managers and human resource practitioners to create a bullying-free work environment. Top management and human resources departments are responsible for developing and implementing policies and procedures that impact the well-being of employees. These key stakeholders play a critical role in setting the tone and culture within the organization, shaping its values, and establishing the standards of behavior expected from employees. The tone at the top can either establish a secure and nurturing work environment or trigger conflicts, induce stress, and undermine employee well-being (Dollard et al., 2017).

Therefore, bullying preventions and interventions require human resources and top management's joint commitment. However, a global study on human resources practitioners (HRP) revealed that HRPs align themselves with management and view their role as effectively managing people to bring strategic advantage to the organization rather than as employee advocates. They primarily viewed bullying as interpersonal problems without recognizing the organizational issues that may have prompted these 'interpersonal conflicts.' They required possible evidence of economic costs and effects on productivity and hard evidence of bullying behavior to take action against workplace bullying (Salin et al., 2020). Similar to the reluctance shown by HRPs, top management may also be unwilling to tackle workplace bullying. Previous reviews showed that organizations may maintain high-performance bullies (Walsh et al., 2019),

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and organizations may choose to protect themselves rather than their employees and respond poorly to bullying incidents (Hodgins et al., 2020).

Additionally, upper management may be more concerned with strategic issues, such as competition at the bottom line, than employees' well-being. They may be unaware of how bullying affects the company's performance, or they may believe that bringing up the issue of bullying in the workplace would be detrimental to the company's reputation. Consequently, they may not actively commit to fostering a workplace free of bullying (Zapf & Vartia, 2020).

As a result, human resources and top management may not be knowledgeable about or eager to prevent or intervene in bullying incidents. This situation necessitates novel preventative measures that could be administered without drawing attention to bullying phenomena. One of the alternative ways to inhibit WB may be designing interventions directly on perpetrators. The majority of current interventions addressing workplace bullying predominantly focus on victims and bystanders, with limited attention paid to the perpetrators' behavior. These interventions frequently focus on raising awareness about bullying, encouraging targets, victims and bystanders to speak up, and providing support and rehabilitation for those suffering negative health effects. While these efforts are essential for supporting victims and fostering a supportive environment, the lack of emphasis on addressing perpetrators' actions represents a significant gap in effectively combating workplace bullying.

To effectively combat workplace bullying, it is crucial to address the most important factor in the equation: the perpetrators themselves. Conducting research from the perspective of perpetrators is essential because it provides valuable insight into the underlying motivations, triggers, and dynamics of their behavior. By examining the factors that precede, accompany, cause, and amplify perpetration acts, researchers can identify potential risk factors and

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understand the psychological, social, and organizational factors that contribute to their behavior. Through a longitudinal study with multiple waves, researchers may observe and analyze changes in these factors over time, casting light on their behavior's temporal patterns and developmental trajectories. This greater comprehension of cause-and-effect relationships can inform the development of targeted interventions and prevention strategies.

Integrating objective measurements with self-reports is another crucial aspect of effective study in this field. Data collected from various sources, such as supervisors, coworkers, and organizational records, can be incorporated into objective measurements to provide an external and more objective perspective on the frequency and severity of bullying incidents. This method mitigates self-reported data's potential biases and limitations, allowing for a more comprehensive and accurate representation of workplace bullying dynamics.

Organizations can create safer and more respectful work environments by developing effective interventions that aim to modify perpetrators' behavior. Introducing interventions designed for perpetrators acknowledges that bullying is a multifaceted issue requiring a comprehensive approach. It recognizes that addressing bullying behavior's root causes and motivations is essential for long-term prevention and reduction. By targeting perpetrators, interventions may aim to disrupt the cycle of bullying.

However, the current WB literature lacks a profound understanding of perpetrators, which hampers the development of effective interventions specifically focused on them. By conducting research that delves into the perspectives, motivations, and contextual factors surrounding perpetrators, researchers can bridge this gap in knowledge and contribute to the design of interventions that effectively address bullying behaviors.

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Thorough knowledge of the underlying and intervening mechanisms involved in WB perpetration is still unavailable, as in-depth studies from perpetrators' perspectives trail behind the research on other actors (Escartín, Vranjes, et al., 2021). Many of the factors examined on targets have not been examined or not published from the perspective of perpetrators, mainly because it is challenging to study perpetrators. Perpetrators may often be unwilling to disclose their negative behaviors. The social desirability bias limits researchers' access to only a fraction of perpetrators willing to acknowledge their undesirable behaviors, reducing the possibility of collecting accurate replies from all perpetrators. Hence, the social desirability effect may imply an underestimation of effects due to invariance (Spector, 2006). Research on perpetrators calls for large samples, objective measurements reducing the reliance on self-reports and preferably triangulation with other actors of the phenomenon (e.g., managers, human resource professionals, targets) to reduce social desirability effects. Additionally, studying the causes of perpetration is considerably more challenging as temporal precedence research demands gathering data over two waves, which calls for encouraging individuals to acknowledge their negative behavior repeatedly. All these factors lower the aspiration for research and the likelihood of publishing significant results from the perspective of perpetrators.

Therefore, research on perpetrators remains limited, and the underlying causes stay unidentified due to the lack of longitudinal studies looking for causal paths. Over the last 20 years, only three longitudinal studies have been conducted with more than two waves from the perspective of perpetrators testing antecedents of perpetration (Baillien et al., 2018; Glambek et al., 2016; Vranjes et al., 2022).

In conclusion, there is a need to conduct research from the perspectives of perpetrators especially exploring causality between perpetration behavior and various predictors, and using

objective measurements along with self-reports. The research results may reveal cause-and-effect relationships and enhance intervention designs to lower WB incidences. Ultimately, such interventions may create safer and more respectful workplaces for employees worldwide.

1.4.1. Practical implications for organizations

Research has shown that interventions aimed at inhibiting WB necessitate the endorsement and involvement of management within organizations. Senior management's active support and commitment are crucial for implementing interventions (Zapf & Vartia, 2020). Without this awareness, management may underestimate the severity of the problem or fail to recognize the importance of addressing it. As a result, interventions may not receive the necessary resources, attention, and organizational support required for meaningful change. Top management must be aware of the negative impacts of bullying, demonstrate a willingness to take action and possess the knowledge and skills required to implement interventions effectively. However, it is important to note that not all organizations are willing or able to intervene proactively in addressing workplace bullying. Factors such as organizational culture, lack of awareness or understanding, fear of negative consequences, or a focus on short-term goals can hinder intervention efforts (Escartin, 2016). In such cases, addressing workplace bullying may not be prioritized or met with resistance, making it challenging to implement effective interventions.

Some businesses may not have a designated HR professional or department to manage bullying prevention and reduction, where the likelihood of tackling bullying may differ from large organizations with general HR practitioners and HR specialists on occupational health and safety (Salin et al., 2020).

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Previous research showed that organizations may be reluctant to launch large-scale initiatives to improve work conditions (Karanika-Murray et al., 2016); having policies against WB may not equate to taking action against bullying, and some negative behavior may be considered normal and an acceptable part of work (Salin et al., 2020).

WB literature has not yet proposed interventions that could circumvent indifferent and reluctant approaches to WB. The self-intervention strategy of WB attempts to reduce the likelihood of WB perpetration by targeting the perpetrators' behaviors and attitudes without management and human resources involvement. This strategy may be particularly useful when management is indifferent, unwilling or incapable of addressing bullying issues. Interventions that empower perpetrators to engage in self-interventions may reduce the likelihood of future bullying incidents.

This study seeks to enhance current knowledge by gaining a better understanding of the behavior of individuals who engage in workplace bullying. Additionally, it aims to create innovative interventions that indirectly address workplace bullying perpetration. These interventions aim to empower perpetrators to take action against their own apathy and reluctance, while also encouraging organizations to address the issue effectively.

1.4.2. *Implications for policymakers*

The COVID-19 epidemic has accelerated workplace digitalization and introduced new working methods. A recent European Union study (EWCTS, 2021) found that workplaces changed significantly in 2021. Nearly half of the workers had numerous health issues, and one-third had work-related health and safety concerns. Nearly 3 in 10 workers reported working while sick, and over 20% were at risk of depression. The EWCTS results showed that

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workplace physical and mental health issues persist, emphasizing the need for legislators to promote employee well-being. The statistics showed that lawmakers must emphasize employee health for sustainable workplaces so that employees stay employed and engaged longer, increasing productivity and therefore, society can better prepare for an unpredictable, uncertain, and complex future. As the European Commission announced its plans to create a comprehensive mental health strategy in response to these findings, creating supportive work environments that boost employee resilience and productivity was acknowledged.

In addition to being a human rights violation, governments also realize the significant health costs of bullying burdening national economies (Hassard et al., 2018). Therefore, with the rise of mental health issues in workplaces, policymakers are persuaded to create laws and regulations that safeguard employees' well-being, which is also under the threat of the persistent prevalence of bullying.

Around the globe, governments must include "workplace bullying" in i) labor legislation as a violation of basic workers' rights to dignity, privacy and non-discrimination and ii) Occupational Health and Safety (OHS) legislation by recognizing bullying as a type of psychosocial risk. Occupational Health and Safety (OHS) legislation is crucial in safeguarding workers' well-being by acknowledging bullying as a psychosocial risk. OHS inspectorates focus primarily on proactive measures to prevent and protect workers' health, while general labor inspectorates tend to adopt a more reactive approach by investigating bullying complaints and implementing remedial actions. Achieving synergy between these two governmental bodies, ensuring that their efforts align without conflicting rules and regulations, may effectively contribute to curtailing bullying in the workplace. Due to the growing emphasis on workers' well-being globally, the following actions need to be taken by work environment

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authorities to ensure effective prevention and management of workplace bullying; i) setting international standards on psychosocial risks at work and, more specifically on bullying; ii) applying explicit, binding, clear and enforceable legal rules against bullying; iii) enforcing of psychosocial risks assessments; and iv) conducting effective bullying prevention and intervention programs (Velázquez & Jain, 2021).

Evidence-based research supports decision-making and assists policymakers in building well-being programs and initiatives that address the multidimensional character of bullying. Understanding the core causes of perpetration may help create focused workplace bullying interventions. Thus, high-quality research based on theory investigating perpetration behavior is needed to unravel the motivations, triggers, and contextual elements that induce perpetration.

1.5. Theoretical implications

This research is based on the Conservation of Resources Theory (COR; Hobfoll, 1998), which is one of the most often mentioned theories in stress-related conditions in the organizational psychology field over the past 30 years. The theory offers many hypotheses and provides a framework for deepening our understanding of the relationship between stress and response.

COR Theory suggests that individuals are motivated to acquire and protect valuable resources to maintain their well-being and minimize stress. According to the theory, the threat or actual loss of resources, such as status, stable work, health, critical skills, acknowledgment and support from the employer, and the support of coworkers, can lead to increased stress and resource depletion.

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Individuals may adopt different coping methods in response to the loss of resources. One possible response is a defensive approach, where individuals retreat and wait for intervention or support from others. They may rely on the help of management, colleagues, or formal organizational procedures to address the loss of resources and alleviate the associated stress.

On the other hand, individuals may also adopt an offensive approach in dealing with resource loss. In this case, they may act aggressively and irrationally to alter their circumstances and acquire the resources they perceive as necessary for their well-being. This defensive aggression is often driven by the desire to protect oneself and regain the lost resources. Therefore, with their negative behaviors, they may feel in control and regain their pride. They may feel that they are reinforcing their leadership role and thus feel good about themselves.

According to COR Theory, balancing resources involves a significant time investment due to the perceived smaller and slower gains compared to resource losses (Hobfoll, 1998, 2001; Hobfoll et al., 2018). This time imbalance can create challenges in restoring resources and contribute to the persistence of negative behaviors over the long term.

The theory posits that individuals may experience resource losses due to unbalanced job resources and demands or other stressors. These losses can lead to a depletion of personal resources, such as self-esteem, job satisfaction, or social support. Consequently, individuals may find themselves in a state of resource loss spirals, where the ongoing depletion of resources becomes self-reinforcing. However, COR Theory also suggests that individuals have the capacity to adapt to stressors and break away from resource loss spirals. Over time, resource losses may cease, and individuals may engage in adaptive strategies to regain and protect their resources. These strategies can involve individual adaptation, such as developing resilience and coping skills or seeking social support from colleagues, friends, or family members (Hobfoll et

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al., 2018). Implementing interventions that not only focus on stopping resource losses but also promote resource restoration and support can help individuals break free from the negative cycle of resource loss spirals. By recognizing the dynamics of resource gains and losses, organizations can gain insight into the potential long-term effects of workplace bullying and the importance of addressing resource imbalances.

In the context of workplace bullying literature, the COR Theory has been widely employed to provide insights into the behavior of perpetrators who engage in bullying. According to the COR Theory, individuals may resort to perpetration behaviors as a response to the loss of resources in the workplace, which various factors can cause. Studies have utilized the COR Theory to explain how the loss of resources can contribute to the emergence of perpetration behavior in different contexts. For instance, Lee and Brotheridge (2006) examined how individuals experiencing undermining and verbal abuse in the workplace may respond with perpetration behaviors to protect their resources. The perceived loss of resources, such as status, recognition, and support, can trigger defensive reactions, leading individuals to engage in bullying behaviors as a way to regain control and protect their remaining resources. Additionally, research by Baillien et al. (2015) explored the relationship between task conflicts and bullying perpetration. The study found that individuals experiencing task conflicts, which can deplete their resources, may be more likely to engage in perpetration behaviors to acquire or safeguard resources.

Furthermore, Jenkins, Zapf, et al. (2011) investigated various factors associated with bullying perpetration, including being a victim of bullying oneself, being subject to jokes and working in a stressful work environment. These factors were related to the loss of resources and, consequently, an increased likelihood of engaging in bullying behaviors.

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By incorporating the COR Theory into workplace bullying literature, researchers have identified the underlying mechanisms through which resource loss influences perpetration behaviors. Understanding how the loss of resources contributes to bullying perpetration can inform the development of interventions and strategies to address these behaviors effectively.

In his seminal work, Hobfoll (1998) provided a comprehensive framework by defining 74 different resources that can lead to increased stress levels in individuals when lost or under threat. These resources encompass a wide range of domains, including material resources, social support, self-esteem, autonomy, and recognition. COR Theory, rooted in Hobfoll's work, highlights the significance of resource loss and its impact on stress and well-being.

While previous studies have explored the relationship between perpetration behavior and various resources, there is a gap regarding the examination of health-related resources specifically. Resources such as adequate sleep and personal health, which are vital for overall well-being, have not been thoroughly investigated in the context of perpetration behavior. Therefore, researching to examine the relationship between these health-related resources and perpetration behavior would contribute to the existing literature on COR Theory. By exploring the role of health-related resources in perpetration behavior, this research may shed light on the additional factors that influence the dynamics of workplace bullying. Understanding how health-related resources interplay with other resources and contribute to stress and perpetration behavior may provide valuable insights into the mechanisms underlying bullying in the workplace and further enhance our understanding of the COR Theory.

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1.6. Research aims

This thesis aims to investigate the unexplored territories of the WB phenomenon through a systematic review and two empirical studies. The thesis aims are as follows:

i)   to synthesize WB perpetration literature identifying antecedents, moderators, mediations and outcomes of WB perpetration, analyzing research methods used and the recommendations for practitioners on how to reduce bullying (systematic review);

ii)   to examine the work environment and health states of perpetrators through a 3-wave longitudinal study testing causality at the between-person level (longitudinal study);

iii) to monitor the frequency, intensity, and duration of WB perpetration behavior over a 24-week diary study (diary study);

iv)   to examine how work environment and health states may contribute to WB perpetration at the within-person level (diary study);

v)   to contribute to theory development (especially to COR Theory) based on scientific evidence (longitudinal and diary study).

The goal is to gather knowledge for developing effective interventions focusing on potential or active perpetrators to reduce bullying through indirect or self-intervention designs.

1.7. Overview of studies

1.7.1. Systematic review

The systematic review study is published in the journal *Aggression and Violent Behavior* with the title "The making and breaking of workplace bullying perpetration: A systematic review on the antecedents, moderators, mediators, outcomes of perpetration and suggestions for organizations" and is authored by Özer and Escartín (2023).

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The review is presented in Section 2, and it critically appraises relevant research by identifying relations, contradictions, gaps and inconsistencies. It meets the first aim of this thesis as it synthesizes the bullying literature and uniquely contributes to the WB perpetrator literature representing the first-of-its-kind systematic review of the articles published from the perpetrators' point of view. It analyzes theories used to support the conclusions and research methods utilized. The review draws broad conclusions on the cumulative evidence, provides implications for practice and policy, and outlines important directions for future research.

In this review, workplace bullying, perpetrator, perpetration, bully, and bullies (or a combination of these keywords) were searched in Scopus, ProQuest, Science Direct, PubMed, and Web of Science electronic databases in January 2023. Doctorate theses and empirical studies published in peer-reviewed journals in English with full texts and published between 2003-2023, focusing on antecedents, moderators, mediators and outcomes of WB from the perspective of perpetrators, were included in the review. While two studies were excluded due to study quality issues, seven articles (referenced by other articles) were added to the review based on their adherence to inclusion criteria, leading to the final group of 50 selected articles.

Results show that perpetrators thrive in work environments that are task-focused, disorganized, and conflict-prone. Individuals who report perpetration behaviors possess negative personality traits and report being bullied themselves. Research on perpetrators is fragmented, with numerous untested topics and a lack of causality analysis because of the heavy reliance on cross-sectional designs. The ongoing prevalence of perpetration requires new and innovative research methods to investigate this longstanding organizational phenomenon.

It is important to note that the pre-publication work on the review revealed a knowledge gap on the perpetrators' work environment, and physical as well as psychological health,

leading to the decision that succeeding studies should examine perpetrators' work environment and health states. While the systematic review was pending approval, the longitudinal and diary studies were published. Therefore, during the final edit of the review, the author revised the systematic review to include the empirical studies of this thesis in the list of articles reviewed, reduced the section on the gap in the literature on sleep, physical exercise and psychological health of perpetrators, and emphasized other gaps found in the literature.

1.7.2. Longitudinal study

The first empirical study in this thesis is introduced in Section 3. It aims to address the gaps and inconsistencies identified in the systematic review by focusing on perpetrators' health conditions and organizational environment, exploring variables longitudinally to assess antecedents and mediators of WB perpetration.

The longitudinal study, "The relationship between organizational environment and perpetrators' physical and psychological state: A three-wave longitudinal study," is published in the *International Journal of Environmental Research and Public Health* (Özer et al., 2022). It is based on the Conservation of Resources Theory (COR; Hobfoll, 2001), and it explores the relationship between organizational trust and justice vis-à-vis perpetration behavior, where physical and psychological health are tested as mediators (see Appendix A for measures used). It meets the aims of this thesis as it studies the causality of work environment and individual factors on perpetration behavior and contributes empirical evidence to COR Theory. The study also attempts to test the reverse effects of how reports of perpetration impact perpetrators' health and their perception of organizational trust and justice over time.

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The data for this study was primarily gathered by reaching out to professors of psychology and organizational psychology at universities in Spain and Turkey. The professors were asked to encourage their students to find participants who worked at least 8 hours per week per the International Labour Organization's definition of employment (International Labour Office, 2014). Participants were not informed that the study was specifically about workplace bullying. Data were collected via the Qualtrics survey tool; ethical committee approval (IRB00003099) was obtained from the Universitat de Barcelona. The study was conducted over 11 months, with data collection intervals of at least three months. The final sample consisted of 2447 respondents. All variables were measured at all three periods (Taris & Kompier, 2014) and were administered in English, Spanish, or Turkish. Using a mediated structural equation modeling (SEM), organizational trust and organizational justice were tested as antecedents at Time 1, directly or indirectly predicting WB perpetration at Time 3. The psychological distress and physical symptoms at Time 2 were tested as mediators. Data were analyzed using SPSS 26 (IBM Corp, New York, NY, United States) and SEM in AMOS 26.0 (Amos Development Corp, Wexford, Pennsylvania, United States) (Arbuckle, 2019), based on maximum likelihood estimation. Results showed that low organizational justice predicted high psychological distress and physical symptoms three months later. Although poor health conditions did not predict WB perpetration three months later, poor organizational environment and poor health conditions co-existed with reports of WB perpetration. The reverse effects of reports of perpetration on health data and organizational environment did not fit the data.

This study uniquely contributes to the WB perpetrator literature as it is now one of the four longitudinal studies conducted over two waves, and it is one of the three studies testing reverse effects for the past 20 years.

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1.7.3. Diary study

The second and last empirical study in this thesis is introduced in Section 4 and aims to monitor the frequency, intensity, and duration of WB perpetration behavior, and address the gaps identified in the systematic review by focusing on the health conditions and organizational environment of perpetrators. A subset of longitudinal study participants, potential and active perpetrators, are invited to join the diary study. Intense longitudinal data is collected for 24 work weeks to assess antecedents of WB perpetration on a within-person level. The diary study, published in the *International Journal of Environmental Research and Public Health*, is titled "A matter of health? A 24-week daily and weekly diary study on workplace bullying perpetrators' psychological and physical health" (Özer et al., 2023). The study is also based on COR Theory and deepens the knowledge about health impacts on perpetration behavior (see Appendix B for measures used).

This study examined 31 active perpetrators for 24 working weeks to see if excess physical activity, bullying, and sleep deficiency altered perpetration reports. It met the thesis aims as it allowed monitoring of WB perpetration behavior over nine months. The study analyzed how individual and work-related factors may develop into WB perpetration on the individual-person level. It also uniquely contributed to the WB perpetrator literature as it is the first to study a group of perpetrators intensively (daily and weekly) and the first kind of study to use fitness bands as an objective data collection tool. In addition, through hypothesis testing, this study provided evidence for and promoted the COR Theory.

The results of the first wave longitudinal study ($n = 2508$) were used to recruit participants and to set control variables for this diary study. The following criteria were used to invite first-wave respondents to the diary study (i) bullies, and perpetrators, (ii) victims and targets, (iii)

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participants high in neuroticism, low in agreeableness and conscientiousness as these factors were related to WB bullying and perpetration. Therefore, 493 participants were invited to the study disguised as wellness training called the "Leadership Wellness Program," 38 individuals adhering to our inclusion criteria were admitted, and 31 perpetrators formed the reported participant base. All the analyses conducted on the within-person level were based on these 31 participants, while the between-person level analysis was based on their scores at the first wave of the longitudinal study. Sleep duration, sleep quality, physical activity, and being bullied were measured as antecedents to WB perpetration. The analysis was conducted in a multilevel format using Mplus 8.8 (Muthén & Muthén, 2017). WB perpetration, being bullied, and sleep quality data were measured weekly via mini-surveys. Sleep duration data were collected daily by fitness trackers (Appendix C) and aggregated to form weekend and weekday average sleep duration. Physical activity data, as steps taken, were also collected daily by fitness trackers and aggregated to form weekend and weekday average steps data. Supervisory position, psychological distress and mental illnesses were used as control variables. The results indicated that at a within-person level, physical activity as steps taken during the work week and being bullied positively predicted perpetration the same week, while weekly sleep quality did not have a significant relationship with weekly perpetration.

This study is an exceptional contribution to the literature on WB perpetration since, to the author's knowledge, it is the only study that monitors perpetrator behavior intensively for nine months. This novel study design, using fitness trackers, unravels how psychological and physical health conditions impact WB perpetrators.

The innovative study design of this research provides an unprecedented opportunity to delve deep into the dynamics of WB perpetration. By continuously monitoring the behaviors

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of perpetrators, it enables a comprehensive understanding of the patterns, frequency, and severity of their actions over an extended period of nine months. This longitudinal approach is particularly significant as it allows for the examination of changes and fluctuations in perpetration behavior over time.

By incorporating fitness trackers, which are capable of measuring various physiological and activity-related parameters, this study explores the intricate interplay between physical health and WB perpetration. The data collected from these devices provide objective measurements that can offer valuable insights into the physiological responses and activity levels of perpetrators during periods of perpetration or potential triggers. This comprehensive assessment helps to bridge the gap between the psychological and physiological state of employees and their perpetration behavior, enhancing our understanding of the complex nature of workplace bullying. Understanding the impact of psychological and physical health conditions on WB perpetrators has significant implications for intervention and prevention strategies. By identifying the factors that contribute to or exacerbate perpetration behavior, organizations can develop targeted interventions to address these issues and create a healthier and more respectful work environment.

In summary, this study's exceptional approach, utilizing intensive monitoring and fitness trackers, promises to uncover new insights into the relationship between psychological and physical health conditions and WB perpetration. The findings from this research will contribute to the existing literature, advance our understanding of perpetrator behavior, and provide valuable guidance for the development of effective interventions and prevention strategies.

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1.7.4.   Publications derived from the doctoral thesis

The studies carried out during the doctoral thesis period are published as three articles in Q1 scientific journals (one systematic review and two empirical studies). The references of the publications mentioned above are the following:

Systematic Review (open access):

Özer, G. & Escartín, J. (2023). The making and breaking of workplace bullying perpetration: A systematic review on the antecedents, moderators, mediators, outcomes of perpetration and suggestions for organizations. *Aggression and Violent Behavior, 69.* https://doi.org/10.1016/j.avb.2023.101823 (Impact Factor: 4.81 (2021), Q1).

Longitudinal Study (Three-wave) (open access):

Özer, G., Griep, Y. & Escartín, J. (2022). The relationship between organizational environment and perpetrators' physical and psychological state: A three-wave longitudinal study. *International Journal of Environmental Research and Public Health*, *19*(6), 3699. https://doi.org/10.3390/ijerph19063699 (Impact Factor: 4.61 (2021), Q1).

Diary Study (Daily and Weekly) (open access):

Özer, G., Griep, Y. & Escartín, J. (2023). A matter of health? A 24-week daily and weekly diary study on workplace bullying perpetrators' psychological and physical health. *International Journal of Environmental Research and Public Health*, *20*(1), 479. https://doi.org/10.3390/ijerph20010479 (Impact Factor: 4.61 (2021), Q1).

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2. THE MAKING AND BREAKING OF WORKPLACE BULLYING PERPETRATION: A SYSTEMATIC REVIEW ON THE ANTECEDENTS, MODERATORS, MEDIATORS, OUTCOMES OF PERPETRATION AND SUGGESTIONS FOR ORGANIZATIONS

Title: The making and breaking of workplace bullying perpetration: A systematic review on the antecedents, moderators, mediators, outcomes of perpetration and suggestions for organizations

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Author: Associate Prof. Dr. Jordi Escartín, University of Barcelona. Professor, King´s College London, UK

2.1. Abstract

Research examining workplace bullying (WB) perpetration from the perspective of perpetrators has remained limited compared to the literature on targets and victims. Until now, no systematic review of the studies from the perpetrators' viewpoints has been published. The present review aimed to synthesize the empirical studies that examine antecedents, mediators, moderators, and outcomes of WB perpetration. It also analyzed the practical suggestions to curb perpetration and the research methods used. A literature search in Scopus, ProQuest, Science Direct, PubMed, and Web of Science databases for empirical studies published between 2003-2023 in peer-reviewed journals in English resulted in 50 full-text articles. Antecedent–perpetration relationships were primarily examined based on social and aggression theories. These relationships were analyzed in the silos of work environment or individual factors without diverse moderators and mediators. Research on WB perpetrators largely lacked causality

analysis. Perpetration was associated with task-focused, conflict-prone, poorly organized, and stressful work environments. WB perpetrators had undesirable personality characteristics, and they were also being bullied. The outcomes of their behavior were rarely studied. The suggestions the researchers gave to curb WB perpetration seemed unlikely to be implemented by the same management team that created the toxic environment in the first place. Research on WB perpetrators, which is still in its infancy stage, lacks variety in topics studied, the combination of work environment and individual factors, causality analysis and evidence-based interventions.

Keywords: Workplace bullying, perpetrators, systematic review, antecedents, moderators, mediators, outcomes

2.2. Introduction

Innumerable constructs explain the negative workplace behaviors that harm employees and organizations. These physical, psychological, and interpersonal mistreatments range from simple incivility to all-out physical violence. Negative acts that comprise workplace aggression include sexual harassment, counterproductive work behavior, abusive supervision, bullying, deviance, lateral violence (Magnavita et al., 2020) and violence (Manier et al., 2017; Priesemuth et al., 2017). Bullying is a common workplace phenomenon, defined as a severe and damaging interpersonal behavior (Akanksha et al., 2021), occurring regularly and repeatedly over a period of time, with the interaction of personal and work-related factors (Rai & Agarwal, 2018). The phenomenon results in adverse outcomes for all parties involved. For targets and victims, adverse outcomes may be negative well-being (Zapf et al., 2020), sleep problems (Nielsen et al., 2020; Magnavita et al., 2019), mental disturbances (Verkuil et al.,

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2015), frequent job changes, or unemployment (Einarsen et al., 2020), and/or suicidal thoughts (Gunn & Goldstein, 2020). For spouses, adverse outcomes may be partner social undermining and conflicts (Rodríguez-Muñoz et al., 2020). For witnesses, possible negative consequences may be increased turnover intentions and reduced organizational commitment (Salin & Notelaers, 2018). For departments or work units, higher employee burnout (Escartín, Dollard, et al., 2021) and finally, for organizations and society, funds wasted (Kline & Lewis, 2018; Cullinan et al., 2020) may be possible adverse outcomes of workplace bullying (WB).

2.2.1. *Research on bullying from perpetrators' viewpoint*

The direct causes (antecedents) and outcomes of WB, the factors which indirectly play a part in these relationships (mediators), and the factors that strengthen, diminish or alter these relationships (moderators) have typically been studied from the perspective of the WB victims. Research on WB started through the lens of targets and victims in the 1990s, and the study of moderators and mediators started after 2001 (Rai & Agarwal, 2018). As in-depth research from the perspective of perpetrators lagged behind, a detailed understanding of the underlying and intervening mechanisms involved in WB perpetration was not thoroughly achieved. To fill this gap, studies analyzing the bullying phenomenon from the lens of other actors of the phenomenon started. Research on perpetrators or bullies started in 2003 (Coyne et al., 2003). Since then, research on WB perpetrators has been growing. Among the 50 articles covered in the present systematic review, 46 studies focused on antecedents, 17 tested mediators and moderators in the relationship between antecedents and WB perpetration, and four focused on the WB perpetration outcomes (Figure 1).

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Figure 1.

Articles included in the systematic review

Number of articles published from the perpective of perpetrators (*n*=50)

Number of articles published from the perpective of perpetrators with mediators and moderators (n=19)
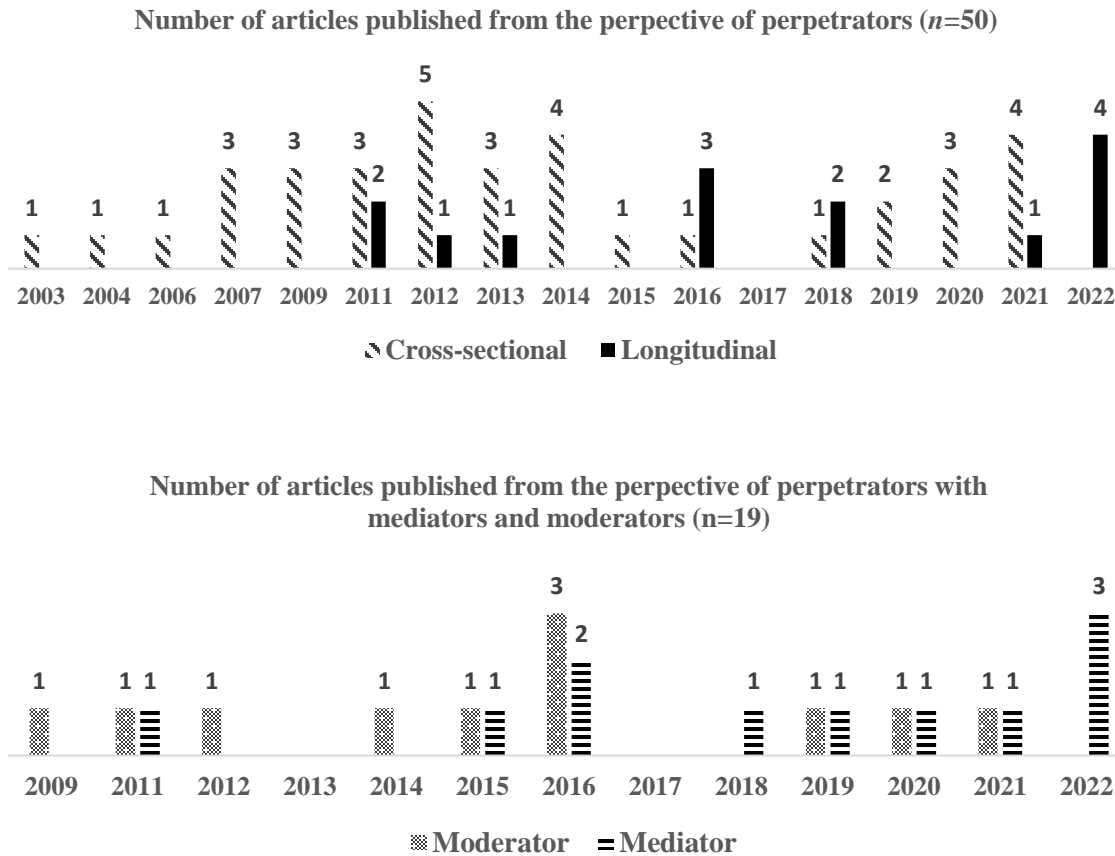
One of the reasons for the lack of effective interventions is, perhaps, our limited understanding of the perpetrators. Although perpetrators were studied along with other actors for some time, the emergence of studies only focusing on them is a positive advancement in understanding their perspective in-depth. Along with complex research methods and robust software development, the cross-sectional method gave way to longitudinal research on perpetrators. Longitudinal research and testing of mediators and moderators have replaced earlier simpler cross-sectional studies, allowing for more detailed analysis over time. These advancements bring us closer to fully understanding the complexities of WB and may lead to more effective interventions and further policy changes to prevent it.

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2.2.2. *Perpetration prevalence*

Despite the efforts to reduce WB in the last 30 years, the prevalence rate of victimization is around 15% globally (Nielsen & Einarsen, 2018). Bullying prevalence is often measured, but different methods used to calculate prevalence result in a wide range of figures. If analyzed by intensity, 3% of employees experience severe and 10% occasional bullying, while 10-20% experience negative social behaviors (Zapf et al., 2020). According to a recent world-wide review (León-Pérez et al., 2021), bullying prevalence fluctuates between 0.6%- 13% in Scandinavian countries, between 2.5%-27.9% in Mediterranean countries, between 2.4%-51% in American countries, and between 0.3%-18.5% in Asia-Pacific countries, suggesting that the organizational context and specific characteristics of the sample, rather than the national culture, may explain differences in the prevalence of bullying. As the research on WB started with analyzing victims and targets, the phenomenon was defined and measured from the victims' points of view. Hence, the literature on WB perpetration has been comparatively limited. Only a few studies measure WB perpetration from the perpetrator's perspective. Few scales assess WB from the perpetrators' perspective (Escartín, Vranjes, et al., 2021), and few studies show a range of prevalence of self-reported bullies and perpetrators, e.g., 9.5% in workplaces (León-Pérez et al., 2021).

The prevalence rate of perpetration was reported by 17 of the 50 studies in our review. Nine studies measured bullies by the self-labeling method, where the average rate of bully prevalence was 4%. The other eight studies measured perpetration by the behavioral approach and found an average prevalence of 8% (Please refer to Table 1).

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Table 1.

Prevalence of perpetration measured by self-reports

Authors / publication year	Measures	Partici-pants	Bullies	%
Coyne et al., (2003)	Single-item with a definition "Workplace bullying is 'persistent, offensive, abusive, intimidating, malicious or insulting behavior, abuse of power or unfair penal sanctions, making the recipient feel upset, threatened, humiliated or vulnerable, undermining self-confidence, causing stress.''	288	56	19%
Matthiesen & Einarsen, (2007)	Single-item with a definition "To label something as bullying, it has to occur repeatedly over a period of time, and the person confronted has to have difficulties defending themselves. It is not bullying if two parties of approximately equal 'strength' are in conflict or the incident is an isolated event."	4742	237	5%
Seigne et al., (2007)	Single-item with a definition "When a person is bullied in the workplace, he/she is repeatedly exposed to aggressive acts, which can either be physical, psychological and/or verbal. Cruelty, viciousness, the need to humiliate and the need to make somebody feel small dominates a working relationship".	34	10	29%
Hauge et al., (2009)	Single-item with definition ''Bullying takes place when one or more persons systematically and over time feel that they have been subjected to negative treatment on the part of one or more persons, where the person(s) exposed to the treatment have difficulty in defending themselves. It is not bullying when two equally strong opponents conflict with each other''.	2359	68	3%
Liu (2012)	Respondents were asked if they displayed bullying behaviors towards others	114	8	7%
Nielsen (2013)	Single-item with a definition "Bullying takes place when one or more persons systematically and over time feel that they have been subjected to negative treatment from the part of one or more persons, where the person(s) exposed to the treatment have difficulty in defending themselves against them."	594	21	4%
De Wet & Jacobs, (2014)	Single-item self-constructed questionnaire "If you have ever bullied one or more of your colleagues, please feel free to share your experiences with us"	999	32	3%
Glambek et al., (2016)	Single-item with a definition "Bullying (for example harassment, torment, freezeout or hurtful teasing) is a problem in some workplaces and for some employees. To be able to call something bullying, it has to occur repeatedly over a certain period of time, and the bullied person has difficulty defending him- or herself. It is not bullying when two persons of approximately equal "strength" are in conflict, or if it is a single situation.	1613	45	3%
Özer et al., (2022)	Single-item with a definition "Bullying means that a person repeatedly is exposed to unpleasant or degrading treatment and that the person finds it difficult to defend himself or herself against it."	2508	50	2%
Sub total		13251	527	4%

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Table 1. – continued –

Prevalence of perpetration measured by the behavioral method

Authors / publication year	Measures	Participants	Perpetrators	%
Lee & Brotheridge, (2006)	43 items from existing scales (Cortina et al., 2001; Keashly et al., 1994; Quine, 1999; Rayner, 1997).	180	44	24%
Escartín et al., (2012)	Adapted NAQ-RE & NAQ-P	521	52	10%
Brotheridge et al., (2012)	43 items from existing scales (Cortina et al., 2001; Keashly et al., 1994; Quine, 1999; Rayner, 1997).	180	3	2%
Escartín, Ceja, et al., (2013)	14 item Adapted Spanish NAQ-RE (Moreno-Jimenez et al., 2007)	4848	194	4%
Linton & Power (2013)	Modified NAQ-R	224	39	17%
Pilch & Turska (2014)	Adapted version of UBQ	117	28	24%
Mazzone et al., (2021)	Three items adjusted from the SNAQ (Notelaers et al., 2019)	630	17	3%
Özer et al., (2023)	Modified EAPA-T-R (Escartín et al., 2017)	2508	369	15%
Sub total		9208	746	8%

Notes: NAQ-RE: Negative Acts Questionnaire-Revised Spanish, NAQ-P: Negative Acts Questionnaire-Perpetrators, NAQ-R: Negative Acts Questionnaire-Revised, UBQ: Unethical Behavior Questionnaire; SNAQ: Short Negative Acts Questionnaire, EAPA-T-R: Reduced form of Psychological Abuse Scale Applied in the Workplace

2.2.3. Need for the review

Although the organizational psychology field has supplied organizations with valuable insights into the phenomenon, the high level of sustained prevalence and possible management indifference indicates that the field still has a long way to go in the research to eliminate these illegal and unethical workplace acts. While many comprehensive reviews were published on WB (Nielsen & Einarsen, 2018; Rai & Agarwal, 2018; Samnani & Singh, 2014), they approached bullying from the victims' and targets' perspectives. There is no compiled

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knowledge on antecedents, mediators, moderators and outcomes of WB from the perpetrators´ perspective. Therefore, the present review aims to identify the factors causing individuals to become perpetrators and how they are affected and synthesize suggestions for practitioners to stop this phenomenon. This aim seems relevant, as we have limited knowledge of how work conditions trigger perpetrators and which dispositions affect their behavior. The ultimate goal is to provide clarity for future research to develop effective interventions in organizations focusing on potential or active perpetrators to reduce bullying.

2.3. Methodology

In this review, we included primary empirical studies on antecedents, moderators, mediators and outcomes of WB from the perspective of perpetrators. We used the following keywords (or a combination of keywords) in the search (Appendix D) from 2003 to 2023: WB, perpetrator, perpetration, bully, and bullies. We searched Scopus, ProQuest, Science Direct, PubMed, and Web of Science databases in January 2023. Our eligibility criteria for inclusion were; a) primary empirical studies published in peer-reviewed journals in English with full texts available and doctorate theses; b) publication period between 2003-2023; c) focused on antecedents, moderators, mediators and outcomes of WB from the perspective of perpetrators. Therefore, the following records were excluded from our review a) conference abstracts, book chapters, commentaries, editorials, academic letters, systematic reviews, meta-analyses, literature reviews, and all other types of non-empirical studies; b) studies from the perspectives of others, such as victims, targets, managers, bystanders, human resources practitioners, occupational health physicians; c) other negative behaviors like school bullying, workplace violence, cyberbullying, sexual harassment, abusive supervision, counterproductive work behaviors, and incivility. Search results for 3507 records were uploaded to Rayyan software

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(Rayyan Systems Inc. Cambridge, MA, USA). With the help of the software, we deleted duplicates (1159), non-English abstracts and main text languages (10) and publications other than empirical studies such as systematic reviews, meta-analyses, book chapters, magazines, books, news (260), resulting in eligible records (2078) for abstract reviews. The abstracts of the remaining records were screened for eligibility by the first author. After deleting articles with other constructs such as mistreatment, incivility, cyberbullying, violence (610), and studies that were not from the perspectives of perpetrators (1423), our research yielded 45 articles. These studies were downloaded as full-text articles and reviewed based on strict inclusion criteria. Study quality was ensured by checking that all articles were published in peer-reviewed articles, including authors' details, aims pursued, details on methods and measures used, study participants' details, and all the related contexts reflecting perpetrators' perspectives. Two articles were excluded due to i) missing information on the scales used to measure perpetration (Hidzir et al., 2017) and ii) lack of recordings of the interviews (4: Misra & Sharma, 2022). Seven articles (referenced by other articles) were added to the review based on their adherence to inclusion criteria, leading to the final group of 50 selected articles. Figure 2 includes the PRISMA flowchart representing the step-by-step exclusion. We acknowledge that our search may not be exhaustive and recognize the opportunity for a more comprehensive systematic review.

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Figure 2.

PRISMA 2020 flow diagram for systematic reviews

Identification of studies via databases and other methods

Records identified from (n= 3507)
Scopus (n=372)
Science Direct (n=251)
PubMed (n=1385)
Web of Science (n= 1413)
ProQuest (n=86)

→ **Records removed before screening n=1429)**
Duplicate records removed (n=1159)
Not in English (n=10)
Other publication types (N=260)

**Records screened for eligibility;
(n= 2078)**

→ **Records excluded (n= 1539)**
Constructs other than bullying (n=610)
Not from perpetrators perspectives (1423)

**Reports assessed for eligibility;
(n= 45)**

→ **Reports excluded due to quality (n= 2)**
Reports included in the review (n= 7)

**Total studies included in the
review (n= 50)**

2.4. Results

Scholars have long analyzed bullying victims and targets, concluding that two main theories could explain bullying behavior from victims' perspectives. The "Work Environment Hypothesis" (Leymann, 1996) suggests that work conditions such as role conflicts, work overload, and job ambiguity created by poor job design and an unfavorable social environment foster bullying. On the other hand, the "individual dispositions" hypothesis indicates that the victim or perpetrator's characteristics trigger bullying behavior (Einarsen et al., 2020). Empirical data on bullying studies indicated many possible causes related to the organization, the department or unit, the perpetrator or bully, and the target or victim. Out of the 50 empirical studies analyzing WB from perpetrators' views, 15 focused exclusively on the antecedents of the work environment, 14 on individual differences, and 21 incorporated both factors in their studies (see Table 2). We also

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analyzed researchers' suggestions to organizations on preventing WB based on the results

of their studies. Articles in Table 2 are marked with an asterisk (*) in the references.

Table 2. *Critical findings of the 50 analyzed studies in chronological order*

Authors & Publication year	Study design, Participants, Country, Subjects	Domain of research & Variables	Summary of results
Coyne et al., (2003)	*CS & *QN; Fire service, UK (*n* = 288); Victims & Bullies	*ID. *Ant: Personality, perceptions of the work environment.	Independence, extroversion, and conscientiousness were not related to perpetration. Self & peer-reported bullies tended to have difficulty coping with personal criticism.
Coyne et al., (2004)	CS & QN; Fire service, UK (*n* = 288); Victims & Bullies	*WE. Ant: Team member preference and effectiveness.	Self- and peer-reported bullies tended to be the least preferred people to work with.
Lee & Brotheridge, (2006)	CS & QN; Diverse industries, Canada (*n* = 180); Targets & Perpetrators	WE. Ant: Being Bullied.	Receiving undermining and verbal abuse predicted scapegoating and undermining others.
Hauge et al., (2007)	CS & QN; Representative sample, Norway (*n* = 2539); Targets & Bullies	WE. Ant: Job (satisfaction, demands, insecurity), decision authority, leadership behavior.	Bullies reported less laissez-faire leadership, job stressors, job insecurity; and more job satisfaction, control over decisions than targets and target/bullies.
Seigne et al., (2007)	CS & QN; Random employees, Ireland (*n* = 34); Bullies	ID. Ant: Personality.	Bullies tended to be significantly more independent, competitive, assertive, single-minded, and forthright than non-bullies.
Matthiesen & Einarsen, (2007)	CS & QN; Heterogenous employee sample, Norway (*n* = 4742); Targets, Victims, Bullies	WE & ID. Ant: Aggression, role conflict, role ambiguity.	Most bullies were males, tended to show unstable self-esteem, scored higher aggressiveness, role conflict and role ambiguity.
De Cuyper et al., (2009)	CS & QN; Two organizations, Belgium (*n* = 693); Targets & Perpetrators	WE & ID. Ant: Job insecurity; *Mod: Perceived employability.	Individuals who perceived themselves as highly employable, despite feeling insecure about their jobs, reported perpetration.
Glasø et al., (2009)	CS & QN; Random employee sample, Norway (*n* = 2539); Targets & Bullies	ID. Ant: Interpersonal problems.	Bullies tended to be more domineering, vindictive, cold, socially avoidant, intrusive, distrustful than non-victims, and had high interpersonal problems.
Hauge et al., (2009)	CS & QN; Representative sample, Norway (*n* = 2359; Bullies	WE & ID. Ant: Being bullied, role conflict, interpersonal conflicts, gender.	Being bullied, being male, role and interpersonal conflicts significantly predicted being a bully. Age and organizational position were not related to it.
Baillien, Rodríguez-Muñoz et al., (2011)	L (2 waves 12 months lag) & QN; A financial organization, Belgium (*n* = 177); Targets & Perpetrators	WE Ant: JD and JR (not supported).	JD was positively, and JR was negatively correlated with perpetration but no significant cross-lagged effect was found after 12 months.
Van den Broeck et al, (2011)	CS & QN; 17 organizations, Belgium (*n* = 749); Targets & Perpetrators	WE. Ant: Job Demands (JD), Job resources (JR); *Med: Emotional exhaustion (not supported).	The combination of high JD and high JR was indicative of perpetration. Emotional exhaustion related positively to perpetration but was not a mediator

Note: CS: Cross-sectional; QN: Quantitative; OL: Qualitative; L: Longitudinal; WE: Work Environment; ID: Individual Dispositions; Ant: Antecedent; Mod: Moderator; Med: Mediator, Out: Outcome

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Table 2. Continued – 1

Authors & Publication year	Study design, Participants, Country, Subjects	Domain of research, antecedents, moderators, mediators and outcomes	Summary of results
Baillien, De Cuyper, et al., (2011)	*L (2 waves 12 months lag) & QN; Two organizations, Belgium (*n* = 320); Targets & Perpetrators	WE Ant: Workload Mod: Job Autonomy.	Workload was associated with perpetration with 12 months lag for those who scored low on job authority.
Jenkins, Zapf, et al., (2011)	CS & QL; Heterogenous employee sample, Australia (*n* = 24); Accused bullies	WE. Ant: Stressful work environment, being bullied.	Alleged bullies have highly stressful work environments, ambiguous roles, staff shortages, high levels of conflict and some are being bullied. They showed inappropriate behavior (joking), and rationalized their behavior as legitimate performance management.
Jenkins, Winefield, et al., (2011)	CS & QL; Heterogenous employee sample, Australia (*n* = 24); Accused bullies	WE & ID. Out: Personal and professional experiences	Accused bullies experienced depression, anxiety, post-traumatic stress, suicide ideation and felt injustice. They were dismissed or resigned, and lost confidence in their managerial abilities
Ceja et al., (2012)	CS & Mixed Method; 10 organizations, Spain (*n* = 287); Perpetrators	WE Ant: Task-oriented focus, too little hierarchy, negative work atmosphere.	Family firms tended to be associated with a balanced people-task orientation, a positive work environment, and low mobbing levels.
Balducci et al., (2012)	L (2 waves 12 months lag) & QN; Healthcare agency, Italy (*n* = 234); Targets & Perpetrators	WE & ID. Ant: Role conflict, role ambiguity (not supported); Mod: Personal vulnerability (e.g., depressive & anxiety disorder) (not supported).	Role conflict positively affected perpetration after 12 months, and perpetration did not predict role conflict.
Bloch (2012)	CS & QL; A heterogeneous bully group, Denmark (*n* = 15); Bullies	ID Ant: Bullies' experiences with victims.	Bullies classified the victims as violators of basic norms of the work community, triggering contempt, anger, vengeance, and negative actions, to consolidate power. Defended themselves as victim did not object.
Brotheridge et al., (2012)	CS & Mixed Method; 4 organizations, Canada (*n* = 180); Targets & Perpetrators	WE & ID. Ant: Anger, Machiavellianism, self-esteem, self-monitoring, social support, job autonomy & control, physical health outcomes.	Perpetrator-targets are in a vicious cycle of bullying, reported higher levels of self-doubt, anger, bullying and perpetration. They had lower work autonomy/control and co-worker support. Self-esteem was not related to perpetration.
Escartín et al., (2012)	CS & QN; Heterogenous employee sample, Spain (*n* = 521); Targets & Perpetrators	WE & ID. Ant: Gender, occupational status, and supervisor transformational leadership style	Transformational leadership was negatively related to the personal bullying of others. Men and supervisors tended to engage in perpetration.
Liu (2012)	CS & Mixed Method; Pharma /Biotech /Medical Device Industry, USA (*n* = 114); Targets, Victims, Bullies, Witnesses	WE & ID. Ant: Work environment, emotions.	Perpetrators admitted that they were poor leaders and overworked. Relatively younger ones rationalized their behavior stating that others are trying to bring them down due to jealousy.
Baillien et al., (2013)	L (2 waves 6 months lag) & QN; Two organizations, Belgium (*n* = 277); Targets & Perpetrators	WE & ID. Ant: Task conflict, Conflict management styles.	The forcing style of conflict management was positively, and the problem-solving style was negatively related to becoming a perpetrator after 6 months.

Note: CS: Cross-sectional; QN: Quantitative; OL: Qualitative; L: Longitudinal; WE: Work Environment; ID: Individual Dispositions; Ant: Antecedent; Mod: Moderator; Med: Mediator, Out: Outcome

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Table 2. Continued – 2

Authors & Publication year	Study design, Participants, Country, Subjects	Domain of research, antecedents, moderators, mediators and outcomes	Summary of results
Linton & Power (2013)	CS & QN; Working university students, Canada (*n* = 224); Targets & Perpetrators	ID Ant: Personality characteristics of the Dark Triad, aggression, sensation seeking.	Perpetration was positively related to Machiavellianism, narcissism, psychoticism, aggression, and disinhibition.
Escartín, Ceja, et al., (2013)	CS & QN; Heterogenous employee sample, Spain (*n* = 4848); Targets & Perpetrators	WE Ant: Being bullied, Psychosocial Safety Climate (PSC).	There is a positive relationship between victimization & perpetration; a negative one between PSC and perpetration.
Nielsen (2013)	CS & QN; Two shipping companies, Norway (*n* = 594); Targets, Victims, Bullies, Witnesses	WE Ant: Leadership style of the perpetrator.	Laissez-faire leadership is positively related to perpetration, whereas both transformational leadership styles and authentic leadership styles were not.
García-Ayala et al., (2014)	CS & QN; Security sector, Spain (*n* = 392); Targets & Perpetrators	WE & ID. Ant: Being bullied; Mod: Psychological detachment, empathy.	Being a target of bullying behaviors predicted becoming a perpetrator, psychological detachment and empathic concern attenuated this relationship.
De Wet & Jacobs, (2014)	CS & Mixed Method; A sample of teachers, South Africa (*n* = 999, 32 bullies); Bullies	ID. Ant: Bullies' experiences with victims.	Bullies abused others due to jealousy, retaliation, stress, personal and health problems, and they rationalized their behavior.
Pilch & Turska (2014)	CS & QN; Random employee sample, Poland (*n* = 117); Targets & Perpetrators	WE & ID. Ant: Machiavellianism, Perceptions of organizational culture (clan, adhocracy, market & hierarchy).	Perceptions of organizational culture were not significantly correlated to perpetration, while Machiavellianism predicted perpetration.
Zabrodska et al., (2014)	CS & QL; Researchers in academia, Australia, Czech Republic, Iran (*n* = 7); Targets, perpetrators	ID. Ant: Moral condemnation, failure to recognize the harm done, precarious emotions	Perpetrators believed targets violated shared social norms and values, they rationalized their acts as necessary to sustain moral order. They had difficulty recognizing the harm they inflict and had oscillating emotions (self-righteous, doubtful, remorseful).
Baillien et al., (2015)	CS & QN; Representative sample, Belgium (*n* = 2029); Targets & Perpetrators	WE & ID. Ant: Task conflict. Mod: Forcing style of conflict management. Med: Relationship conflict.	There was a positive relationship between task conflicts and perpetration mediated by relationship conflicts and moderated by forcing conflict management style for perpetrators.
Mackey et al., (2016)	S1: CS & QN (*n* = 396); S2: L & QN (2 waves, 3 weeks lag) (*n* = 123); Random employees, USA; Perpetrators	ID. Ant: Entitlement. Mod: Felt accountability. Med: Perceptions of abusive supervision.	There was an indirect relationship between entitlement and perpetration through perceptions of abusive supervision that was stronger for employees who reported lower levels of felt accountability.
Holten et al., (2016)	L (2 waves 2 years lag) & QN; Heterogeneous employees, Denmark (*n* = 1650); Targets & Perpetrators	WE & ID. Ant: Task and relational organizational change. Mod: Leadership quality, positive/negative affectivity.	Organizational change, specifically relations-related change, predicts perpetration. The more employees perceived low leadership quality and the more they felt distressed, nervous, upset (high negativity), perpetration intensified.

Note: CS: Cross-sectional; QN: Quantitative; OL: Qualitative; L: Longitudinal; WE: Work Environment; ID: Individual Dispositions; Ant: Antecedent; Mod: Moderator; Med: Mediator, Out: Outcome

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Table 2. Continued – 3

Authors & Publication year	Study design, Participants, Country, Subjects	Domain of research, antecedents, moderators, mediators and outcomes	Summary of results
Glambek et al., (2016)	L (3 waves, 5 years) & QN; Representative sample, Norway (*n* = 1650); Perpetrators	WE. Out: Occupational status	Perpetrators' occupational status is largely unchanged, and remains so over time
Jacobson et al., (2016)	CS & QN; Working university students, USA (*n* = 128); Perpetrators	ID. Ant: Moral emotional traits and perspective-taking. Mod: Self-esteem. Med: Reparative action.	Moral emotional traits, self-esteem, conscientiousness were negatively, and being male was positively related to perpetration. Reparative action mediated the relationship between guilt proneness and perpetration, which was moderated by self-esteem.
Baillien et al., (2018)	L (3 waves 6 months lag) & QN; Heterogeneous employees, Belgium (*n* = 1994); Perpetrators	WE & ID. Ant: Organizational change. Med: Psychological contract breach.	Exposure to organizational change was positively related to being a perpetrator (after 12 months) through perceptions of psychological contract breach.
Mortensen & Baarts (2018)	CS & QL; Hospital employees, Denmark; ObservationTargets & Perpetrators	WE. Ant: Distinctive joking practice.	Joking practices caused perpetration to emerge. Employees felt forced to participate due to social exclusion fear.
Abbink & Doğan (2018)	L (2 waves) & QN; Random employees, Netherlands & Germany (*n* = 860); Targets & Perpetrators	WE Ant: Group dynamics.	Mob formation as a game was easy and more frequent if the individual gains from it were higher. Envy increased but pity did not decrease mobbing.
Dåderman & Ragnestål-Impola (2019)	CS & QN; Five organizations, Sweden (*n* = 172); Targets & Perpetrators	ID Ant: Personality traits. Mod: Honesty and Humility.	Perpetrators are callous, manipulative, extrovert, disagreeable, and dishonest. The relationship between perpetration and Machiavellianism was stronger when Honesty-Humility was low.
Kizuki et al., (2019)	CS & QN; Heterogeneous employees, Japan (*n* = 927); Perpetrators	WE & ID. Ant: Adverse childhood home experiences and school bullying (ACESB) Med: Being bullied	Employees who had ACESB were at increased risk later in life of enacting bullying behaviors at work. Being bullied did not mediate this relationship
Vandevelde et al., (2020)	CS & QN; 26 organizations, Belgium (*n* = 1077); Targets & Perpetrators	WE & ID. Ant: Person-job fit, Person-group fit, Person-organization fit. Med: Strain and conflict.	Employees Job fit, Group fit and Organization fit were associated with perpetration, explained by strain. Conflict explained the relationship between Group Fit and perpetration.
Lacy (2020)	CS & QN; Employees in a university, USA (*n* = 63); Accused bullies	ID Ant: Dark Triad personality traits, cultural values	Psychopathy, narcissism and Machiavellianism predicted engagement in WB, while cultural values did not.
Sischka et al., (2020)	CS & QN; Random individuals in the world (*n* = 1260); Targets, Victims, Perpetrators, Bullies	WE. Ant: Coworker competition. Mod: Passive avoidant leadership style.	Coworker competition predicted perpetration, passive avoidant leadership moderated the relationship between competition and perpetration.

Note: CS: Cross-sectional; QN: Quantitative; OL: Qualitative; L: Longitudinal; WE: Work Environment; ID: Individual Dispositions; Ant: Antecedent; Mod: Moderator; Med: Mediator, Out: Outcome

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Table 2. Continued – 4

Authors & Publication year	Study design, Participants, Country, Subjects	Domain of research, antecedents, moderators, mediators and outcomes	Summary of results
Escartín, Dollard, et al., (2021).	CS & QN; Random employees, Spain (*n* = 3778); Targets & Perpetrators	WE & ID. Ant: Psychosocial Safety Climate (PSC). Med: Emotional Exhaustion.	Work-unit perpetration explained the negative relationship between perceptions of PSC and employee'' emotional exhaustion. In their reverse effects, PSC was significantly linked to WB for targets and perpetrators via emotional exhaustion.
Vranjes et al., (2021)	L (2 waves 6 months lag) & QN; ten organizations, Belgium (S1 *n* = 1226; S2 *n* = 1205); Targets & Perpetrators	WE & ID. Ant: Being bullied. Mod: Coping strategy.	Employees who tend to cope actively with bullying have a higher likelihood of becoming perpetrators, whereas those who tend to disengage from it are less likely to become perpetrators.
Fernández-del-Río et al., (2021)	CS & QN; Heterogeneous employees, Spain (*n* = 613); Targets & Perpetrators	ID. Ant: Personality traits.	Narcissism and sadism were positively, and agreeableness was negatively related to workplace perpetration behaviors. Perpetrators tended to be males.
Wicks et al., (2021)	CS & QL; Medical doctors, New Zealand (*n* = 24); Targets & Accused Bullies	WE. Out: Physical and psychological outcomes	Accused bullies felt ignored and bullied, perceived injustice and unpleasant work environment. They isolated themselves, felt stressed, anxious, depressed and physically sick.
Mazzone et al., (2021)	CS & QN; School teachers, Ireland (*n* = 630); Targets, bullies, bystanders	ID. Ant: empathic concern and perspective-taking.	Employees who were bullied frequently, witnessed and bullied others frequently. Respondents with higher perspective-taking, empathic concern, and personal distress were less likely to be involved in bullying perpetration
Özer et al., 2022	L (3 waves 6 months lag) & QN; Heterogeneous employees, Spain and Turkey (*n* = 2447); Perpetrators	WE & ID. Ant: Organizational trust (OT) and justice (OJ). Med: Psychological distress and physical symptoms.	OJ negatively predicted psychological and physical health deterioration, while unexpectedly, OT positively predicted the same. Health conditions did not predict perpetration after 3 months.
Balducci et al., (2022)	L (2 waves 12 months lag) & QN; Healthcare organization, Italy (*n* = 235); Perpetrators	ID. Ant: Workaholism Med: Job-related negative affect (anger, disgust, pessimism, discouragement).	Workaholism was a significant predictor of WB perpetration after 12 months; reverse causation was not supported. Job-related negative affect did not mediate this relationship.
Vranjes et al., (2022)	L (4 waves 6 months lag) & QN; Heterogeneous employees, Belgium (*n* = 1420); Targets & Perpetrators	WE & ID. Out: WB. Med: Relationship conflict with colleagues & Perceived control.	WB perpetration led to more exposure to bullying 18 months later. Relationship conflicts and perceived control partially mediated this effect.
Özer et al., 2023	L (24 waves 1 week lag) & QN; Heterogeneous employees, Spain and Turkey (*n* = 31); Perpetrators	WE & ID. Ant: Being bullied, sleep duration and quality, physical exercise.	Physical activity during the work week and being bullied positively predicted perpetration the same week, while sleep quality did not. Perpetrators tend to score high on psychological distress, tend to be supervisors and tend not to have mental illnesses

Note: CS: Cross-sectional; QN: Quantitative; OL: Qualitative; L: Longitudinal; WE: Work Environment; ID: Individual Dispositions; Ant: Antecedent; Mod: Moderator; Med: Mediator, Out: Outcome

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2.4.1. *Antecedents of perpetration*

2.4.1.1. **Work environment factors as antecedents of bullying perpetration.**

2.4.1.1.1. *Job demands & job resources.*

Employee well-being was defined as a function of job demands and the decision authority the employee has, to meet these demands (Job Demand-Control; Karasek, 1979) and the effort put in meeting the job demands and the rewards obtained in return (Siegrist, 1996). By adding job resources to the function, the Job Demands-Resources Model (Bakker & Demerouti, 2007) emphasized job resources (e.g., social support, performance feedback, and autonomy), triggering motivation to meet the demands resulting in lower strain and thus better well-being. The organizational inefficiencies arising from the imbalance of job demands and resources were frequently considered antecedents in WB research. Cross-sectional studies showed that accused perpetrators complained about staff shortages (Jenkins, Zapf, et al., 2011), being overworked (Liu, 2012), perceived less laissez-faire supervisory leadership, less job insecurity, and significantly more job satisfaction and control over decisions (Hauge et al., 2007). If perpetrators perceived to have high resources, such as being highly employable (De Cuyper et al., 2009), or task autonomy under high job demands, they still bullied others (Van den Broeck et al., 2011), when analyzed cross-sectionally.

In longitudinal studies, perpetrators seemed neither triggered by the changes in job demands (workload, role conflicts, job insecurity) nor by job resources (skills, autonomy, social support) over 12 months (Baillien, Rodríguez-Muñoz, et al., 2011). However, research also showed that having an imbalance of demands and resources, such as high workloads with low autonomy, reported higher perpetration after 12 months (Baillien, De Cuyper, et al., 2011).

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The Work Environment Hypothesis, the Job Demands and Resources model, the Stressor Emotion framework of Counterproductive Work Behaviors (Spector & Fox, 2005), and General Strain (Hinduja, 2007) theories have assisted in explaining the results that poorly organized work environments with imbalanced demands and resources, create stressful work conditions, triggering emotional responses to strain, and acts of perpetration. However, one result that these models could not explain was that high resources such as high employability and job autonomy seemed to go beyond helping relieve stress for some individuals and encouraged perpetration. Perhaps conflicting results suggested that other forces related to the organization or related to the individual might be at play.

2.4.1.1.2.   Conflicts & role ambiguity.

Conflicts are an inevitable part of work-life that arise from the clash of principles, interests, or opinions; they can be work-related or interpersonal, and when unsolved, they may lead to WB (Baillien et al., 2009; Baillien et al., 2017). Task (Baillien et al., 2015) and role conflicts (Hauge et al., 2009; Jenkins, Zapf, et al., 2011; Matthiesen & Einarsen, 2007) were related to perpetration cross-sectionally. Moreover, role conflicts predicted it after 12 months (Balducci et al., 2012); forcing conflict management style increased reports of perpetration after six months while the problem-solving style reduced it (Baillien et al., 2013).

Role ambiguity refers to a lack of clear understanding of what actions must be taken to achieve one's individual goals (Kahn et al., 1964). Qualitative studies found that when interviewed, accused bullies complained about role ambiguity (Jenkins, Zapf, et al., 2011), and when studied quantitatively, perpetrators reported elevated levels of it (Matthiesen & Einarsen, 2007). Although one quantitative study found that role ambiguity did not increase the

probability of perpetration (Hauge et al., 2009), results on role ambiguity were all cross-sectional and did not unravel causality.

In general, study results agreed that if work roles were confusing and went against each other, especially when task conflicts were reduced to relationship conflicts and intensified by a forcing style of conflict management on the perpetrator's part, conflicts lead to perpetration. Results were also backed by theories as follows: mediocre work environments trigger conflicts (Work Environment Hypothesis), leading to loss of resources (Conservation of Resources; Hobfoll, 2001), draining individuals, causing negative emotions (Stressor Emotion Framework) such as frustration and aggression (Frustration-Aggression; Berkowitz, 1989). If individuals were bullied, they were stressed and bullied others. Some individuals had a deep concern for themselves but not for others (Dual Concern; De Dreu et al., 2000). They engaged in bullying to save face or regain power and thus felt nourished with new resources (Social Interaction Theories; Tedeschi & Felson 1994).

2.4.1.1.3.   Organizational culture and climate.

The established rules, beliefs, assumptions, and values make up the organizational environment and play a role in WB. However, the research on the organizational environment as an antecedent to perpetration is fragmented. The most studied construct is the psychosocial health and safety climate, which focuses on employee psychological health and safety, defining what is expected of employees and what behaviors should be avoided in workplaces. Three studies examined the relationship between organizational context and acts of perpetration cross-sectionally. Low perceptions of psychosocial health and safety climate on an individual level (Escartín, Ceja, et al., 2013) and the work unit level (Escartín, Dollard, et al., 2021) were

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related to higher levels of perpetration. Study results showed that bullying is also a group-level construct affecting the health of all related parties and triggered by the organizational psychosocial health and safety climate. Social Learning Theory (Bandura, 1973) supported this finding, as social behavior can be acquired by observing and imitating others.

Two studies examined organizational change as an antecedent to perpetration. Organizational change predicted perpetration after 12 months if employees felt betrayed and frustrated, believing that the organization did not fulfill its commitments to them while they did (Baillien et al., 2018). Relational changes in organizations are social changes where the quality and number of interactions with others are modified. Such workplace developments predicted perpetration events after two years (Holten et al., 2016). Results were backed by various theories stating that change may be stressful and frustrating (Frustration-Aggression theory) for the employees, increasing employee expectations for the organization to meet (Social Exchange; Blau, 1964). However, if employee efforts are not matched, individuals may see this as a violation of social exchange and direct their stress and frustration onto others to gain power (Proxy Blaming; Zemba et al., 2006; Social Interactionist Theory; Goffman, 1967). The research found that "non-family-owned" companies focused more on tasks, neglecting the well-being of employees, recorded higher perpetration than "family-owned" companies with balanced "task-people focus" (Ceja et al., 2012). These results were supported by theories stating that an unfavorable work environment and short-term focus on employees (Stakeholder models; Zellweger & Nason, 2008) created stress and emotional responses (Stressor Emotion Framework and Three-Way; Baillien et al., 2009).

Pilch and Turska (2014) studied how perceptions of organizational culture (hierarchy, market, clan, and adhocracy) lead to perpetration, but they found no impact cross-sectionally.

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Özer et al. (2022) studied the impact of organizational trust and justice on perpetration with three waves of data collection. Despite the cross-sectional relations, no significant direct or indirect paths were found after six months.

2.4.1.1.4.   Teams and groups.

Grouping individuals to achieve organizational tasks and goals may also be the grounds for perpetration. Cross-sectional studies showed that bullies had low co-worker support (Brotheridge et al., 2012), and they were the least preferred ones in teams despite their help in achieving team goals (Coyne et al., 2004). Accused bullies showed inappropriate social behaviors (e.g., joking) in groups (Jenkins, Zapf, et al., 2011).

Cross-sectional studies showed that perpetrators were triggered if they perceived a low fit with their job, group, and organization. The underlying reasons were stress and conflicts experienced in the low-fit environment (Vandevelde et al., 2020). Perpetrators bullied others in competitive work environments, especially when they were under the management of passive-avoidant supervisors (Sischka et al., 2020). Longitudinal studies showed that bullies selected victims easily, showed no pity, adapted to group dynamics that promoted unethical behavior even for small gains (Abbink & Doğan, 2018), and embraced social games like joking to defend themselves, avoiding social exclusion (Mortensen & Baarts, 2018).

Various theories backed results on perpetrator behaviors, stating that in stressful work environments, individuals may deplete their resources (Conservation of Resources Theory), get frustrated (Frustration-Aggression), and act negatively even for small gains (Social Preferences; Fehr & Schmidt, 1999). Witnesses repeat these negative behaviors (Social Learning; Victim Precipitation Theory by Aquino et al., 2004), especially when they perceive

many are doing it (Group Dynamics theory; Forsyth, 2009) and when they believe that this behavior will go unpunished by the absent leader (Social Identity; Tajfel, 1974). In summary, all the above studies on various constructs of teamwork found that team level of interaction was strongly related to perpetration.

2.4.1.1.5. *Leadership.*

Studies showed that the individual in charge of leading the group or the organization significantly impacts perpetration phenomena. An inactive and ineffective laissez-faire leadership style was associated with an increased risk of perpetration where the perpetrators possibly perceived that the leaders did not care about work problems or were not concerned about the well-being of subordinates. Perpetrators perceived that there would not be any repercussions for their negative acts (Nielsen, 2013). Cross-sectional research on transformational leadership style had contradictory results where one study found no relationship between transformational leadership and perpetration (Nielsen, 2013), and another one found that perpetrators reported less perpetration under transformational leaders, possibly because their opinions were valued, increasing their resources, and lowering their stress (Escartín et al., 2012). Perceptions of good leadership quality lowered perpetration after two years (Holten et al., 2016).

2.4.1.1.6. *Being bullied.*

When employees are abused, they feel stressed and drained, showing aggression to others to cope with bullying and recuperate the energy lost, as supported by the Conservation of Resources and Frustration – Aggression Theories. Being bullied predicted bullying others (Escartín, Ceja, et al., 2013; García-Ayala et al., 2014; Hauge et al., 2009; Jenkins, Zapf, et al.,

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2011), but the relationship attenuated after 12 months (Baillien, Rodríguez-Muñoz, et al., 2011). Although previously bullying others did not predict being bullied cross-sectionally (Lee & Brotheridge, 2006), the effect from exposure to enactment and enactment to exposure of bullying was of equal strength after six months (Vranjes et al., 2021). Target-perpetrators engaged in active coping (trying to stop the bully) when confronted with bullying and tended to have high levels of physical symptoms (Brotheridge et al., 2012), possibly due to the stress caused by the vicious cycle of bullying. Actively trying to stop the bullying and seeking support on how to solve the problem increased the perpetration events after being bullied, whereas coping with bullying by expressing emotions, seeking emotional support, and withdrawing behaviorally or mentally from the bullying situation reduced perpetration (Vranjes et al., 2021). First of its kind in bullying literature, researchers studied perpetrator behavior over a 24-week daily and weekly diary study. They found that employees who reported being bullied during the work week did not show enactment of bullying the next week, but being bullied predicted perpetration the same week (Özer et al., 2023).

Results were explained by various theories stating that individuals dealing with a stressful work environment may deplete their resources (Conservation of Resources Theory) and sometimes lash out towards innocent third parties (Displaced Aggression Theory; Dollard et al., 1939) due to frustration (Frustration-Aggression Theory). Others model this behavior (Social Learning Theory) as people's immediate environment influences their attitudes and behaviors (Social Information Processing Theory; Salancik & Pfeffer, 1978). None of the studies revealed if the original perpetrators were targeted in revenge or if bullying was a learned act targeting others in the organization.

2.4.1.1.7.   Summary of work environment factors as antecedents.

To summarize, studies on the work environment showed that absent managers who did not intervene in conflicts and organizations with poor work designs focusing only on tasks and neglecting employee well-being created conflict-prone environments. Such environments incited stress, exhaustion, insecurity, and frustration, triggering some individuals to bully others. Once ignored, allowed or not condemned, such behaviors became learned behavior for many. These behaviors multiplied, creating many targets and perpetrators in the vicious circle of perpetration. However, some individuals did not perceive the work environment as stressful, but they still engaged in perpetration. The possible reasons for their behavior will be examined under individual characteristics as antecedents below. It is worth noting that most of the research on antecedents (46 articles) was conducted with a cross-sectional study design (34: 74%) where cause-and-effect relationships were not established.

2.4.1.2.   Individual differences as antecedents of bullying perpetration.

2.4.1.2.1.   Character traits.

Behaviors that describe individuals are personality traits, and some traits were found to be related to perpetration. Bullies were found to be high on self-doubt and low on self-monitoring (Brotheridge et al., 2012); low on emotional stability, tended to have difficulty coping with personal criticism, be easily upset, and view the world as threatening (Coyne et al., 2003); assertive, aggressive (Matthiesen & Einarsen, 2007); impulsive, selfish, not empathetic (Seigne et al., 2007); domineering, vindictive, socially avoidant, intrusive with a high level of interpersonal problems (Glasø et al., 2009).

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Perpetrators who were analyzed based on Dark Triad scales (Paulhus & Williams, 2002) tended to score high on sadism (Fernández-del-Río et al., 2021), high on Machiavellianism (Brotheridge et al., 2012; Pilch & Turska, 2014) and high in Machiavellianism, narcissism, and psychopathy traits (Dåderman and Ragnestål-Impola, 2019; Fernández-del-Río et al., 2021; Lacy, 2020; Linton & Power, 2013). Perpetrators tended to be manipulative, lacked empathy, scored high in extroversion, and dishonesty (HEXACO; Lee & Ashton, 2004), scored low in agreeableness, fairness, and sincerity (Dåderman & Ragnestål-Impola, 2019), and high in aggression, sensation seeking (Linton & Power, 2013).

Study results were contradictory regarding perpetrators' self-esteem. Studies found that perpetrators tended to have highly unstable (Matthiesen & Einarsen, 2007) and have low self-esteem (Brotheridge et al., 2012). Backed by the Sociometer Theory of Self-esteem (Leary et al., 2004), one study showed that high self-esteem inhibited individuals from engaging in perpetration (Jacobson et al., 2016). If individuals were equipped with guilt, shame proneness, reparative action tendencies, empathy, and conscientiousness (Jacobson et al., 2016) or had high levels of perspective-taking and empathic concern (Mazzone et al., 2021), reports of perpetration dropped.

An earlier study found no relationships between perpetration and openness to experience, conscientiousness, extroversion, and neuroticism traits (Coyne et al., 2003). However, later studies using the Five-Factor scale (McCrae & Costa, 2013) found that perpetrators tended to be less agreeable (Dåderman & Ragnestål-Impola, 2019; Fernández-del-Río et al., 2021), and score low in conscientiousness (Jacobson et al., 2016).

Perpetrators were found to be low on conscientiousness in a study (Jacobson et al., 2016), suggesting that perpetrators are not quite dutiful and responsible. They thus may tend to

fail to fulfill their obligations. In another longitudinal study, workaholic individuals reported WB perpetration after 12 months (Balducci et al., 2022), which might suggest that perpetrators may be focusing only on work, neglecting other areas and lacking a holistic approach to life.

2.4.1.2.2. *Emotions.*

Individuals show emotions if an event is of personal significance to them. Bullies scored high on anger (Brotheridge et al., 2012); felt revenge and contempt towards victims (Bloch, 2012); and showed swaying emotions such as self-righteousness, doubtfulness, and remorsefulness (Zabrodska et al., 2014). Bullies regarded victims as violators of rules of working life (De Wet & Jacobs, 2014) or violators of shared social norms and values (Zabrodska et al., 2014). They reacted to preserve their positions in work-life, justifying perpetration as the victims were jealous of them (Liu, 2012), believed that the victim was deserving of it (Bloch, 2012) and had trouble recognizing the harm they inflicted (Zabrodska et al., 2014).

Various theories supported these findings stating that individuals regularly assess and classify each other (Social Interactionist Theory) and construct group-based hierarchical systems based on ethnicity, class, and religion (Social Dominance; Pratto & Stewart, 2012). Some individuals look for cooperation and reciprocity in society. When cooperation is contested, they react. Some are motivated to acquire higher status and legitimize dominance over perceived inferior groups (Moral Codes and Emotions Theories, Barbalet, 1998; Pelzer, 2005).

2.4.1.2.3.   *Perceptions.*

Individuals' understanding and awareness of the work environment may be instrumental in triggering perpetration. Employees who believed they deserved better treatment at work perceived their supervisors as abusive and tended to bully others (Mackey et al., 2016). Theories supported by these results state that behavior is a social exchange where negative behavior is reciprocated with a negative one (Social Exchange Theory) and may be displaced onto others (Displaced Aggression Theory; Frustration-Aggression Theory).

2.4.1.2.4.   *Age.*

Upon examining the descriptive statistics tables, it is observed that some studies found that perpetrators are younger employees rather than older (Baillien et al., 2013; Baillien et al., 2015; Baillien et al., 2018; De Cuyper et al., 2009; Kizuki et al., 2019; Özer et al., 2022; Sischka et al., 2020; Vandevelde et al., 2020), while others did not find statistically significant correlations between age and perpetration (Brotheridge et al., 2012; Hauge et al., 2009; Mazzone et al., 2021).

2.4.1.2.5.   *Gender.*

Studies that published the correlation between gender and reports of perpetration mostly noted that male participants were more likely than females to engage in perpetration (Baillien et al., 2013; Brotheridge et al., 2012; Escartín et al., 2012; De Cuyper et al., 2009; Fernández-del-Río et al., 2021; Hauge et al., 2009; Jacobson et al., 2016; Kizuki et al., 2019; Vandevelde et al., 2020). However, others did not find any correlation between gender and perpetration behavior (Baillien et al., 2018; Balducci et al., 2012; Mazzone et al., 2021; Özer et al., 2022; Sischka et al., 2020). A recent review interpreted such results showing that perpetrators tend

to be males as follows; based on victims' reports most perpetrators are supervisors, and males are overrepresented, in supervisory positions, resulting in perpetration being associated with males (Zapf & Einarsen, 2020).

2.4.1.2.6.   Supervisory position.

Another frequently investigated factor of perpetration behavior was the supervisory roles of the study participants. The hierarchical position of the perpetrators showed conflicting results where some studies found no relationship between supervisory position and perpetration (De Cuyper et al., 2009; Hauge et al., 2009; Sischka et al., 2020), while other studies found that perpetrators tend to be supervisors (Baillien et al., 2015; Escartín et al., 2012; Özer et al., 2022, Özer et al., 2023). Studies also mentioned that perpetrator supervisors could also be a target of bullying (Özer et al., 2023; Vranjes et al., 2022).

2.4.1.2.7.   Physical and psychological health.

Linton and Power (2013) indicated that female body weight was significantly and positively correlated with perpetration, suggesting that obese females tended to bully others more than non-obese ones. Another cross-sectional study studied perpetration behavior based on Social Learning Theory. They found that employees with adverse childhood experiences, such as being slapped, punched, shouted at, ignored and who experienced school bullying were at higher risk of becoming WB perpetrators (Kizuki et al., 2019). A diary study based on the Conservation of Resources Theory, showed that perpetrators' excess physical activity during the work week positively predicted perpetration the same week. Researchers also tested if sleep quality predicted WB perpetration. They found that changes in sleep quality did not predict reports of perpetration (Özer et al., 2023). Results of a three-wave longitudinal study showed

that perpetrators tended to score high on psychological distress and physical symptoms at each data collection (Özer et al., 2022).

2.4.1.2.8. *Summary of individual dispositions as antecedents.*

In summary, studies on individual dispositions perspective showed that perpetrators and bullies seemed to be mistreated during childhood; they tended to be males and have undesirable personality characteristics such as being narcissistic, selfish, manipulative, uncompassionate, and disagreeable with low moral emotions. They expected to be better treated in work life, were activated under absent managers, and where engaged in excessive physical activity during the work week. They felt anger towards victims and rationalized their behaviors. Contrasting to their generally believed powerful image, some studies showed that perpetrators felt remorse after their behaviors, doubted themselves, had low self-esteem, and they were experiencing bullying even if they were managers. Studies on traits showed that perpetrators tend to be low in conscientiousness but can also be workaholics.

2.4.2. *Moderators of perpetration*

Of the 50 studies in our review, 11 articles tested moderators to explain WB perpetration (Table 2).

Some traits related to reports of perpetration were used as moderators in antecedent–perpetration relationships. Empathy (being bullied–perpetration relationship, García-Ayala et al., 2014); positive/negative affectivity (organizational change – perpetration relationship, Holten et al., 2016); honesty and humility (personality-perpetration relationship, Dåderman & Ragnestål-Impola, 2019) have been found to act as moderators that weaken the antecedents–bullying relationships. Higher levels of self-esteem were instrumental in inhibiting bullying

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through the need to maintain social relationships (Jacobson et al., 2016). To better understand how self-esteem contributes to perpetration, longitudinal studies should be conducted to capture stability and level of self-esteem. One study found that the perpetrators' forcing conflict management style boosted perpetration (task conflicts-perpetration, Baillien et al., 2015). Another study analyzed psychological health as a moderator and found that the baseline personal vulnerabilities such as depressive and anxiety disorder of the perpetrator (Role conflict-perpetration relationship, Balducci et al., 2012) marginally influenced the level of perpetration under role conflicts. Having high employability perceptions (job insecurity-perpetration relationship, De Cuyper et al., 2009) and not feeling the need to explain their behavior to their supervisors (entitlement- perpetration relationship, Mackey et al., 2016) were the two moderators intensifying reports of perpetration. Additionally, psychological detachment (being bullied–perpetration relationship, García-Ayala et al., 2014) and passive coping strategies towards bullying (being bullied-perpetration relationship, Vranjes et al., 2021) reduced the strength of the perpetration phenomenon. The theory of emotional regulation strategies (Parkinson & Totterdell, 1999) supported these results, where individuals who could psychologically detach from work reduced their stress and the likelihood of becoming a perpetrator. In contrast to recovery exercises, low job autonomy (workload-perpetration relationship, Baillien, De Cuyper, et al., 2011), poor leadership quality (organizational change – perpetration relationship, Holten et al., 2016), and passive avoidant supervisors (co-worker competition-perpetration relationship, Sischka et al., 2020) increased strength of the antecedent-perpetration relationship.

In summary, working under managers with passive avoidant styles and poor leadership quality, using forcing style of conflict management, having perceptions of high employability,

low accountability, and low job autonomy increased WB perpetration incidences. Contrastingly, having empathy, positive affectivity, honesty, humility, high self-esteem, psychological detachment, recovery exercises, and passive coping strategies against WB attenuated perpetration behavior.

2.4.3. Mediators of perpetration

Out of the 50 studies in our review that analyze perpetration, 11 articles tested mediators to explain WB perpetration. Please refer to Table 2 for details on mediators and note the longitudinal designs as they would be more reliable for mediation analysis.

Relationship conflicts (task conflicts-perpetration relationship, Baillien et al., 2015) and conflicts, in general, were the underlying reasons for perpetration (Group-fit–- perpetration relationship, Vandevelde et al., 2020). Emotional exhaustion (psychosocial safety climate-perpetration relationship, Escartín, Dollard, et al., 2021), strain (Person-job fit, group-fit, organization fit– perpetration relationship, Vandevelde et al., 2020) and reparative action (Guilt proneness -perpetration relationship, Jacobson et al., 2016) were mediators in the antecedent-perpetration relationships. Another cross-sectional study examined the relationship between adverse childhood experiences and workplace perpetration and found that WB did not mediate this relationship (Kizuki et al., 2019). However, as the mediation effects in these studies were measured cross-sectionally, cause-and-effect relationships were not established.

A longitudinal study examined psychological distress and physical symptoms as mediators (organizational trust and justice–- perpetration relationship, Özer et al., 2022) and found that a poor organizational environment seemed to cause psychological stress and poor health conditions after three months. However, eroding health conditions did not result in

perpetration after three months. Despite cross-sectional associations between poor health and perpetration, individuals may have adapted to stressful environments and thus did not show aggressive negative behavior in the long term (Conservation of Resources Theory). Perceptions of abusive supervision (entitlement-perpetration relationship, Mackey et al., 2016), and psychological contract breach (organizational change-perpetration relationship, Baillien et al., 2018) explained the perpetration when the underlying forces were studied longitudinally. Another longitudinal study established a significant relationship between workaholism and WB perpetration after 12 months. Researchers tested if job-related negative affect, such as anger, was a mediator but did not find it significant in this relationship (Balducci et al., 2022). A longitudinal study examined being bullied as an outcome of WB perpetration after 18 months and found that relationship conflicts increased employees' vulnerability to bullying exposure (Vranjes et al., 2022).

2.4.4. *Outcomes of perpetration*

When accused of bullying, individuals experienced depression, anxiety, post-traumatic stress, suicide ideation and felt injustice. They were dismissed or resigned from their jobs and lost confidence in their managerial abilities (Jenkins, Winefield, et al., 2011). Similarly, another cross-sectional study found that employees accused of bullying felt that the accusation of bullying was a form of bullying, as they were not allowed to defend themselves. They perceived injustice and reported an unpleasant work environment. After the accusations, they isolated themselves from others, engaged in self-reflection, felt stressed, anxious, depressed and physically sick (Wicks et al., 2021).

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Over five years, a longitudinal study found that being a perpetrator did not significantly increase the probability of reporting sick leave of more than 24 days, receiving disability benefits, change of employer, or probability of being unemployed. Results suggested that perpetrators of WB have uninterrupted work lives and do not experience unemployment or job changes (Glambek et al., 2016). However, another longitudinal study results (Vranjes et al., 2022) showed that perpetrators experience WB 18 months later, where relationship conflicts increase over time, draining one's resources (Conservation of Resources Theory) and resulting in experiencing bullying.

2.4.5. *Practical suggestions for organizations, practitioners and policymakers*

Of the 50 studies in our review, 39 articles suggested steps to restrain perpetration. These suggestions were compiled in Table 3 to guide top management, human resource practitioners, professionals and government bodies to shed light on actionable steps and further studies to stop WB.

Table 3.

Practice, policy implications

Assessments: Conduct personality trait assessments; test the potential hires for fit to the job, the group, and the organization; assess the psychological wellbeing of all employees; detect vulnerable, overworked, stressed departments, teams, and individuals; assess organizational trust and justice environment, informal networks within teams to reveal isolated individuals to integrate them.

Training: Organize conflict handling, cognitive behavior, and empathic skills training to de-escalate problems; problem-solving style of conflict management and an ethical, perspective-taking leadership style training for supervisors and organization-wide training for recognizing, dealing with, and preventing bullying.

Job Designs and Organizational Change: Assess work designs, and personalize them to reduce high-strain jobs with imbalanced job demands and resources. Establish open communication and employee participation in organizational changes to avoid self-protecting behaviors.

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Managing potential and active perpetrators: Manage frustrations, and conflicts by encouraging problem-solving behavior, intervene to resolve the conflicts, be attentive to physically and psychologically exhausted, frustrated employees, give them feedback, promote work recovery experiences, listen to bullies, note that they may also be bullied, trace back to the origin of their behavior, mentor and advise perpetrators that their behaviors are unacceptable.

Leadership: Place special effort in leadership training by promoting constructive forms of leadership (transformational, authentic, ethical), reducing supervisor job stress, and ensuring there are no absent managers (passive avoidant leadership).

Organizational policies and practices: Develop effective policies to discourage dysfunctional, conflict-escalating behaviors, establish explicit accountability mechanisms against bullying, ensure clear communication, establish human resource hotlines to report mistreatment, enhance the psychological climate by introducing employee health and safety rules, advocate a change in harmful social practices, do not reinforce workaholic tendencies, to stop individuals that take matters in their hands to achieve justice.

Governments: The European framework agreement on harassment and violence at work explicitly states that being a perpetrator of bullying should result in "disciplinary actions"" Such laws should be passed globally, and organizations should be made accountable for WB; government entities should charge penalties if organizations do not have clear policies, practices that inhibit WB and a clear description of potential sanctions. Governments should fight bullying early on in families and schools through awareness and prevention programs.

Researchers suggested conducting character trait assessments to detect potential and active perpetrators (Dåderman & Ragnestål-Impola, 2019). However, human resources should be mindful of perpetrators' dark traits where potential hires may not answer the questions truthfully to conceal themselves. Therefore, if individuals with undesirable characteristics enter the organizations, management is advised to monitor them to avoid outbreaks of bullying (Fernandez del Rio et al., 2021) and only promote individuals with strong moral character (Jacobson et al., 2016). Once in the organization, potential and active perpetrators may undergo corporate training on various topics, such as how to handle conflicts constructively (Baillien et al., 2015), how to build empathy (García-Ayala et al., 2014; Mazzone et al., 2021) and how to

engage in ethical and rational leadership practices (Sischka et al., 2020; Vandevelde et al., 2020).

To detect a potential outbreak of perpetration events, researchers advised conducting ongoing assessments on the psychological well-being of all employees and on informal networks within teams to reveal isolated and stressed individuals (Coyne et al., 2004; Mackey et al., 2016). Organization-wide training for conflict handling (Baillien et al., 2013; Escartín, Ceja, et al., 2013; Lee & Brotheridge, 2006; Vandevelde et al., 2020; Vranjes et al., 2022) and for recognizing, dealing with, and preventing bullying (De Wet & Jacobs, 2014) were also suggested to set the boundaries on employee behavior and obstruct vigilante justice (Brotheridge et al., 2012).

The lion's share of the intervention over perpetrators lies with the managers. Research showed that WB is a long-standing power struggle arising from unsolved conflicts turning into systematic and persistent bullying (Strandmark & Hallberg, 2007). Therefore, researchers suggested that supervisors should actively focus on employees with undesirable characteristics (Pilch & Turska, 2014), manage their stress, physical and psychological exhaustion (Özer et al., 2023; Van den Broeck et al., 2011), frustrations (Hauge et al., 2007) and promote work recovery experiences to ensure psychological detachment from work and relief from stress (García-Ayala et al., 2014). Since conflicts at work are unavoidable, managers should also attend to conflicts immediately (Escartín, Ceja, et al., 2013), encourage problem-solving behavior (Baillien et al., 2013), use the sense-making approach to encourage self-reflecting (Zabrodska et al., 2014) and prevent individuals from bullying others (Hauge et al., 2009). Despite all the aforementioned precautionary steps, if a bullying incident is reported, managers are advised to listen to bullies (Bloch, 2012; Jenkins, Winefield, et al., 2011; Linton & Power,

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2013; Wicks et al., 2021); carefully trace back to the originating event (Vranjes et al., 2021); watch out if they have high job resources in hand that might be used to abuse others (Van den Broeck et al., 2011); give them feedback and help (Baillien et al., 2018) so that perpetrators could make amends to their behavior; and refrain from encouraging workaholism (Balducci et al., 2022).

Despite high expectations from managers to curb bullying, victim reports suggest that bullies are supervisors more than subordinates (Zapf et al., 2020). Studies showed that managers may misbehave under organizational performance pressures (Blackwood & Jenkins, 2018) and use tactical bullying to eliminate low-performing employees or strengthen their positions (Jenkins, Zapf, et al., 2011). Therefore, researchers indicated that special effort has to be placed on leadership training by promoting constructive forms of leadership, reducing job stress (Hauge et al., 2009), and ensuring there are no absent managers (passive avoidant leadership), especially in competitive work environments (Sischka et al., 2020).

When a bullying incident is exposed, top management and human resource practitioners (Salin et al., 2020) are advised to reflect on organizational malpractices that led to the incident. It is paramount that organizations recognize their wrongdoings in creating perpetrators at work. As perpetration seems to stem from stressful, poorly organized workplaces, researchers advised organizations to assess work designs, personalizing them for employees (Vandevelde et al., 2020) so that high-strain jobs with imbalanced job demands and resources are reduced (Baillien, De Cuyper et al., 2011; Van den Broeck et al., 2011), and supportive cultures are established (Ceja et al., 2012). During organizational changes, organizations are urged to establish open communication and encourage employee participation to avoid perceptions of injustice, causing self-protecting behaviors (Baillien et al., 2018; Holten et al., 2016). Studies

found that perpetrators were rarely punished (Salin et al., 2019), and researchers urged organizations to develop effective policies to discourage dysfunctional, conflict-escalating behaviors (Lee & Brotheridge, 2006); establish explicit accountability mechanisms against bullying; ensure clear communication with employees, and establish human resource hotlines to report mistreatment (Mackey et al., 2016). To maintain a positive working environment free of perpetration, researchers suggested enhancing the psychological climate by introducing employee health and safety rules (Escartín, Dollard, et al., 2021; Nielsen, 2013), advocating a change in harmful social practices (Mortensen & Baarts, 2018); allowing employee participation in organizational processes and developing their competences (Baillien et al., 2018); and ensuring a good balance between task and employee focus (Ceja et al., 2012) under a balanced hierarchical structure (Pilch & Turska, 2014).

Lastly, government bodies are urged to make organizations accountable for WB, charging penalties for the lack of clear policies and practices (Lacy, 2020) and enforcing clear descriptions of potential sanctions to bullying-related parties to inhibit workplace bullying (Glambek et al., 2016). Governments are also advised to fight bullying early on in families and schools by launching awareness and prevention programs for the public (Kizuki et al., 2019).

2.4.6. *Research Methods*

2.4.6.1. **Category and time dimension of the data.**

Different research methods are used to empirically study social behavior, test hypotheses and theories, and look for relationships between different variables (please see Table 2 for the research methods used). Of the 50 studies in the review, 14 had a longitudinal survey design, and 36 had a cross-sectional design. Six studies had a qualitative approach with

observations, collective biographies, focus groups, and interviews, enabling a deeper understanding of the bullies' experiences, environment, and inner world; 40 articles had quantitative study designs; four had mixed methods enriching quantitative findings with qualitative data. Of the 14 longitudinal articles, three studies had three waves (Baillien et al., 2018; Glambek et al., 2016; Özer et al., 2022), one four waves (Vranjes et al., 2022), suggesting a proper examination of causality and mediation. Remarkably, only one diary study was conducted with perpetrators measuring variables daily and weekly, measuring within-level changes (Özer et al., 2023). We conclude that perpetration studies largely lack causality analysis based on the lack of studies over two waves.

2.4.6.2.   Study variables.

As perpetration is a complex and multilayered phenomenon, it needs to be studied simultaneously with work and individual factors. Of the 50 articles in the review, 14 studies examined perpetration based on individual differences, 15 on the work environment, and 21 on both factors. Out of the 50, the number of articles testing moderators and mediators was 19; 11 moderators and 11 mediators were tested.

In our review, sixteen articles focused only on the enactment of bullying; thirty articles focused on exposure and enactment of bullying; and four articles reported results on witnesses, exposure, and enactment of bullying. The fragmented information on perpetration may be due to research conducted on targets, witnesses, and perpetrators simultaneously losing focus on perpetrators. This lack of focus or inclination to report on targets, victims, or witnesses together with perpetrators reduced the detailed analysis and presentation of perpetrators' data in some studies (Holten et al., 2016; Lee & Brotheridge, 2006; Liu, 2012; Mazzone et al., 2021; Nielsen,

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2013). More research focusing only on perpetrators and on dyads (perpetrator-target and bully-victim) may ameliorate bullying perpetration literature, demonstrating a clearer picture of the phenomenon from the perpetrators' viewpoint.

2.4.6.3. Study measures.

From 2003 onwards, the scales used to measure perpetration started with single-item questions giving bullying definitions and asking individuals if they acted out bullying. However, measuring perpetration is a delicate task where the wording of the questions should not reveal the purpose of the task at hand, as the participants may be discouraged from reporting that they bullied others or may not be aware of their actions. Therefore, the self-labeling method of detecting bullies with a definition was eventually replaced with the behavioral method of detecting perpetration. The transformation of the scales used was visible in our review, where after the 2009's, the target scales developed with behavioral methods were adapted to active form capturing reports of perpetration[1].

Perpetration was also measured by behavioral questions with a self-labeling definition of bullying resulting in questionable results as to what was being measured (Mazzone et al., 2021) or by using an ad-hoc self-constructed scale from a combination of previous scales (De Wet & Jacobs, 2014) resulting in debatable scale usage. Meanwhile, studies with accused bullies used admittance of being accused of bullying (Jenkins, Zapf, et al., 2011; Jenkins, Winefield, et al., 2011; Lacy, 2020; Wicks et al., 2021). In the future, multiple-item behavioral

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[1] Out of the 40 quantitative articles, self-labeling as a bully was used in 11 articles (28%), while measuring perpetration with behavioral methods was used in 26 articles (65%) by using a modified version of the target scales (NAQ: Einarsen et al., 2009; NAQ-RE: Moreno-Jimenez et al., 2007; S-NAQ: Notelaers & Einarsen, 2008; NAQ-R: Einarsen et al., 2009; SNAQ-R; Notelaers et al., 2019; EAPA-T-R: Escartín et al., 2017). In recent years, the usage of newly developed perpetrator scales also started picking up (8%; 3; Baillien et al., 2018; Dåderman & Ragnestål-Impola, 2019; Fernández-del-Río et al., 2021).

questionnaires reflecting different bully behaviors and using newly developed perpetrator scales would be a better fit for studying perpetration.

2.4.6.4. Study samples.

Bullying was predominantly studied in Europe, with 36 articles out of 50. Four studies had representative samples of Belgium and Norway (Baillien et al., 2015; Glambek et al., 2016; Hauge et al., 2009; Hauge et al., 2007). Four studies reported ethnicity (Linton & Power, 2013; Jacobson et al., 2016; Sischka et al., 2020). Incorporating cultural identities in perpetration research may help understand unique issues and provide better solutions to this phenomenon. Out of the 50 articles in the review, 15 focused only on specific sectors (e.g., academia, textiles, finance, healthcare, fire services, security, education, shipping), 2 used working students, and one quantitative study had 34 participants reducing the generalizability of the results. In conclusion, the study participants in articles in this review were skewed towards the experiences of European employees (90% of the sample base) from a heterogeneous sample of employees from different sectors (79%) where participants were primarily women (54%).

2.5. Discussion

This study aimed to review the antecedents, moderators, mediators and outcomes related to workplace perpetration to unravel why some individuals become perpetrators and how they are affected by their actions. Recommendations for management, organizations and policymakers were also compiled to inhibit perpetration. Variables used in the studies were reviewed from the work environment and individual differences factors. Theories used in explaining the results and study method details were also analyzed.

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Results showed that stressful work conditions with poor work designs left employees in the crossfire of demands with inadequate resources, resulting in task and relationship conflicts in disharmonious teams. The process wore out employees and deranged their health conditions, leaving them frustrated and ready to unleash their anger on others. If the organization did not have policies against WB, if management was perceived as absent and uncaring about employee well-being, or if there were toxic teams inciting perpetration, then negative acts emerged. If perpetration was ignored, allowed, or not condemned by the management, such behaviors became learned behavior for many and were replicated when individuals took matters into their hands. Therefore, many sufferers became actors of negative behaviors. Individuals that reported perpetration were not well physically or psychologically, and over time, they experienced the same treatment they had inflicted on others, suggesting a vicious cycle of bullying.

The perpetrators' excess physical activity and psychological distress predicted perpetration, while strain and emotional exhaustion seemed to explain antecedent-perpetration relationships, and recovery exercises seemed to attenuate perpetration. There was little effort to examine if perpetration caused reverse changes in the work environment in the articles in this review. The finding that stressful work environments caused strain, and lowered employees' resources, resulting in aggression across the organization, was explained by many theories, such as Conservation of Resources, Frustration-Aggression, Counterproductive Work Behaviors, Social learning, Strain, and Interaction Theories.

Studies also showed that perpetrators acted out while working under absent supervisors despite having high job resources. This behavior seemed to be different from acting out due to stress and was explained by theories such as Social Interaction, Moral Codes, Emotions, or

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Social Dominance, suggesting individuals are motivated by power and seek dominance over others. Some study results showed that perpetrators tended to be narcissistic, sadistic, selfish, manipulative, uncompassionate, and disagreeable, with inappropriate social behaviors and low moral emotions, while others showed that perpetrators have swaying emotions. Forcing others to accept their terms and turning the work disagreements into personal struggles and workaholism intensified perpetration, while detachment from work significantly lowered perpetration. Some perpetrators believed their behavior was legitimate managerial behavior, and some indicated that targets deserved bullying and were even responsible for it.

High job resources did not stop some individuals from acting out. The role of self-esteem and job ambiguity in triggering and the role of transformational leadership in lowering perpetration remained inconclusive. Moderators and mediators may guide us to understand the relationships when there are conflicting study results. However, a limited range of moderators and mediators were used to analyze the phenomenon. Therefore, the unsubstantiated results were left for future researchers to address.

2.5.1. *Implications for organizations*

The studies in the review offered various suggestions to prevent workplace bullying (please refer to Table 3 for details). Research showed that management maintained high-performance bullies (Walsh et al., 2019) and protected the organization if gains were more from poor response to bullying (Hodgins et al., 2020). Human Resource practitioners sometimes regarded bullying as an interpersonal conflict, tended to take sides with the accused managers (Harrington et al., 2012), felt less urged to act, and requested hard evidence to intervene against bullying (Salin et al., 2020). They ignored organizational shortcomings, did not confront

abusive individuals (Martin & Klein, 2013), and did not launch large-scale initiatives to improve work conditions (Karanika-Murray et al., 2016). As organizational changes are challenging, perhaps the organizational psychology field should work on developing creative and subtle interventions for concerned managers and human resource practitioners who aspire to set up bullying-free environments. These interventions may be conducted as self-assessments and self-interventions and implicitly lower WB.

2.5.2. *Implications for policymakers*

Workplace health and safety constantly change, with new risk factors being identified and recognized. According to the European Agency for Safety and Health at Work (https://osha.europa.eu/en), addressing psychosocial risks to protect workers' health and well-being is important. These workplace risks can negatively impact an employee's psychological, social, or physical health. They may arise from the design, organization, and direction of work and the social environment in which it is performed. In the past, occupational health professionals primarily focused on the physical hazards present in the workplace, including chemical, physical, and biological factors impacting worker health. However, in recent years, the role of psychological factors, such as WB, covered under workplace violence has become increasingly important (Magnavita & Chirico, 2020). Especially during the COVID-19 pandemic, the prevalence of violence towards healthcare workers was measured to be between 18.5-84.5% (Chirico et al., 2022). Based on the unprecedented COVID-19 pandemic and especially impacting the healthcare sector adversely, scholars urged policymakers to launch special laws to tackle stress, burnout, suicide and turnover intentions of healthcare workers (Chirico & Leiter, 2022); redefine and eliminate inconsistencies between government bodies in handling work-related mental disorders such as post-traumatic stress disorder, chronic

adjustment disorder, caused by psychosocial risks such as bullying (Chirico, 2016) and to identify new interdisciplinary approaches and cooperation strategies between occupational health practitioners and public health stakeholders (Chirico, Sacco et al., 2021).

Due to management's apparent indifference to WB perpetration, scholars called policymakers to step in for interventions through legislative interventions for implementing mandatory occupational health programs (Chirico, Capitanelli, et al., 2021), charging penalties for the lack of clear policies, practices (Lacy, 2020) and requirement of clear description of potential sanctions of related parties (Glambek et al., 2016) to inhibit WB.

2.5.3. *Limitations*

There are several limitations to the validity of this systematic review. The search for studies was limited to published literature in English. It did not include materials and research from organizations outside the traditional commercial or academic publishing and distribution channels, such as reports, working papers, government documents, white papers and evaluations. This restriction may have resulted in publication bias, as studies with negative results may not have been published or published in other languages. Additionally, the review used narrative synthesis rather than statistical pooling, which limits the strength of the conclusions that can be drawn. Finally, as perpetrators are often studied alongside targets, witnesses or bystanders, finding studies focused on perpetrators has been arduous. Thus, it is possible that some articles went undetected.

2.5.4. *Future research on perpetrators*

Our review illustrates several avenues for future research on WB perpetration. To name a few, it is worth noting that bullying literature still lacks comprehensive first-hand knowledge

of perpetrators' physical and mental health before, during, or after the bullying process. Perpetrators' physical or psychological health (e.g., female health markers, sexual health) may be a future research area to understand why and how bullying perpetration happens. The use of wearable technologies (Özer et al., 2023) may be broadened to include wellness apps, smartwatches, and other wearable technologies enabling objective data collection. Another variable that could be incorporated into perpetration studies could be self-control. Theories suggested that the reason and outcome of many negative behaviors (bullying, abusive supervision, incivility) were mainly based on resource losses, leading to self-control dysfunctions. A model derived from the resource theory is the Ego Depletion Model (Baumeister et al., 1998), stating that self-control efforts can exhaust individuals psychologically and lead to regulatory failures. Research showed that individuals who scored high on self-control had higher self-esteem, fewer bad health habits (binge eating and alcohol abuse), and better interpersonal relationships (Tangney et al., 2004); were less likely to engage in unhealthy and harmful behaviors (Forestier et al., 2018); more likely to perceive life as meaningful with structure and order (Stavrova et al., 2018) and less affected by stress (Yam et al., 2016). Based on the vast number of empirical studies on self-control pointing towards better work and private life, strengthening employees' self-control through various exercises and motivating them with rewards may be explored as inhibiting factors for bullying perpetration. Finally, as perpetrators are not a homogenous group, perhaps some of the inconclusive results of perpetrator studies are due to distinctive subgroups within perpetrators. As many studies point towards a vicious cycle of bullying and perpetration, future studies should distinguish between perpetrators and target-perpetrator groups and analyze each group separately to reach the end goal of designing effective interventions for both groups.

2.6. Conclusion

Based on the above, we can conclude that perpetration literature is fragmented, with many relationships not studied and some inconclusive. Research examining the temporal precedence of events is rare; causality between many variables is still unknown. Longitudinal studies, ideally with a minimum of three waves (Cole & Maxwell, 2003), including diary studies (Navarro et al., 2015) and qualitative studies providing in-depth understanding, may resolve this complex human behavior. We propose that health conditions and self-control be tested as antecedents, mediators, and moderators and that different typologies of perpetrators be analyzed in future research. More high-quality research is needed to examine the possible causal relationships, in addition to research focusing on reversed and reciprocal relations.

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3. THE RELATIONSHIP BETWEEN ORGANIZATIONAL ENVIRONMENT AND PERPETRATORS' PHYSICAL AND PSYCHOLOGICAL STATE: A THREE-WAVE LONGITUDINAL STUDY

Title: The Relationship between Organizational Environment and Perpetrators' Physical and Psychological State: A Three-Wave Longitudinal Study

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3.1. Abstract

Although job-related work environment studies found associations with workplace bullying perpetration, little work with longitudinal designs has been conducted on broader organizational measures, which may help design effective interventions for perpetration. Using a three-wave longitudinal design and drawing on the Conservation of Resources Theory, we investigated whether organizational trust and justice predicted perpetration six months later. The sample consisted of 2447 employees from Spain and Turkey from various industries, such as services, manufacturing, and education. We also investigated whether physical and psychological health explained the relationship between organizational trust, justice, and perpetration. The results indicated that, in three months, organizational justice negatively predicted psychological and physical health deterioration, while unexpectedly, organizational

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trust positively predicted the same. Health conditions did not predict perpetration in three months, while organizational conditions did not predict perpetration directly or indirectly in six months. Assessing and improving organizational trust and justice practices may help employee health improve over time. As organizational trust, justice, and health status are significantly related to current perpetration incidents, assessments of these subjects may be instrumental in identifying possible current perpetration phenomena.

Keywords: workplace bullying perpetration; organizational trust; organizational justice; longitudinal study; psychological distress; physical symptoms

3.2. Introduction

Workplace bullying is defined as a perpetrator's systematic (e.g., weekly) and persistent (e.g., six months) negative behavior that harms others, mostly in subtle and discrete ways which are difficult to observe (Einarsen, 2000; Einarsen et al., 2020). These negative behaviors can be "harassing, offending, socially excluding someone or negatively affecting someone's work", occurring "repeatedly and regularly (e.g., weekly) and over a period of time (e.g., about six months)", and form "an escalating process in the course of which the person confronted may end up in an inferior position becoming the target of systematic negative social acts" (Einarsen et al., 2020, p.18). Bullying assessments are mainly done using the self-labeling method, where employees are given a definition and asked if they experienced such a phenomenon, or by the behavioral method, where negative acts are listed for the employees to point out their occurrence. The negative acts that constitute bullying have been compiled under several scales, such as the Negative Acts Questionnaire (NAQ-R; Einarsen, Hoel, (2009), and used widely in bullying literature to assess bullying (Escartín, Vranjes, 2021). Most of these scales assess the

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respondents' perception of being exposed to negative behaviors by inquiring. These behaviors can include: control and manipulation of the work context of the target; control and manipulation of social activities and the physical workspace or the information given and received while carrying out the work tasks; abuse by offensive actions, such as attacking, injuring, and sneering at targets' feelings and emotions; discrediting targets' professional reputation and standing; belittling their knowledge, experience, efforts, performance; devaluation of the importance of the role of employees; or unjustifiably relieving them of their responsibilities or assigning them tasks that are useless, impossible, or inferior to their category in the organization. If analyzed by method and geography, bullying prevalence in Mediterranean countries was 16.3 – 27.9% according to the self-labeling method, and was 10.1 – 16.0% according to the operative criterion of "at least once a week for at least six months." Based on studies done in Eurasia using the self-labeling method, bullying prevalence was 2.7 – 13.0%, while based on the operative criterion method, it was between 4.6 – 22.0% (León-Pérez et al., 2021). Despite sustained high levels of this unethical practice in workplaces, popular TV shows continue to downplay workplace bullying and encourage joking practices that evolve into perpetration (Sumner et al., 2016). Unfortunately, Human Resources professionals whom employees turn to for help tend to believe that bullying stems from interpersonal problems (Salin et al., 2020) and do not feel urged to act (Salin et al., 2019). Upon formal bullying complaints, poor execution of investigations diminishes perceptions of organizational fairness and justice, triggering escalation to an outside party for further investigation (Neall et al., 2021).

Perhaps the least researched actors in workplace bullying are the perpetrators, revealing a lack of in-depth knowledge (Einarsen et al., 2020). Few scales assess workplace bullying from

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the perpetrators' perspective (Escartín, Vranjes, et al., 2021), and the few studies that have measured perpetration prevalence (León-Pérez et al., 2021) indicated that perpetration prevalence was around 9.5%. With high prevalence rates, workplace bullying is still a real organizational and societal problem, making the study of antecedents and mediators of perpetration imperative to inform and develop interventions.

Similarly, workplace bullying literature lacks comprehensive knowledge, specifically on perpetrators' physical and mental health, how they perceive their organizational environment, and how they are affected by their acts. This gap in the literature encumbers effective interventions for active or potential perpetrators. Therefore, focusing on perpetrators, we examined the associations between work environment, behavior, and health states to explain perpetration. Our study contributed to the workplace bullying literature in various ways. First, it broadened the scope by investigating perpetrators' physical and mental health. Second, it combined work environment and personal factors. Third, the longitudinal design, with three data collection points three months apart, tested the temporal precedence of events. We also investigated reverse effects by testing how reports of perpetration impacted perpetrators' health and their perception of organizational trust and justice over time.

3.3. Theoretical foundations and hypothesis development

Over the past 30 years, the Conservation of Resources (COR; Hobfoll, 2001) Theory has become one of organizational psychologies' most widely cited theories. The basic principle is that individuals seek to obtain, retain, protect, and cherish those they value. These valuables are called resources and can be objects (e.g., car, tools for work), conditions (e.g., employment, tenure, seniority), personality characteristics (e.g., key skills and personal traits such as self-

efficacy and optimism), and energy resources (e.g., credit, knowledge, money). Individuals in resource-rich environments are likely to accumulate resource gains, while those in poor environments are likely to accumulate resource losses (Hobfoll et al., 2015). Individuals notice resource losses to be greater, quicker, and longer than resource gains. Additionally, the feeling of resource losses accelerates over time, possibly as an alarm mechanism for survival (Hobfoll et al., 2018).

Theory suggests that psychological stress occurs when individuals' resources are threatened with loss, with actual loss, or when individuals fail to gain sufficient resources following significant resource investment. Therefore, in cases of stress, individuals examine difficulties in overcoming stress and proactively adapt to environmental changes by preserving or renewing their resources for future use. COR has been used in an organizational context to predict a range of outcomes when faced with daily stressors draining resources. The theory was used to explain how leader-member exchange as a resource protected employees from engaging in counterproductive work behaviors (Griep et al.. 2015), how loss of resources due to workplace bullying was related to presenteeism (Conway et al., 2015); how loss of resources due to work stress was related to abusive supervision (Burton et al., 2012); and how loss of resources due to work-family conflict distorted sleep (Crain et al., 2014).

In workplace bullying literature, the COR Theory was used to explain perpetration due to loss of resources while experiencing undermining and verbal abuse (Lee & Brotheridge, 2006), task conflicts (Baillien et al., 2015), a stressful work environment, inappropriate sense of humor, and being bullied (Jenkins, Zapf, et al., 2011).

Therefore, in line with COR Theory, we argued that the threat of or actual loss of resources (such as status, stable employment, acknowledgment and understanding from the

employer, support from coworkers, etc.) created by organizations with poor organizational trust and justice, may trigger psychological stress and poor health conditions. When individuals exhaust their resources, they become defensive, strive to preserve themselves, and often act aggressively and irrationally. Therefore, they may strive to eliminate the threat by engaging in negative behaviors as a coping strategy toward others to protect themselves and thus gain resources. However, as such resource gains are perceived as smaller and slower than resource losses, the balancing act takes longer than the losses (Hobfoll et al., 2018). This leads to long-term, sustained negative acts, defined as workplace bullying.

3.3.1. *Organizational environment*

The work environment hypothesis (Leymann, 1996) suggests that work conditions (such as role conflicts, work overload, and job ambiguity) created by poor job design and an unfavorable social environment foster bullying experiences. On the other hand, previous research also indicated that being a perpetrator of bullying may be initiated by ineffective coping, unsolved personal conflicts, and a poor organizational environment (The Three-way Model; Baillien et al., 2009). Therefore, using the organizational aspect of the three-way model, we hypothesized that organizational trust and justice, mainly influenced by senior management, would precede the work context (i.e., job demands and resources) and would, in turn, predict employee health and perpetration events.

Previous studies showed that family business environments with a balanced task–employee focus (Ceja et al., 2012) were related to lower perpetration, while organizations with low psychosocial safety climates (PSC) were related to higher perpetration events (Escartín, Ceja, et al., 2013). On the individual and work unit level, reports of PSC were significantly and

negatively linked to work-unit emotional exhaustion via work–unit workplace bullying for perpetrators. PSC on the work unit level was also an antecedent to work unit level reports of perpetration (Escartín, Dollard, et al., 2021). Researchers (Baillien et al., 2018) analyzed the relationship between organizational change and perpetration and found no direct relationship, but the link was only established through a psychological contract breach. The study showed that employees felt frustrated and betrayed after an organizational change if they perceived that the organization had not fulfilled its commitments (expected exchange of benefits) while they fulfilled theirs. The above results showed that workplace bullying seemed inevitable if organizations focused more on tasks and neglected employee well-being, health, and safety. Employees felt betrayed, not cared for, or frustrated, and flared out against others in such conditions. If such behaviors are not condemned, they are learned and copied by many others, cultivating perpetrators who may also be victims of bullying themselves. Nevertheless, due to the scarce and contradicting results in work environment studies, it is still unclear how perpetrators are affected by the organization.

One of business enterprises' primary and common concerns is maintaining equity in labor relations where the economic and psychological balance between the employee and employer is fair. Employees seek an equitable balance between their contributions to the organization and what they receive in exchange (Adams 1963). Individuals who help others and invest their time in the organization are more affected by experiencing bullying and thus have higher turnover intentions (Salin & Notelears, 2017). Performance-enhancing compensation practices designed to increase employee productivity may seem to be in sync with the Equity Theory. However, if perpetrators are triggered to achieve higher productivity, equity will be compromised, and productivity will eventually fall (Samnani & Singh, 2014).

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The Equity Theory also suggests that individuals who experience a situation that causes tension or distress will seek to reduce this tension and distress. Targets who receive persistent criticism start believing they are ineffective in their work and submit to abusive leaders (Samnani & Singh, 2013).

Based on Equity Theory (Adams 1963), organizational justice is derived from perceptions of contributions made and outcomes obtained in exchange and lies in the core of employee and employer relationships. While justice is an ongoing exchange of inputs and outputs, organizational trust builds over time. Based on favorable conditions, employee trust continues as long as the organization meets the expectation of fairness. Due to their vital role in labor relationships, these two concepts are worth examination under workplace bullying. Researchers argued that a significant portion of dissatisfaction at work could be explained by the perception of injustice (Adams, 1965) and introduced the Equity Theory. Inequity was defined as the unequal ratios of outcomes to the input of the person and others, indicating the distributive justice exercised by the supervisors as perceived by the employees. Later on, procedural justice was introduced, referring to the fairness of the procedures in organizational outcomes (Leventhal, 1980), and interpersonal justice referred to the treatment people received (Bies & Moag, 1986). All sorts of unjust perceptions increased individuals' will to restore justice and act against mistreatment. Previous reviews indicated that organizational injustice was closely related to abusive behavior at work (Hackney & Perrewé 2022)

Organizational justice is the combination of employees' perceptions of fairness in procedures, information sharing, and interaction among employees and how justice is distributed in the workplace (Ambrose & Schminke, 2009; Colquitt et al., 2001). Previous empirical studies showed that organizational justice reduced perceptions of workplace bullying

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(Ahmad, 2018) and improved employees' physical health (Kivimäki et al., 2005), while low organizational justice increased the risk of psychological distress (Sutinen et al., 2002); justice instability added to physiological stress (Matta et al., 2017); injustice was related to somatic health complaints (Herr et al., 2018), aggression (Hershcovis & Barling, 2007) and revenge (Aquino et al., 2006). A previous conceptual study in workplace bullying literature argued that workplace injustice perceptions created a vicious cycle of bullying experiences, which led to poor perceptions of organizational justice for targets and bystanders (Parzefall & Salin, 2010) Despite its suggested relationship to bullying, no published studies on organizational justice as an antecedent to perpetration were found. Organizational justice is closely and positively related to organizational trust (Cropanzano et al., 2002; Holtz & Harold, 2009). Trust refers to the employees' expectations from the organization or their belief that the organization will benefit them (or at least not be harmful) in the future (Robinson, 1996). Previous research showed that poor perceptions of justice and trust negatively predicted aggression (Chory & Hubbell, 2008), but to our knowledge, no research has been conducted on organizational trust as another antecedent to perpetration. Therefore, we will examine how organizational justice and trust impact employee health and how these factors play a role in perpetration behavior.

3.3.2. *Physical and psychological health*

Employee health can be measured by objective health markers or subjectively through physical and psychological symptoms. Many researchers established the relationship between employee health and being exposed to bullying, such as sleep troubles (Hansen et al., 2013; Magee et al., 2015; Niedhammer et al., 2009), mental health problems (Einarsen & Nielsen, 2014; Verkuil et al., 2015), and higher alcohol consumption (Giorgi, 2010). Studies from abusive supervision literature showed that leaders' depressive symptoms, anxiety, workplace

alcohol consumption (Byrne et al., 2014), and sleep deprivation (Barnes et al., 2015) were related to their abusive behaviors without exploring the causality. Previous longitudinal studies on perpetrators did not focus on physical and psychological health, except for one study (Balducci et al., 2012) that found a marginal impact of personal vulnerability (i.e., depressive and anxiety disorder, psychological cases) on perpetration, 12 months. Therefore, not enough research has been done on perpetrators' health and the causal relationships between their behavior and physical and psychological health.

One of the most common complaints regarding psychological health is stress experienced at work. Stress activates individuals. If it is good stress (eustress), it involves feeling challenged, which might motivate individuals toward higher achievement. However, if it is bad stress (distress), it involves disturbing negative feelings and may result in avoidance or withdrawal. Psychological distress is an acute condition with a sudden onset and is the state of emotional suffering associated with situations that the individual has difficulty coping with in daily life and with negative feelings and thoughts (Selye, 1976). Psychological distress can also be detected with a perceived inability to cope, change in emotional status, discomfort, and harming oneself, manifested as hopelessness, anxiety, depression, sadness, anger, hostility, fearfulness, neglect of appearance, and suicidal gestures (Ridner, 2004).

Consistent with the stress theory, it has been shown by many research results that being bullied in the workplace causes psychological distress, subsequently leads to significant health problems and contributes to even more bullying experiences (Einarsen & Nielsen, 2014; Matthiesen & Einarsen, 2004). Meanwhile, research showed that targets with high levels of psychological detachment (recovery experiences) from daily work reported lower rates of bullying as a perpetrator (García- Ayala et al., 2014).

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Research on abusive supervision indicated a relationship between abusive supervision and distress. For instance: leaders' psychological distress levels were related to subordinates' distress, mediated by abusive supervision (Li et al., 2016); leaders' distress predicted higher abusive supervision (Byrne et al., 2014; Tepper, 2007); and abusive supervision experienced at work was related to spouse undermining at home, mediated by psychological distress (Restubog et al., 2011). While workplace bullying researchers have studied distress, only one rare research finding on accused bullies indicated their psychological distress (Jenkins, Winefield, et al., 2011), while their physical state was not studied.

Therefore, we argued in this work that the unfavorable organizational environment may create stress and drain resources as employees experience distrust, injustice, continuous anxiety, and fear of possible job, position, organizational benefits, self-esteem, or power losses. The prolonged resource loss triggered due to poor organizational trust and justice may lead to psychological distress and physical symptoms related to distress. The eroding health status and poor organizational trust and justice may create preconditions for the escalation of bullying. Therefore, we expect that (Figure 3):

Hypothesis 1 (H1): Organizational Trust and Justice (Time 1) are negatively related to bullying Perpetration (Time 3). *Hypothesis 2a (H2a):* Organizational Trust and Justice (T1) are negatively related to Psychological Distress (T2) and Physical Symptoms(T2).*Hypothesis 2b (H2b):* Psychological Distress (T2) and Physical Symptoms (T2) are positively related to perpetration (T3). *Hypothesis 3 (H3):* The relationship between Organizational Trust and Justice (T1) and Perpetration (T3) is positively mediated by Physical Symptoms (T2) and Psychological Distress (T2).

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Figure 3.

Overview of hypothesized relationships in the model.
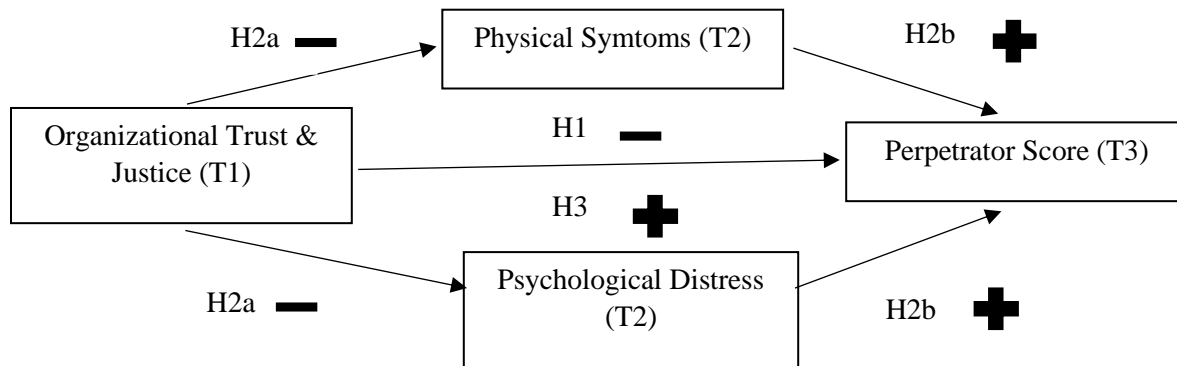
3.4. Methods

3.4.1. Procedure

We collected data mainly by contacting two psychology and organizational psychology professors at Spanish and Turkish universities. We invited them to help with the data-gathering phase by encouraging their students to find respondents who worked for at least eight hours per week, in line with the ILO definition of being employed (International Labour Office, 2014), for the research in exchange for extra credit. Respondents were informed that the study was about employee health without explaining the hypotheses and disguising that it was bullying research. Students who brought ten respondents to the study could earn one extra course credit. Data obtained by students gathering respondents were heterogeneous and thus generalizable (Demerouti & Rispens, 2014). The study was also advertised in three languages on social media platforms (Facebook, LinkedIn, and Instagram) (Appendix E). Data were collected via the Qualtrics survey tool; ethical committee approval (IRB00003099) was obtained from the Universitat de Barcelona. All respondents provided electronic informed consent before attempting the survey. They consented to the use of their data for publication. They entered their email addresses to be contacted to complete the survey at Time 2 and Time 3. Although

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our theoretical framework did not provide information about the time frame, we used a minimum of six months to detect workplace bullying as per the operational definition. To decrease the attrition rate, we raffled ten gift vouchers for € 25 and one Fitbit Inspire 2 fitness band for (€ 70) among the respondents at each measurement moment. We finished the study in 11 months, keeping the intervals between data collection at a minimum of three months.

At Time 1, out of the 3663 responses, we conducted a data cleaning procedure and removed responses for: individuals not working for eight hours a day ($n = 478$), respondents not giving consent and leaving their email blank ($n = 544$), and respondents who completed the questionnaire multiple times based on email addresses ($n = 52$). As a result, we were left with 2589 respondents who completed the survey at Time 1. All the respondents who entered their email addresses were invited to complete the survey at Time 2 and Time 3. At Time 2, out of the 465 responses, individuals not working for eight hours a day ($n = 68$), respondents not giving consent *($n = 10$)*, and respondents who completed the questionnaire multiple times based on the email addresses ($n = 11$) were removed. As a result, we were left with 376 responses at Time 2 (response rate of 15% relative to Time 1). At Time 3, out of the 280 responses, individuals not working for eight hours a day ($n = 42$), respondents not giving consent ($n = 6$), and respondents who completed the questionnaire multiple times based on the email addresses ($n = 13$) were removed. As a result, we were left with 219 responses at Time 3 (response rate of 8% relative to Time 1). We deleted responses from respondents who changed their jobs between the different measurements ($n = 52$) as they may have influenced the lagged relationships (De Lange et al., 2003). We deleted responses ($n = 90$) from respondents who left their emails but did not participate in answering any other questions. We did not delete those left at Time 2 and 3, to avoid losing valuable information. Instead, we relied on the Full

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Information Maximum Likelihood (FIML) method to reduce the response bias (Duncan et al., 2006). When using FIML, missing values (either by not completing a full data collection wave or by just one item or a scale) are not changed or imposed, but missing data are processed within the analysis model. This method allowed the use of all available information to predict the model, and was superior to list-by-list deletion as no information was lost in the estimation of the analysis. The final sample included 2447 respondents.

3.4.2. Sample

The sample consisted of 1319 women (54%) and 980 men (40%) with an average age of 34.5 ($SD = 12.3$); with an average company tenure of 7.3 years ($SD = 8.9$ years), working an average of 5.1 days of the week ($SD = 0.86$ days). The sample consisted of employees from different organizations within Spain (36.4%), Turkey (54.3%), and others (9.3%; mainly from the UK, USA, Belgium, Pakistan, and Israel) across a wide range of economic sectors, such as services (15.1%), education (11.4%), health (9.3%), manufacturing (8.7%), and wholesale and retail trade (5.9%). Logistic regression analysis tested whether any demographics or study variables predicted participation in the three waves versus dropout after any point in time (coded as 1 for dropout; 0 for retention). Therefore, we conducted a logistic regression analysis on the 2447 respondents of T1, in which the outcome was participation vs. drop out, and the risk factors were: age, gender, supervisory position, and research variables (organizational trust and justice, psychological distress, physical symptoms, and perpetration scores). We found that younger respondents ($OR = .96$, $p < 0.001$) and those who were not supervisors ($OR = .61$, $p = 0.01$) were significantly more likely to leave the study. We also found that psychological distress was related to drop out, with those respondents experiencing less distress being significantly more likely to leave the study ($OR = .76$, $p = .007$). To control for potential

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selection bias due to drop out, we examined whether respondents who dropped out ($n = 2301$) differed from the non-dropouts ($n = 133$) with respect to their demographic characteristics and levels on the study variables. As shown in Table 4, the two samples differed regarding their age and supervisory position but did not differ significantly regarding the mean scores of study variables.

Table 4.

T-test for Dropout Analysis

		N	Mean	SD	F	Sig.	t	df	p
Age	ND	126	40.02	10.93	9.23	0.00	5.22	2295	0.00
	D	2171	34.19	12.25					
Gender	ND	126	0.49	0.50	3.04	0.08	1.54	2297	0.12
	D	2173	0.42	0.49					
Supervisor	ND	126	0.43	0.50	28.58	0.00	3.96	2280	0.00
	D	2156	0.27	0.44					
T1OrgTrust	ND	133	4.69	1.35	0.81	0.37	-1.33	2432	0.18
	D	2301	4.84	1.27					
T1OrgJustice	ND	133	4.56	1.52	3.65	0.06	-0.89	2428	0.37
	D	2297	4.67	1.40					
T1PsyDistress	ND	132	2.56	1.17	1.84	0.17	1.8	2381	0.07
	D	2251	2.38	1.09					
T1PhySymptoms	ND	128	2.30	0.74	3.16	0.08	−0.25	2358	0.80
	D	2232	2.32	0.83					
T1Perpetration	ND	126	1.19	0.33	3.5	0.06	−0.68	2329	0.49
	D	2205	1.22	0.59					

Notes: SD: Standard Deviation, ND: Non-drop out, D: Drop out.

This result of attrition from the study did not represent a threat to the external validity of our findings, since respondents' study variable meant that those who dropped out were not significantly different from those who participated for the remaining of the study. Therefore, there was no selection bias.

3.4.3. Measures

We adopted a complete panel design, measuring all variables at all three measurement periods (Taris & Kompier, 2014). All measures were administered in English, Spanish, or

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Turkish, and respondents were assured of confidentiality and informed that they could withdraw from the study at any time. Shortened scales were used as much as possible to keep the attrition rate low. To underline the period over which respondents were requested to report (i.e., three months), we reworded items such that they included the phrase "since the previous survey."

Organizational Trust (OT). The OT scale (Robinson, 1996) consisted of seven items, an example being: "I believe my employer has high integrity." Employees reported OT on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Reliabilities were satisfactory at all three measurement points: αT1 = .85, αT2 = .85, and αT3 = .87.

Organizational Justice (OJ). The OJ scale (Ambrose & Schminke, 2009) consisted of six items. An example item is: "Overall, I'm treated fairly by my organization". Each item was assessed on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Reliabilities were satisfactory at all three measurement points: αT1 = .92, αT2 = .94, and αT3 = .94.

Psychological Distress (PD) scale (Restubog et al., 2011) consisted of four items. At the beginning of the scale questions, the following introductory sentence was used: "In the past month, how often have you been feeling any of the following descriptions." And ended with the statements such as "feeling fearful". Answers were on a 7-point scale ranging from 1 (never) to 7 (always). Reliabilities were satisfactory at all three measurement points: αT1 = .81, αT2 = .78, and αT3 = .81.

Physical Symptoms Inventory (PSI) was used to measure the health condition of employees as a mediator in the antecedent-outcome relationship. Being significantly related to the psychological state, the physical symptoms assessed physical and somatic health symptoms

covering individuals' digestive, visual, and central nervous system symptoms (Spector & Jex, 1998). The full 13-item version of the PSI (Duffy et al., 2019) was administered to ask respondents to rate how often they had experienced specific health symptoms over the past month. Items were rated on a 7-point scale ranging from 1 (never) to 7 (always). Reliabilities were satisfactory at all three measurement points: $\alpha T1 = .86$, $\alpha T2 = .85$, and $\alpha T3 = .86$.

Workplace bullying perpetration was measured by the behavioral approach method by adopting the EAPA-T-R (Escartín et al., 2017) to an active format. Respondents were asked to rate the following example behavior during the last six months; "I controlled or blocked correspondence, telephone calls or work assignments of others", on a scale from 1 (never) to 7 (very frequently/more than once a week). As this construct shaped the behaviors of the respondents, it is unlikely that one would report engaging in perpetration with the same intensity over six months. Therefore, calculating the scale's reliability became obsolete (Baillien et al., 2018).

Age and tenure were measured in years. Gender was coded as 0 for female, 1 for male. The supervisory position was coded as 1 for being in a supervisory position and 0 for not being in a supervisory position. Sectors were coded according to The Statistical Classification of Economic Activities in the European Community (NACE codes).

3.4.4. Analysis

Using a mediated SEM (structural equation modeling), we tested the relationship between organizational trust and justice perceptions at Time 1, psychological distress and physical symptoms at Time 2, and perpetration at Time 3. We estimated the indirect effect from perceptions of organizational trust and justice at Time 1 on perpetration at Time 3 via physical

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symptoms and psychological distress at Time 2 as the product of the relationship between the independent variable and the mediator and the relationship between the mediator and the dependent variable. As an initial step, we obtained skewness, kurtosis values, and histograms for our study variables (Table 5).

Table 5.

Skewness and Kurtosis

Variables	N	Min	Max	Mean	SD	Skewness	SD	Kurtosis	SD
T1OrgT	2434	1.00	7.00	4.84	1.27	− .24	0.05	− .65	0.10
T2OrgT	303	1.60	7.00	4.66	1.22	− .17	0.14	− .57	0.28
T3OrgT	172	1.70	7.00	4.67	1.24	− .05	0.19	− .71	0.37
T1Ojus	2430	1.00	7.00	4.67	1.41	− .37	0.05	− .44	0.10
T2Ojus	298	1.00	7.00	4.6	1.37	− .35	0.14	− .41	0.28
T3Ojus	169	1.00	7.00	4.41	1.44	− .30	0.19	− .66	0.37
T1PsyD	2383	1.00	7.00	2.39	1.10	1.24	0.05	1.94	0.10
T2PsyD	293	1.00	6.00	2.41	1.01	0.91	0.14	0.86	0.28
T3PsyD	168	1.00	6.50	2.41	1.05	1.14	0.19	1.78	0.37
T1PhyS	2360	1.00	7.00	2.32	0.83	0.94	0.05	1.60	0.10
T2PhyS	293	1.00	4.90	2.24	0.76	0.94	0.14	0.61	0.28
T3PhyS	168	1.20	5.30	2.28	0.77	1.05	0.19	1.01	0.37
T1Perp	2331	1.00	6.00	1.22	0.58	4.56	0.05	25.60	0.10
T2Perp	290	1.00	3.50	1.17	0.38	3.10	0.14	11.14	0.29
T3Perp	168	1.00	3.00	1.16	0.36	3.02	0.19	9.87	0.37
T1PerpLog10	2331	0.00	0.78	0.06	0.13	2.72	0.05	8.40	0.10
T2PerpLog10	290	0.00	0.54	0.05	0.11	2.26	0.14	4.88	0.29
T3PerpLog10	168	0.00	0.48	0.05	0.10	2.32	0.19	5.17	0.37
Valid N (listwise)	125								

We noticed that organizational trust (T1 skewness = - .24, *SE* = .05; T2 skewness = - .17, *SE* = .14; T3 skewness = - .05, *SE* = .19) and organizational justice variables were (approximately) normally distributed (T1 skewness = - .37, *SE* = .05; T2 skewness = - .35, *SE* = .14; T3 skewness = - .30, *SE*= .19). However, psychological distress was positively moderately skewed (T1 skewness = 1.24, *SE* = .05; T2 skewness = .91, *SE* = .14; T3 skewness = 1.14, *SE* = .19) as were physical symptoms (T1 skewness = .94, SE = .05; T2 skewness = .94, *SE* = .14; T3 skewness = 1.05, *SE* = .19).

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The workplace bullying perpetration variable was positively and highly skewed with unacceptable kurtosis levels at all times, which was expected (T1 skewness = 4.50, *SE* = .05; T2 skewness = 3.10, *SE* = .14; T3 skewness = 3.02, *SE* = .19). Therefore, we corrected perpetration for skewness by log 10 transformations of the variables (Escartín, Dollard, et al., 2021; Notelaers et al., 2006) and used the log 10 transformed perpetration score in our analysis. We used this continuous measure of bullying (higher levels indicating higher bullying) for all the analyses. We also used the self-labeling measure of single item bullying question in COPSOQ III (Burr et al., 2019) and modified it to reflect enactment by defining bullying (e.g., bullying means that a person is repeatedly exposed to unpleasant or degrading treatment and that the person finds it difficult to defend himself or herself against it. Have you bullied others at your workplace in the last six months? 1 = Never, 7 = Very frequently). We correlated the modified EAPA-T-R scale with the modified single-item bully score also transformed log ten. The correlation was *r* = .52, *p* < .01 at Time 1; *r* = .31, *p* < .01 at Time 2; *r* = .47, *p* < .01 at Time 3, thus supporting the construct validity of the measure.

The data were collected mainly from Spain and Turkey, with a few additions from countries in Europe, Asia, and the USA. We checked if the cultural differences impacted our outcome variable, which was perpetration, at T3. At T3, there were 105 responses from Turkey, 44 from Spain, and 5 from other countries. As "other country" data was negligible, the independent t-test was conducted between Spain and Turkey's perpetration scores. There were no significant differences in the perpetration scores from Turkey (*M* = .05, *SD* = .10) and from Spain (*M* = .07, *SD* = .11), conditions; *t* (147) = - 1.29, *p* = .20. Therefore, cultural analysis was not conducted.

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Data were analyzed using SPSS 26 (IBM Corp, New York, NY, United States) and SEM in AMOS 26.0 (Amos Development Corp, Wexford, Pennsylvania, United States) (Arbuckle, 2019) based on maximum likelihood estimation. In evaluating the adequacy of models, we considered four fit indices: the chi-square ($\chi2$), the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root-mean-square error of approximation (RMSEA). When evaluating the goodness-of-fit of structural regression models with a chi-square value, a non-significant p-value indicates a good fit. However, in large samples, even small and substantively unimportant differences between the estimated model and the true underlying model will result in the test model's rejection (Bentler & Chou, 1987). Consequently, other indices of model fit were also considered in this study. Based on stringent recommendations (Hu and Bentler, 1998), a CFI and TLI value of .90 or greater indicated a good fit, and values of .95 or greater represented excellent fits. The RMSEA point estimate indicated a good fit to the data at values of .10 or less, with values .06 representing excellent fits (Bryne, 2001; Hu and Bentler, 1998).

3.5. Results

Model fit was assessed using TLI, CFI, and RMSEA. A confirmatory factor analysis using Amos 26.0 was conducted to support the distinctness of the constructs of the variables measured in the study. Results of the confirmatory factor analysis suggested that the hypothesized five-factor model (organizational trust T1, organizational justice T1, psychological distress T2, physical symptoms T2 and perpetration T3) provided an acceptable fit to the data ($\chi2$ = 2361 (485), TLI = .91, CFI = .92, RMSEA = .04), better than all other possible models. Please refer to Figure 4a for a structural equation model of the mediation

effects of physical symptoms and psychological distress on the relationship between organization and perpetration.

Figure 4.a

(a) Hypothetical structural equation model (SEM) for mediation.
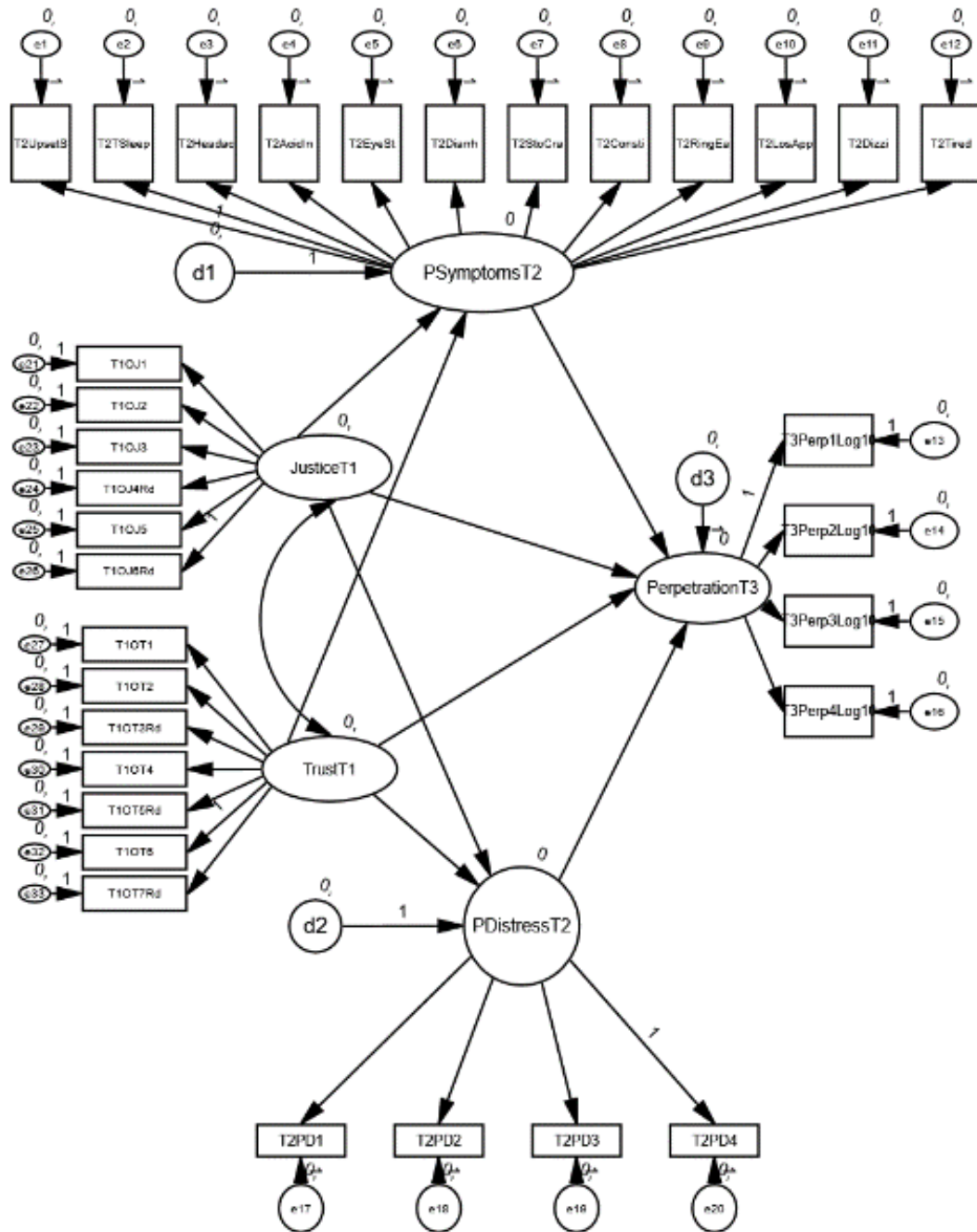
(9) Figure 4.b *SEM predicting perpetration (n = 2447).*
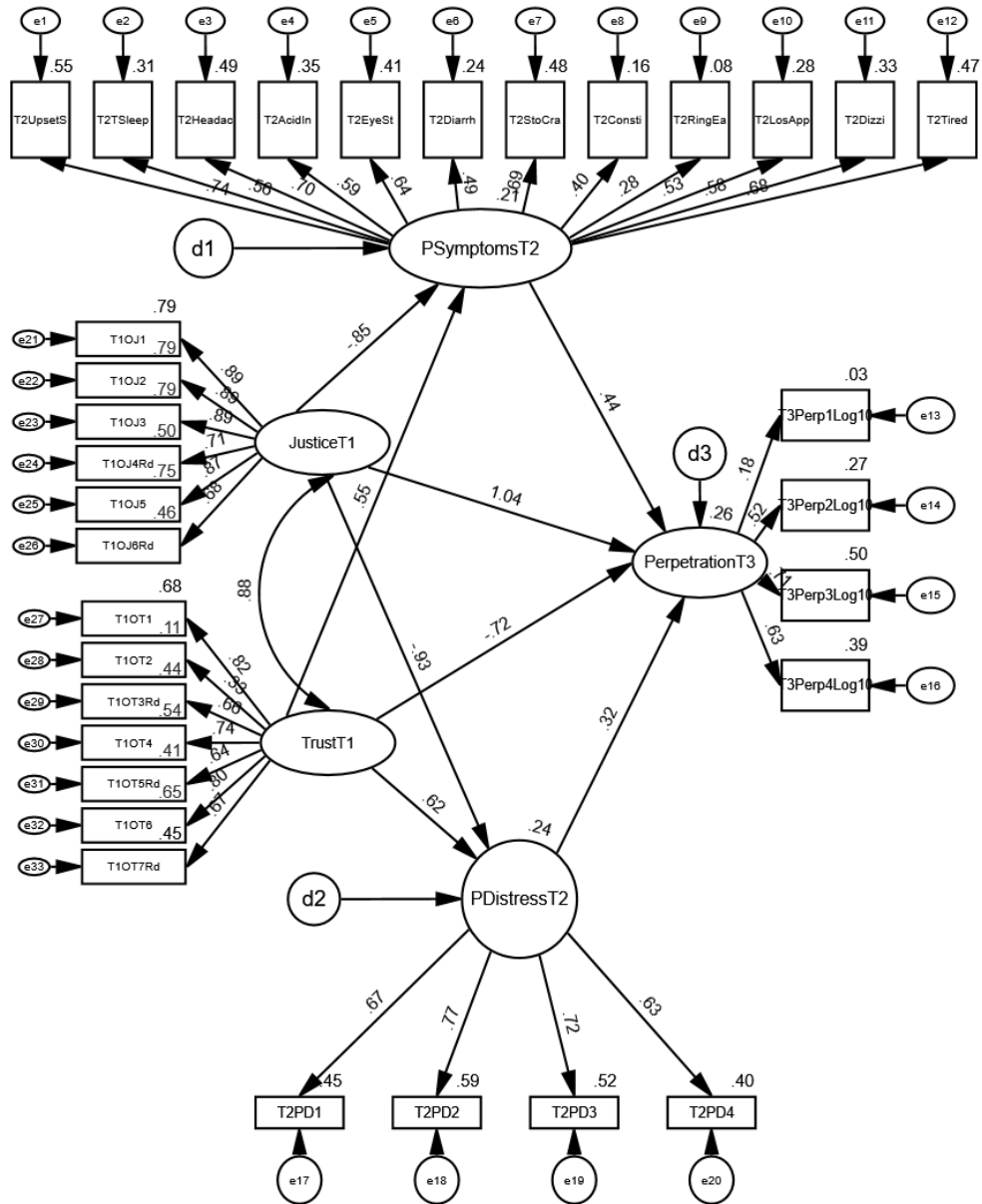
3.5.1. Descriptive statistics

The correlation (Pearson) analysis supported the relationships among the study variables. Table 6 shows the means, standard deviations, and inter-correlations between all variables under study at the three measurement points. The pattern of significant correlations was in the expected direction. Perpetration was lower in older respondents and higher among

those in supervisory positions but did not have any relationship with gender, contrary to previous findings on males more likely to be perpetrators (Baillien et al., 2013; Fernández-del-Río et al., 2021).

Table 6.

Descriptives and correlations.

	Variables	n	Mean	SD	1	2	3	4	5	6	7	8	9
1	Age	2297	34.51	12.26	-								
2	Gender	2299	0.43	0.49	0.01	-							
3	Supervisor	2282	0.28	0.45	0.21 **	0.17 **	-						
4	T1OrgTrust	2434	4.84	1.27	−0.05 *	0.05 *	0.05 *	-					
5	T2OrgTrust	303	4.66	1.22	0.00	0.03	0.08	0.69 **	-				
6	T3OrgTrust	172	4.67	1.24	0.06	−0.03	0.19 *	0.67 **	0.73 **	-			
7	T1Ojustice	2430	4.66	1.41	0.00	0.06 **	0.08 **	0.80 **	0.65 **	0.65 **	-		
8	T2Ojustice	298	4.6	1.37	0.03	0.06	0.18 **	0.68 **	0.82 **	0.69 **	0.71 **	-	
9	T3Ojustice	169	4.41	1.44	0.00	0.00	0.27 **	0.62 **	0.70 **	0.80 **	0.71 **	0.77 **	-
10	T1P.Distress	2383	2.39	1.1	−0.15 **	−0.12 **	0.00	−0.41 **	−0.35 **	−0.37 **	−0.43 **	−0.35 **	−0.37 **
11	T2P.Distress	293	2.41	1.01	−0.30 **	−0.16 **	−0.10	−0.23 **	−0.38 **	−0.38 **	−0.31 **	−0.40 **	−0.39 **
12	T3P.Distress	168	2.41	1.05	−0.33 **	−0.10	−0.09	−0.35 **	−0.40 **	−0.40 **	−0.42 **	−0.44 **	−0.39 **
13	T1P.Symptoms	2360	2.32	0.83	−0.20 **	−0.21 **	-0.05 *	−0.27 **	−0.30 **	−0.38 **	−0.28 **	−0.28 **	−0.36 **
14	T2P.Symptoms	293	2.24	0.76	−0.29 **	−0.21 **	−0.12	-0.27 **	−0.34 **	−0.35 **	−0.31 **	−0.32 **	−0.34 **
15	T3P.Symptoms	168	2.28	0.77	−0.29 **	−0.20 *	−0.11	−0.34 **	−0.31 **	−0.39 **	−0.40 **	−0.33 **	−0.37 **
16	T1Perpetration	2331	0.06	0.13	−0.09 **	0.02	0.11 **	−0.10 **	−0.10	0.03	−0.09 **	−0.06	0.02
17	T2Perpetration	290	0.05	0.11	0.00	0.03	0.17 **	−0.15 *	−0.13 *	−0.16	−0.09	−0.16 **	−0.07
18	T3Perpetration	168	0.05	0.1	−0.18 *	0.06	0.06	0.08	0.04	0.01	0.11	−0.01	0.01
	Variables	n	Mean	SD	10	11	12	13	14	15	16	17	18
10	T1P.Distress	2383	2.39	1.1	-								
11	T2P.Distress	293	2.41	1.01	0.57 **	-							
12	T3P.Distress	168	2.41	1.05	0.63 **	0.71 **	-						
13	T1P.Symptoms	2360	2.32	0.83	0.54 **	0.47 **	0.51 **	-					
14	T2P.Symptoms	293	2.24	0.76	0.50 **	0.60 **	0.59 **	0.73 **	-				
15	T3P.Symptoms	168	2.28	0.77	0.50 **	0.59 **	0.65 **	0.72 **	0.80 **	-			
16	T1Perpetration	2331	0.06	0.13	0.22 **	0.15 *	0.12	0.21 **	0.17 **	0.12	-		
17	T2Perpetration	290	0.05	0.11	0.15 *	0.14 *	0.19 *	0.22 **	0.21 **	0.24 **	0.33 **	-	
18	T3Perpetration	168	0.05	0.1	0.01	0.22 *	0.12	0.1	0.27 **	0.17 *	0.25 **	0.56 **	-

Notes: Gender: 0 = women, 1 = men; Supervisory position: 0 = not in supervisory position, 1 = in supervisory position; * $p < 0.05$; ** $p < 0.01$, Perpetration Score is Log 10 transformed.

3.5.2. Statistical analysis

In order to understand how organizations affected employees, significant correlations among the study variables were examined. As expected, initial organizational trust and justice (T1) were negatively associated with all three data points of psychological distress and physical symptoms. We also noted that initial organizational trust (T1) was negatively associated with perpetration at T1 and T2. However, the effect attenuated at T3, while initial organizational

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justice (T1) was associated negatively with initial perpetration; its effect on perpetration attenuated in later data collection points. Employee health in relation to perpetration was also examined. As expected, psychological distress and physical symptoms (T1) were positively associated with perpetration during the initial two data collection points, but effects attenuated at the third data collection.

We tested the normal causation model, which included cross-lagged paths from organizational trust and justice at T1, the physical symptoms, and psychological distress at T2 to being a perpetrator at T3 (Figure 4 b). The 5-factor model had a good fit ($\chi2$ = 2467 (486), TLI = .90, CFI .91, RMSEA = .04). We also tested the reverse model to examine the cross-lagged paths from perpetration T1, the physical symptoms and psychological distress at T2, and perceptions of organizational trust and justice at work at T3. The reverse model did not fit the data ($\chi2$ = 1241 (487), TLI = .85, CFI = .87, RMSEA = .03), and we did not have data evidence to suggest reverse relationships.

The effects of the relationships in our model are summarized below in Table 7. Hypothesis 1 stated that organizational trust and justice (Time 1) are negatively related to perpetration (Time 3). Based on the results, Hypothesis 1 was rejected as organizational justice (β = .02, p = .1) and organizational trust (β = - .01, p = .14) did not significantly predict perpetration (T3) directly.

Hypothesis 2a stated that organizational trust and justice (T1) are negatively related to psychological distress (T2) and physical symptoms (T2). As expected, organizational justice (T1) significantly and negatively predicted psychological distress (β = - .59, p < .001) and physical symptoms (β = - .63, p < .001). However, organizational trust significantly and positively predicted psychological distress (β = .34, p < .001) and physical symptoms (T2) (β

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$= .35, p < .001$, which was contrary to the expected negative direct effect. Therefore, Hypothesis 2a was partly confirmed.

Hypothesis 2b stated that psychological distress (T2) and physical symptoms (T2) are positively related to perpetration (T3). Although they positively predicted perpetration, the effects were insignificant, and thus the hypothesis was rejected.

Table 7.

Estimates, critical ratios, standardized direct, indirect, total effects of the hypothesized model.

Structural Paths		Est	CR (*p*)	SRW	SDE	SIE	STE
OJ T1 →	PS T2	−.63	−5.13 (*p* < .001)	−.85	−.85	0	−.85
→	PD T2	−.59	−5.09 (*p* < .001)	−.93	−.93	0	−.93
→	Perpetration T3	.02	1.64 (*p* = .10)	1.04	1.04	−.67	.37
OT T1 →	PS T2	.35	3.30 (*p* < .001)	.55	.55	0	.55
→	PD T2	.34	3.46 (*p* < .001)	.62	.62	0	.62
→	Perpetration T3	− .01	−1.50 (*p* = .14)	−.72	−.72	.44	−.28
PS T2 →	Perpetration T3	.01	1.70 (*p* = .09)	.44	.44	0	.44
PD T2 →	Perpetration T3	.01	1.49 (*p* = .14)	.32	.32	0	.32

Notes: OT: Organizational Trust; OJ: Organizational Justice; Physical Symptoms: PS; Psychological Distress: PD; Est = Regression weight estimates, CR = Critical ratio; SRW = Standardized regression weights, SDE = Standardized direct effects, IDE = Standardized indirect effects, STE = Standardized total effects.

Hypothesis 3 stated that the relationships between organizational trust and justice (T1) and perpetration (T3) are positively mediated by physical symptoms (T2) and psychological distress (T2). Results showed that organizational justice (T1) had an indirect and negative effect on perpetration (T3) (β = - .67) as expected, while organizational trust (T1) had an indirect and positive effect on perpetration (T3) (β = .44), which was unexpected. As our data had missing values, the significance of the mediation results could not be tested. Therefore, missing data strategies were implemented in two steps to test the significance of the indirect relationships. Initially, all responses with any missing data were deleted. This listwise deletion eliminated an entire case of data, including data that were not missing. Therefore, after removing all responses

with even one variable missing, a data set of 131 responses was formed. This subset of complete responses did not give a good fit to the data ($\chi 2$ = 872 (486), TLI = .83, CFI = .85, RMSEA = .08). Therefore, we were unable to analyze the significance of the mentioned indirect effects, as the deletion resulted in statistical power loss with a large amount of data removed.

The second step was to use data imputation instead of removing all missing data. Regression imputation uses similar variables to estimate the missing data and generally provides unbiased parameters (Switzer et al., 1998), provided that the data are missing at random. Therefore, the dataset was screened for "missing data at random" using the Missing Value Analysis function in SPSS with Little's MCAR test. Test results indicated that data were missing completely at random ($\chi 2$ = 30.259 (29), p = .40). Therefore, we used data imputation in AMOS to calculate the missing data using regression imputation. In regression imputation, the model is first fitted using maximum likelihood, and linear regression predicts unobserved values (Arbuckle, 2019). Scores were imputed only for respondents with complete data on at least 88% of the items in 33 observable variables (Roth, 1994). 143 individuals needed this procedure for the perpetration items at T3, and the imputed data set for 279 was formed. This subset of 279 responses fit the data well ($\chi 2$ = 764 (479), TLI = .94, CFI = .94, RMSEA = .05). Therefore, we conducted the mediation analysis on this subset. Hypothesis 3 was tested by calculating bootstrapping confidence intervals using 2000 replications (Preacher et al., 2007). Our results revealed marginal effects; an indirect negative effect of organizational justice on perpetration (β = - .0018, boot SE = - .0025, 95% CI [- .0064: - .0002], p = .063) and the indirect positive effect of organizational trust on perpetration (β = .0005, boot SE = .0015, 95% CI [-.0011:0.0035], p = .48). However, as both results were statistically insignificant, Hypothesis 3 was rejected, concluding that there was no mediation.

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3.6. Discussion

This study aimed to expand the existing longitudinal literature on perpetrators, focusing on their health data and organizations. This study was the first to consider the causal relationship between organizational trust and justice and perpetration.

The positive relationship between justice and employees' current physical health (Herr et al., 2018), long-term physical health (Kivimäki et al., 2005), and current psychological health (Sutinen et al., 2002; Matta et al., 2017) were already established. As expected, the study showed a clear negative causal relationship over time between justice and employees' physical and psychological health in three months. This result was consistent with the COR Theory, which explained the loss of resources (personal health) due to stress created in a poor organizational justice environment.

Our study's second and unexpected result was that organizational trust positively predicted psychological distress and physical symptoms over time. However, it is also important to note that our cross-sectional findings revealed a significant negative relationship between organizational trust and health data in all three waves, in line with previous cross-sectional studies on organizational trust and negative health perceptions (Rabelo et al., 2019), positive mental and physical health (Tanase et al., 2012), and burnout (Özgür & Tekta, 2018). Organizational trust might also have destructive consequences for employees. Employees who trust their organizations may work long hours, accumulating tangible (retirement benefits, stock options) and intangible (managerial positions) benefits. They may become too dependent on the organization if they perceive their employability as low or if the cost of changing jobs may be too high due to the accumulated benefits. In the motivated attributions model of trust development, researchers (Weber et al., 2004) suggested that there could be exaggerated

evaluations of trustworthiness between two parties shaped by feelings of dependence. These could lead to irrational trust while failing to observe or actively discredit disconfirming evidence. For example, they mentioned the Stockholm syndrome, wherein individuals regard the other party as trustworthy to reduce the anxiety attached to their feelings of dependence. Therefore, one possible explanation could be that employees who worked for trusted organizations and managers worked harder and longer hours at the expense of their health, where trust assessed could not overcome the negative effects of work conditions, especially during the pandemic (between May and December 2021). The Equity Theory (Adams, 1963, 1965) suggests that justice is a constant exchange of employees' inputs and employers' output, thus constituting an element of variability—whereas trust may be more stable, leading to higher injustice perceptions of employees in organizations they trust due to unfavorable working conditions during the pandemic. Regarding COR Theory, the trust they feel for the organization as a means of stable employment may add to their resources (Hobfoll, 2001, p. 342), balancing the resource drain caused by psychological distress due to the unjust environment.

The third result was that, despite high negative cross-sectional correlations between health data and perpetration in times 1 and 2, psychological distress and physical symptoms did not predict perpetration over time (T2–T3). The COR Theory suggests that individuals defensively react to loss spirals by regrouping and waiting for help or offensively react by acting aggressively to change the conditions they are in as a coping mechanism. Therefore, when experiencing resource losses due to psychological distress created by the organizational environment, individuals may choose to wait for the situation to pass or act aggressively to change the situation for themselves. The role that time plays in resource losses and gains in the presence of acute versus chronic stressors is still examined by longitudinal studies. While there

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are effective ways of securing resource gains in short time frames, such as lunch breaks (Trougakos et al., 2014), some studies have shown that individuals adapt to stressors over time and do not lose resources over time (Matthews et al., 2014). Research suggests that individuals break from resource loss spirals through individual adaptation or social support (Hobfoll et al., 2018). Therefore, based on COR Theory, we may conclude that the individuals may have adapted to the organizational environment and thus did not show aggressive negative behavior in the long term, while shorter-term cross-sectional associations showed perpetration used as a coping mechanism.

Perpetration studies have long focused on the job and individual characteristics, while few studies examined broader constructs of organizations as antecedents. While no significant cross-sectional correlations were found between perceptions of organizational cultures, such as hierarchy, market, clan, and adhocracy, and reports of perpetration (Pilch & Turska,2014), a balanced people–task-oriented family firm environment was negatively correlated to perpetration (Ceja et al., 2012). We found significant and negative cross-sectional associations between organizational trust and justice and perpetration, confirming that perpetration was related to a poor work environment. However, we did not find any direct or indirect causal effects from organizational trust and justice on perpetration within a six-month time lag from T1 to T3. The link between organizational trust, justice, and perpetration was not established indirectly through employee health. Although causality was not established with the data, low levels of organizational trust, justice, physical and psychological health seemed to coexist with perpetration behavior. Therefore, future studies may use different scales to measure organization as a broader construct with different time lags to examine its association with perpetration. As perpetration is a complex phenomenon, another possible explanation is that

other factors such as personality, team structure, or job characteristics may also influence the organization–perpetration relationship.

Our findings could be used effectively to guide organizational interventions. The significant results of the present analyses suggested that assessments of organizational trust and justice would be a valuable strategy to identify departments and teams that could have adverse work conditions. Therefore, organizations may review and adjust their policies, practices, and procedures to provide fair and favorable work conditions, directly impacting employees' health. Our results indicated that employees could be distressed and show physical symptoms even if organizational trust was established. Therefore, organizations should conduct further health assessments that could help detect vulnerable, overworked, stressed departments, teams, and individuals.

A few limitations require mention, which may have impacted the results. First, the response rates of this study were low, with the response rate at T2 follow-up being 12% (303 over 2447) and (172 over 2447) T3 follow-up at 7%. Second, data were collected using self-report questionnaires, raising the possibility of common method variance and social desirability among respondents. Although anonymity was ensured, there was a possibility that individuals may have underreported perpetration. Such underreporting may have attenuated correlations between the variables. Third, this research collected data during pandemic conditions where lockdowns, remote working, or forced onsite working were in place. In particular, the work and health conditions of the employees might be experienced differently compared to a non-pandemic era. Fourth, we conducted the study with a minimum of 3 months time lag between waves and used the operational definition of bullying as negative acts occurring for at least six months or longer. Previous longitudinal research on organizational antecedents of perpetration

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(organizational change) has been consistent with regard to the time lag chosen (Baillien et al., 2018).

Nevertheless, further studies with different time lengths could better capture the missed relations in this study. Finally, organizational justice and trust are highly correlated constructs. Although CFA indicated that trust and justice are separate factors, multicollinearity may have been the reason for organizational trust having a negative correlation but positive regression with health data. Future research would benefit from examining data from varying sources and across multiple periods. For example, combining self-reports with some form of objective data (e.g., coworker reports of perpetration, team-reported data for organizational trust and justice) may provide valuable insight to researchers. Objective measures may not capture the full range of employees' perpetration behavior, but they can provide useful information, enable measurement triangulation, and provide additional evidence of the validity of self-report measures. Future research could continue to explore the association between the health status of perpetrators when examining why perpetration occurs in the workplace. Organizations may create perpetrators indirectly by destroying employee well-being. We tested the hypothesized model with two samples from Spain and Turkey during the pandemic, where work conditions changed dramatically during the study. Employees lost their jobs or stopped working due to lockdown implementation. We encourage researchers to replicate and extend our findings in samples drawn from different cultures and when work conditions are more stable to achieve higher retention rates. So far, the limited research published from the perpetrators' perspective has applied a narrow range of moderators and mediators to explain the antecedent–perpetration relationship.

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Future research should study various antecedents, moderators, and mediators with perpetrators. As for research methods, research examining the temporal precedence of events is rare; causality between many variables is still unknown. We measured changes in organizational trust and justice, physical and psychological health, and reports of perpetration in three data points. Going forward, the relationship pattern between these variables at each point could also be assessed to examine possible changes in the pattern over time. Therefore, longitudinal studies on perpetrators with multiple data collection times, especially using diary methods and qualitative studies, should be encouraged.

3.7. Conclusion

There were no statistically significant paths regarding organizational trust and justice to perpetration directly or indirectly through employee health. However, in line with COR theory, the threat or loss of resources (such as status, stable employment, acknowledgment and understanding from the employer, support from coworkers created by a poor organizational justice environment) seemed to cause psychological stress and poor health conditions over three months. No relation was found to suggest that individuals attempted to eliminate the threat by engaging in workplace bullying to protect themselves and gain resources. As COR theory also suggests, individuals may have adapted to the environment over time. Cross-sectional data demonstrated that the COR theory might be a fruitful approach to understanding the interdependences between perceived organizational factors (such as organizational justice), employees' psychological and physical health, and perpetration. The present results shed light on possible prevention and intervention formulas that deserve further research attention. We hope this study will stimulate additional research into the role of workplace bullying perpetrators from their perspective. This will facilitate prevention and intervention mechanisms

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and programs to help them find more sustainable and ethical ways to cope with their work environment, generating positive and healthy workplaces for all employees without exclusion.

SECTION 4: DIARY STUDY

4. A MATTER OF HEALTH? A 24-WEEK DAILY AND WEEKLY DIARY STUDY ON WORKPLACE BULLYING PERPETRATORS' PSYCHOLOGICAL AND PHYSICAL HEALTH

Title: A Matter of Health? A 24-Week Daily and Weekly Diary Study on Workplace Bullying Perpetrators' Psychological and Physical Health

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4.1. Abstract

Workplace bullying (WB) studies focusing on perpetrators are increasing. Many processes, events, circumstances and individual states are being studied to understand and inhibit what causes some employees to become perpetrators. Using a 24-week diary design and drawing on the Conservation of Resources Theory, we investigated how sleep, physical activity (PA), and being bullied predicted perpetration on a within-level. On a between-level, we controlled for a supervisory position, psychological distress and mental illnesses over 38 employees from Spain and Turkey. Their average age was 38.84 years ($SD = 11.75$). They were from diverse sectors (15.8% in manufacturing, 15.8% in education, 13.2% in wholesale and retail trade, 13.2% in information and communication, 7.9% in health, 7.9% in other services and 26.3% from other sectors) with diverse professions such as finance manager, psychologist, graphic designer, academic, human resources professional, forensic doctor, IT and Administration head,

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municipality admin executive, waiter, and sales executives. Data was collected over 24 consecutive work weeks, where only 31 participants were involved in perpetration (final observations = 720). We analyzed the data using multilevel structural equation modeling decomposed into within-and-between-person variance parts. The results indicated that on a within-level, PA as steps taken during the work week and being bullied positively predicted perpetration the same week, while sleep quality did not. By connecting sleep, physical exercise and WB literature, we draw attention to the health condition of perpetrators. Organizations should actively inhibit workplace bullying and be mindful of employees" physical activities at work or commuting to work. Managers should also be attentive to physical fatigue that employees may feel due to their responsibilities in their private lives and allow employees to rest and recuperate to inhibit negative behaviors at work.

Keywords: workplace bullying perpetration; daily and weekly diary study; being bullied; physical activity; sleep; fitness trackers

4.2. Introduction

Workplace bullying (WB) is a common and persistent phenomenon, defined as a severe and damaging interpersonal behavior (Akanksha et al., 2021) occurring regularly and repeatedly over time. Previous studies showed that the prevalence rates of WB perpetration vary between 2.8% (Glambek et al., 2016), 4% (Escartín, Ceja, et al., 2013) and 5% (Matthiesen & Einarsen, 2007). The impact of WB on targets stretches from sleep problems (Magee et al., 2015; Nielsen et al., 2020), and mental health issues (Verkuil et al., 2015) to extreme suicidal thoughts (Gunn & Goldstein, 2020); perpetrators are psychologically distressed (De Wet & Jacobs, 2014) and suffer mental illnesses (Özer et al., 2022). While we know little about perpetrators' physical activities, a previous study showed that they had elevated adverse

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physical symptoms, including trouble sleeping, and tended to be supervisors rather than employees (Özer et al., 2022). Previous research showed that targets tended to be high in neuroticism (Dåderman & Ragnestal-Impola, 2019), and perpetrators tended to be aggressive (De Wet & Jacobs, 2014), disagreeable (Fernández-del-Río et al., 2021) and less conscientious (Jacobson et al., 2016). Cross-sectional research on the work environment found that WB perpetration is higher when organizational trust and justice are low (Özer et al., 2022); when there is widespread inappropriate social conduct (Mortensen & Baarts, 2018) and team fit is low (Vandevelde et al., 2020); when leaders are absent (Nielsen, 2013), or passive avoidant (Sischka et al., 2020) and when employees are being bullied (Jenkins, Zapf, et al., 2011; Lee & Brotheridge, 2006).

Research on WB perpetrators largely depends on between-person designs, limiting our knowledge of how fluctuations in exposure to stressors relate to within-level fluctuations of WB perpetration behavior. The present study focused on perpetrators" well-being as antecedents of WB perpetration for 24 working weeks. We aimed to (i) monitor WB perpetration behavior, its frequency, intensity, and duration, and (ii) combine individual and work-related factors explaining how these antecedents may develop into WB perpetration. The three-way model (Baillien et al., 2009) suggests that bullying perpetration may arise due to (i) inefficient coping with frustration, (ii) escalated conflicts and (iii) destructive team and organizational cultures or habits. We will also test if our results support the model where antecedents to perpetration may affect these processes.

4.3. Theoretical background and hypotheses

Conservation of Resources Theory (COR) (Hobfoll, 1998; 2001) suggests that individuals seek to obtain, retain, protect, and cherish resources (e.g., tools for work, health, employment,

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tenure, critical skills, personal traits, and knowledge). Psychological stress occurs when individuals' resources are threatened with loss, suffer actual loss, or when individuals fail to gain sufficient resources following significant resource investment. Individuals may become defensive, aggressive, and irrational to preserve the self, and WB perpetration may become a plausible option. Previously COR was used to explain perpetration as a coping mechanism that is activated due to loss of resources while experiencing undermining and verbal abuse (Lee & Brotheridge, 2006); task conflicts (Baillien et al., 2015); a stressful work environment and being bullied (Jenkins, Zapf, et al., 2011). Therefore, we aim to study within-person exposure to bullying, and fluctuations in sleep and physical activities as factors that would drain or protect individuals and lead to subsequent within-level WB perpetration from the perspective of COR (Hobfoll et al., 2018). Our hypothesized model is in Figure 5.

Figure 5.

Hypothesized relationships among diary study variables.

Within-Person

Between-Person (Control Variables)
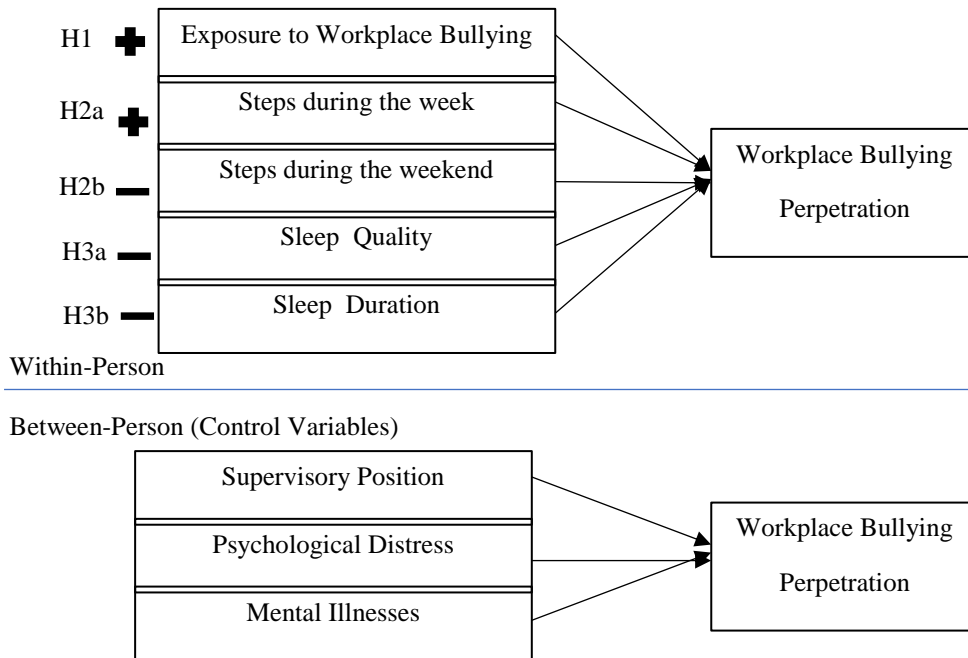
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4.3.1. Exposure to Bullying as a Predictor of WB Perpetration

Employees experiencing WB feel psychological distress (Mikkelsen et al., 2020), are depleted, and their personal resources are eroded (Tuckey & Neall, 2014). According to COR, these negative feelings show that the individual has lost critical resources such as feeling successful and valuable (Hobfoll, 2001). To stop the resource drain and protect the self, individuals may act in anger and frustration and resort to bullying others as a coping and recovery strategy. If they feel they have recuperated the lost resources, they may get better at this strategy and use it as a long-term strategy (Hobfoll et al., 2018), hence becoming perpetrators. Previously, cross-sectional (Hobfoll et al., 2018) and longitudinal studies (Vranjes et al., 2021) showed that bullying correlates with and predicts WB perpetration. Therefore, based on previous studies, we argue the following.

Hypothesis 1. Weekly exposure to bullying will positively predict weekly WB perpetration.

4.3.2. Physical Activity as a Predictor of WB Perpetration

Physical activity (PA) is any bodily movement produced by skeletal muscle that requires energy, such as walking, cycling, lifting, dancing, and cleaning. It can improve mental health, quality of life and well-being if undertaken regularly and of sufficient duration and intensity (World Health Organization, 2018). Research showed that regular leisure-time PA is associated with higher work ability (Calatayud et al., 2015); improves personal relations (Da Silva et al., 2019); works as a stress buffer (Schmidt et al., 2016) and protects against job burnout and depression (Toker & Biron, 2012). However, worktime and leisure-time physical activities do not provide similar health benefits. Studies showed that physical activity at work is positively related to exhaustion (Van den Broeck et al., 2010) and depressive symptoms (Werneck et al., 2020); it increases the risk of long-term sickness absence (Holtermann et al.,

2011) and cardiovascular diseases (Li et al., 2013). While regular PA is widely accepted as essential for longevity and health, the optimal dose of PA for a better life may depend on the individual circumstances (e.g., the overall health of the individual) and situational factors (e.g., activity being voluntary or not). Previous research demonstrated how weekends help individuals to recover from stress and self-control difficulties (Hisler et al., 2018). On the other hand, individuals reported reduced resources from Monday to Friday, typically leading to impaired performance on self-control tasks (Baumeister et al., 2018). Therefore, by distinguishing PA by weekdays and weekends, we explored the time dimension of PA and how PA impacts WB perpetration behavior for each individual.

As all participants worked during the week, weekends provided them with natural breaks for recovery. We assumed the weekend PA would be leisure activities, energizing the individual and providing coping resources against work stress. Even with excesses over individuals' average activities, weekend PA would inhibit WB perpetration in the coming days of the week. We assumed that weekday PA may be carried out in a combination of domains (e.g., work-related, commuting to work, household tasks, and leisure activities) where the total PA during the week may cause physical exhaustion and drain resources. Therefore, we wanted to test if, on a within-level, excess PA during the weekdays may cause physical exhaustion, drain resources, and trigger WB perpetration behavior.

Hypothesis 2a. Weekly average PA (steps taken) during the week will positively predict weekly WB perpetration.

Hypothesis 2b. Weekly average PA (steps taken) during the weekend will negatively predict weekly WB perpetration.

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4.3.3. *Sleep as a Predictor of WB Perpetration*

Among the initial objective list of resources, "time for adequate sleep" was one of the resources in the COR (Hobfoll, 2001). Sleep quantity is the amount of time an individual spends in a sleeping state, and sleep quality is a combination of factors such as difficulty falling asleep and staying asleep. Lack of both dimensions of sleep affects the individual (Barnes, 2012) as sleep is important for the recovery of physiological resources regulating self-control (Baumeister et al., 2000) and restoring resources (Rosario-Hernandez et al., 2018). Studies showed that poor sleep quality correlates with interpersonal conflict (Fortunato & Harsh, 2006); predicts increased reactive aggression (Freitag et al., 2017) and frequent anger (Metcalf et al., 2021). Diary studies showed that supervisors' sleep quality predicts abusive supervision (Barnes et al., 2015), interpersonal conflict and depleted feelings (Baumeister et al., 2018), unethical behavior, and social deviance (Hisler et al., 2018) the next day. Sleep deprivation decreases individuals' self-control (Hisler et al., 2018), increases hostility, and increases workplace deviance, such as violence and interpersonal rudeness (Christian & Ellis, 2011). While the lack of sleep quality and duration correlate and predict negative behavior, short sleep duration did not significantly explain aggression (Freitag et al., 2017), abusive supervision (Barnes et al., 2015) and interpersonal conflict (Baumeister et al., 2018).

Therefore, when individuals are stressed, they suffer from sleep troubles and are drained of their resources. When resources are exhausted, they become defensive, strive to preserve themselves, and often act aggressively and irrationally in the short term. As a coping strategy, they may feel the urge to control others to feel in charge and belittle others to feel accomplished and successful. However, as such resource gains are perceived as smaller and slower than resource losses, balancing resources takes longer (Hobfoll et al., 2018) and may lead to long-

term, sustained negative acts, defined as WB perpetration. Therefore, based on previous research and the COR, we argue that lack of weekly sleep quality and duration will be related to the weekly WB perpetration.

Hypothesis 3a. Weekly sleep quality will negatively predict weekly WB perpetration.

Hypothesis 3b. Weekly sleep duration will negatively predict weekly WB perpetration.

4.4. Method

4.4.1. Participants

We conducted a three-wave longitudinal and a diary study simultaneously measuring different antecedents for perpetration. The results of the first wave longitudinal study (LS) (n = 2508) were used to recruit participants and to set control variables for the diary study. For the LS, we collected data mainly by contacting two psychology and organizational psychology professors at Spanish and Turkish universities. We invited them to help in the initial wave data-gathering phase by encouraging their students to find respondents who worked at least eight hours per week, in line with the ILO definition of being employed (International Labour Office, 2014), in exchange for extra credit. Data obtained by students gathering respondents was heterogeneous and thus more likely to be generalizable (Demerouti & Rispens, 2014). Respondents were informed that the study was about employee health without explaining the hypotheses and disguising that it was a study on WB. Data were collected via the Qualtrics survey tool. The study was conducted under the approval of the Bioethical Committee of the University of Barcelona covering the countries mentioned (protocol code IRB00003099, approved as of 5 October 2020). All respondents provided electronic informed consent to participate, their data to be used for publication and entered their email addresses to be further contacted for research.

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The following criteria were used to invite first-wave respondents to the diary study (i) bullies and perpetrators, (ii) victims and targets, since being a target strongly predicts being a perpetrator, (iii) participants high in neuroticism, low in agreeableness and conscientiousness as these traits are related to WB bullying and perpetration. Therefore, from the LS T1 results, employees with higher-than-average perpetration ($M = 1.22$, $SD = .57$), target ($M = 1.66$, $SD = 91$), victim ($M = 1.47$, $SD = 1.15$), and bullying scores ($M = 1.14$, $SD = .66$) were invited to the diary study. Additionally, employees with lower-than-average conscientiousness ($M = 5.43$, $SD = 1.17$), agreeableness ($M = 5.52$, $SD = 1.05$), and higher-than-average neuroticism ($M = 3.74$, $SD = 1.15$) traits were also invited to join the diary study. Therefore, 493 participants were invited to the study disguised as wellness training called the "Leadership Wellness Program". Thirty-eight individuals adhering to our inclusion criteria and currently working joined the diary study. Seven participants reported no perpetration during the diary study. Therefore, they were removed from the analysis, leaving 31 participants (Table 8).

Table 8.

Sociodemographic Characteristics of Participants at Baseline.

Number of Participants	31		Baseline Characteristics	31	
Baseline Characteristics	*Mean*	*SD*	Baseline Characteristics	*n*	%
Age	37.94	12.27	Organization Sex Ratio		
Tenure	6.39	8.24	Female-dominated	13	41.94%
Work Days	5.10	0.70	Male-dominated	14	45.16%
Extraversion	4.05	1.17	Balanced	4	12.90%
Agreeableness	5.65	0.83	Supervisor		
Conscientiousness	5.21	1.15	Yes	12	38.71%
Neuroticism	4.35	1.30	No	19	61.29%
Intelligence and Imagination	4.92	1.14	Living in		
T1 Victim Score	2.16	1.70	Turkey	18	58.06%
T1 Bully Score	1.32	1.14	Spain	13	41.94%
T1Target Score	2.28	0.86	Gender		
T1Perpetration Score	1.30	0.39	Female	15	48.40%
T1Organizational Trust	3.97	1.49	Male	16	51.61%
T1Organizational Justice	3.73	1.58	Mental Illness		
T1Psychological Distress	3.11	1.49	Yes	9	29.03%
T1Physical Symptoms	2.61	0.77	No	22	70.97%

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All the analyses conducted on the within-level were based on the 31 participants involved in WB perpetration during the diary study, while between-level analysis is based on their scores at the first wave of LS. The LS' second (T2) and third waves (T3) are not part of the present study.

The participants provided 720 observations, where 28 participants completed 24 waves, one participant 19 waves, one participant 15 waves and one participant 14 waves of data collection. We observed WB perpetration 720 times of the possible 912 (24 weeks x 38 participants), yielding an observation rate of 78.95%.

Their average age was 37.94 ($SD = 12.27$), with 6.39 years of tenure in work-life. On average, they worked 5.10 days ($SD = .70$) weekly. Participants had various professions (e.g., academicians, customer support and sales representatives, finance managers, medical doctors, graphic designers, human resources professionals, IT managers, municipality administration officials, and teachers). They were from various sectors: manufacturing (16.67%), wholesale and retail trade (16.67%), information and communication (16.67%), education (13.33%), health (10.00%), and other sectors (20.00%). Of the 31 participants, only four participants (12.90%) worked in a gender-balanced environment, twelve (38.71%) were supervisors, and eighteen (58.06%) were living in Turkey. Fourteen participants (45.16%) were female, and 9 (29.03%) reported having or had been diagnosed with a mental illness (Mental Illness score was formed by (i) asking for a "yes = 1" or "no = 0" answer to; "Has a physician ever informed you that you have or have had chronic diseases listed below?" Depression (Eurostat, 2020). (ii) Open-ended questions on other chronic illnesses. Then, mental illnesses mentioned (e.g., bipolar disorder, obsessive-compulsive disorder) were scored as "yes = 1" in the other mental illnesses column. Finally, depression scores and other mental illnesses columns were combined

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to form "mental illnesses"). Participants were not subject to COVID-19 lockdown measures. Based on the first wave of LS, they scored 4.05 (SD = 1.17) on extraversion (Personality traits were measured using the 20-item mini-IPIP scale (Donnellan et al., 2006), (1 = completely false, 7= completely true)), 5.65 (SD = .83) on agreeableness, 5.21 (SD = 1.15) on conscientiousness, 4.35 (SD = 1.30) on neuroticism, 4.92 (SD = 1.14) on intelligence and imagination. They reported that they were victims of bullying (T1 Victim score was measured by single-item questions with a bullying definition (COPSOQ III); "Bullying means that a person repeatedly is exposed to unpleasant or degrading treatment, and that the person finds it difficult to defend himself or herself against it". Have you been exposed to bullying at your workplace in the last 6 months? (1 = never, 7 = very frequently) (Burr et al., 2019). (M = 2.16, SD = 1.70), and they bullied others (T1 Bully question was obtained by modifying the bullying questions into an active form; "Have you bullied others at your workplace in the last 6 months? (1 = never, 7 = very frequently).) in their current jobs (M = 1.32, SD = 1.14). We also inquired about bullying experiences and WB perpetration through a behavioral approach. The participants scored 2.28 (SD = .86) on target questions (Workplace bullying was measured by a 4-item EAPA-T-R scale (Escartín et al., 2017) (1 = never, 7 = very frequently /more than once a week). Workplace bullying perpetration was measured by the same scale by adopting the questions to an active format), 1.30 (SD = .39) on WB perpetration, 3.97 (SD = 1.49) on organizational trust (Organizational Trust was measured by a 7-item scale (Robinson, 1996) (1 = strongly disagree, 7 = strongly agree)), 3.73 (SD = 1.58) on organizational justice (Organizational Justice was measured by a 6-item scale (Ambrose & Schminke, 2009) (1 = strongly disagree, 7 = strongly agree)), 3.11 (SD = 1.49) on psychological distress (Psychological Distress was measured by a 4-item scale (Restubog et al., 2011) (1 = never, 7 =

always) and 2.61 (SD = .77) on physical symptoms (Physical Symptoms were measured by the 12-item version (Duff et al., 2019) (1 = never, 7 = always))

4.4.2. Measures

We measured sleep duration, sleep quality, PA, and being bullied as antecedents to WB perpetration. WB Perpetration, being bullied, and sleep quality data were measured weekly via mini-surveys. Sleep duration data were collected daily by fitness trackers. We aggregated daily data to form weekend and weekday average sleep duration. Physical activity data, as steps taken, were also collected daily by fitness trackers. We aggregated daily data to form weekend and weekday average steps data. We controlled for baseline measures of supervisory position, psychological distress and mental illnesses.

WB Target: The four-item EAPA-T-R scale (Escartín et al., 2017) developed for diary studies was used (e.g., My correspondence, telephone calls, or work assignments have been controlled or blocked; 1 = never, 7 = daily). The scale was developed in Spanish and had an English version. The questions in English were translated into Turkish using the translation back procedure. We checked the scale's validity with a sample of 302 responses in our first wave of LS. The correlation coefficients of all questions in the EAPA-T-R WB Target scale (Q1 r = .69, Q2 r = .75, Q3 r = .72, Q4 r = .64) against the total score were higher than the critical value of .113 (300 df (.05)) for a sample size of 302. Therefore, the target scale was valid. The internal consistency for the scale was also acceptable within our sample (Cronbach's α = .74) (DeVellis, 2016) during the first wave of the LS.

WB Perpetration: The Spanish four-item EAPA-T-R scale (Escartín et al., 2017) was converted to an active style to measure how frequently participants directed each of the four behaviors towards others during the last week (Escartín et al., 2017) (e.g., I controlled or

blocked the correspondence, telephone calls, or work assignments of others; 1 = never, 7 = daily). Every week the results of this scale were used to monitor diary study participant'' WB perpetration behavior, frequency, intensity, and duration. We checked the scale's validity with a sample of 302 responses in our first wave of LS. The correlation coefficients of all questions in the modified EAPA-T-R WB Perpetrator scale (Q1 r = .65, Q2 r =.74, Q3 r = .64, Q4 r = .55) against the respective total score were higher than the critical value of .113 (300 df (.05)) for a sample size of 302. Therefore, the modified WB perpetrator scale showed evidence of its validity, and the internal consistency for the scale was acceptable (Cronbach's α = .77) during the first wave of the LS. The questions formed in Spanish were translated into Turkish using the same translation back procedure.

We also compared EAPA-T-R target scores, and modified EAPA-T-R perpetration scores with the single-item victim and bully scores obtained at Time 1 of the LS (n = 2508). There was a significant correlation between the EAPA-T-R target score with the victim score (r = .51, p <.01), and the modified EAPA-T-R perpetration score with the bully score (r = .58, p <.01) at Time 1 of the LS. This result supported the construct validity of the EAPA-T-R target and modified EAPA-T-R perpetration scales. These values were expected since not all employees exposed to bullying feel victimized (Escartín et al., 2017).

Sleep Quality: We verified the sleep quality by a single-item self-rated sleep quality (Cappelleri et al., 2009; Rozenzveig et al., 2014) measure (e.g., during the last week: How satisfied were you with your sleep quality? 0 = best possible sleep, 10 = worst possible sleep). A single-item measure was previously shown to have acceptable reliability and validity (Gerhardt et al., 2019; Kottwitz et al., 2018). The single-item question was in English and was translated to Spanish and Turkish using the same translation back procedure mentioned above.

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Fitbit Inspire 2 (Fitbit LLC, San Francisco, CA, USA) trackers were distributed to the participants to track their sleep duration and step counts. The daily sleep duration and step data were converted to weekly averages for analysis. Although trackers also reported sleep quality to the users, these measurements were not available for download from the consolidator platform, Fitabase (Small Steps Labs LLC, San Diego, CA, USA).

Sleep Duration: The fitness trackers monitored daily sleep duration and supported the subjective measure of sleep quality (Crain et al., 2014). Fitbit devices record significant movements during sleep as sleep interruption or 'awakening." Thus, such moments are recorded as awake, and sleep duration is indicated net of these awakenings. Data were collected on a 24-h per day basis (00:00-23:59). The average weekend sleep duration was computed by averaging Saturday and Sunday sleep (anytime slept between Saturday morning and Monday morning). Similarly, average weekday sleep duration was computed by averaging sleep from Monday to Friday (anytime slept between Monday morning and Saturday morning).

Steps taken: During the diary study, PA was also monitored by fitness trackers in terms of daily steps taken. The device can pick up activity and report steps taken. Data were collected on a 24-h per day basis (00:00-23:59), and data were computed to yield the average weekend steps by averaging Saturday and Sunday (Saturday 00:00-Sunday 23:59). Similarly, the average weekday steps were computed by averaging steps from Monday to Friday (Monday 00:00-Friday 23:59).

Supervisory position, psychological distress, and mental illnesses (see Section 4.4.1) were chosen as control variables based on the results of the first wave of the LS. A single item question inquired about the supervisory role; "Do you have a supervisory position (do you manage other employees)? Yes =1, no = 0.

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4.4.3. *Procedure*

As longer-term diary studies help us understand the temporal precedence between individuals' perceptions of their environment and individual states over time, we designed a 24-working-week diary study to examine the predictors of WB perpetration. We adopted a 'full panel design' in which predictors, exposure to bullying was measured weekly, sleep, and PA were measured daily, and the dependent variable, WB perpetration was measured weekly. We stopped data collection if the participants were not working (e.g., on vacation, sick leave, or job change). The study started in May 2021 and lasted until January 2022 (Figure 6).

Figure 6.

Diary Study Timeline (Created by Biorender.com).
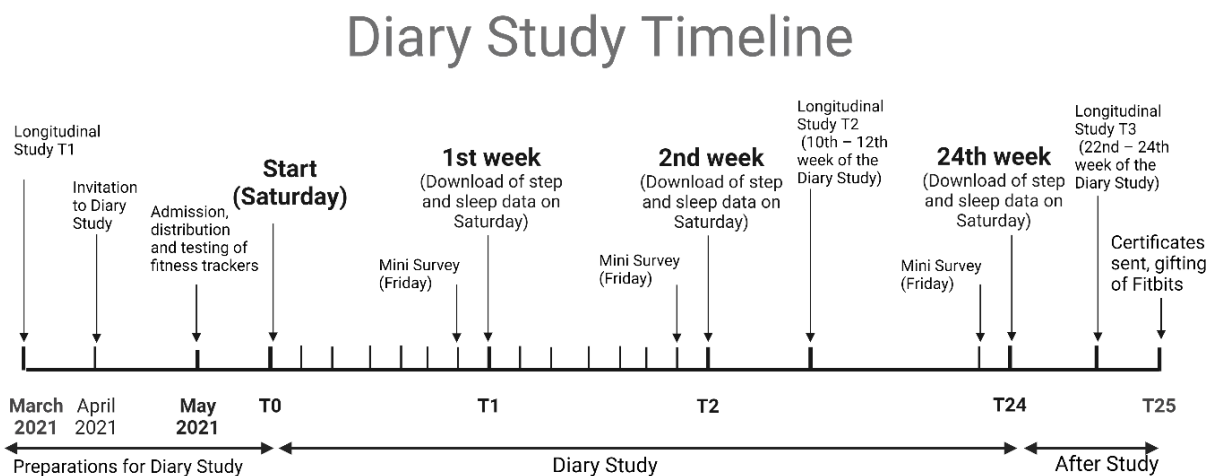
Before the start of the diary study, we met the participants. We explained that while the study is about employee health, there will be questions about work conditions. We urged them to answer honestly and told them there were no right or wrong answers. We gave them Fitbit fitness trackers and requested them to wear them around the clock except for three hours per day while they showered or charged the device. We created Email and Fitbit accounts on the participants" behalf with dummy names and email addresses to guard the confidentiality of the

project. We assisted participants in downloading the app on their mobile phones, logging in with the new account information, and synchronizing the device. We regularly checked their data and reminded them to wear, synchronize, and charge their tracker throughout the study (Ellingson et al., 2019). To be able to verify the usage, we requested access to heart data as well. When participants did not wear the device, we reminded them to reduce data loss. We regarded the day as missing if there were more than 3 hours of not wearing. We kept track of synchronizing at least every two days to reduce the risk of losing data. On Saturdays, daily data for each week was downloaded from the consolidator platform.

Before the diary study started, we obtained informed consent from participants to monitor their data for the stated period. We ensured that personal information (name, age, etc.) would be kept confidential and that personal data would not be shared with any other entity or person outside the investigation. Before the start of the study, we gave participants the task (Grawitch et al., 2008) of 'engaging in good health habits' (e.g., reduced consumption of alcohol, improved sleep, optimal PA, etc.). Each Friday after 17:00 h, a short questionnaire was sent to participants via personalized links. Every Saturday, participants were reminded to complete the survey by the end of Sunday as it would become unavailable. Weekly assessments reduced retrospective bias (Bakker & Bal, 2010; Griep et al., 2015). To keep motivation high, we followed up with each participant who missed the weekly questionnaire (Ellingson et al., 2019). It was promised that certificates of Wellness Training would be given upon full participation, and Fitbits would be gifted. We checked whether the responses were valid (e.g., the same answers throughout the diary) and found no validity.

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4.4.4. Strategy of Analysis

The repeated measurement of the participants, where the weeks are nested within persons, made it necessary to perform multilevel analysis on the data with weekly observations at the first level (Level 1; $N = 720$) and persons at the second level (Level 2; $n = 31$). In our multi-level-analyses, we used person-mean centering (group-mean) for weekly antecedents to ensure Level 1 coefficients represent within-person effects. Grand mean centering was used to understand the relationship between the control variables (psychological distress, supervisory position and mental illness) and WB perpetration on Level 2 (Ohly et al., 2010). We performed a three-step procedure. First, a null model containing no predictors was tested to see how much of the variance in WB perpetration was within and between levels, where within-level variance was significant. Second, WB perpetration was regressed upon weekly antecedents and without control variables to test for the main effects of weekly antecedents on WB perpetration. As the model fit was acceptable, control variables were introduced on the between-level in the third step to see if the model fit improved. The analysis was conducted in a multilevel format using Mplus 8.8 (Muthén & Muthén, 2017). The Maximum Likelihood Robust estimator was used for regression analysis which does not provide confidence intervals on the multilevel. In evaluating the adequacy of models, we considered the following fit indices: the chi-square, the comparative fit index (CFI), the Tucker-Lewis index (TLI), the root-mean-square error of approximation (RMSEA) and the Standardized Root Mean Square Residual (SRMR). When evaluating the goodness-of-fit of structural regression models with a chi-square value, a non-significant p-value indicates a good fit. Other indices of model fit were also considered in this study. Based on stringent recommendations (Hu & Bentler, 1998), a CFI and TLI value of .90 or greater indicated a good fit, and values of .95 or greater represented excellent fits. The

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RMSEA point estimate indicated a good fit to the data at values of .10 or less, with values of .06 representing excellent fits. SRMR value of a maximum of .08 indicates a good fit. As for the missing values, we relied on the Full Information Maximum Likelihood (FIML) method to reduce the response bias (Duncan et al., 2006). When using FIML, missing values (either by not completing the data collection weekly, not wearing the Fitbit, or by missing just one item or a scale) are not changed or imposed, but they are processed within the analysis model, allowing the use of all the available information to predict the model. We primarily analyzed descriptive statistics, correlations, and independent t-tests in SPSS 26 (IBM Corp, New York, NY, United States).

4.5. Results

4.5.1. Descriptive Statistics and Correlations

We conducted a Pearson correlation analysis of variables measured in the first wave of LS to determine the control variables for the diary study (Table 9). We employed this approach since the diary sample size was too small to give reliable results on between-level correlations. As expected, being a supervisor ($r = .08$, $p < .01$), mental illnesses ($r = .11$, $p < .01$), neurotic personality trait ($r = .11$, $p < .01$), psychological distress ($r = .21$, $p < .01$), physical symptoms ($r = .21$, $p < .01$) and being bullied at work ($r = .42$, $p < .01$) were positively correlated with perpetration. Meanwhile, age ($r = - .10$, $p < .01$), agreeableness ($r = - .16$, $p < .01$), and conscientiousness traits ($r = - .18$, $p < .01$) were negatively correlated with perpetration. As for work environment, organizational trust ($r = - .09$, $p < .01$), and organizational justice ($r = - .08$, $p < .01$) at work were negatively correlated with perpetration.

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Table 9.

Correlations of main variables in the longitudinal study (LS).

	Variables	M	SD	1	2	3	4	5	6	7	8
1	Age	34.46	12.25	-							
2	Gender	0.43	0.49	−.02	-						
3	Supervisor	0.28	0.45	.21 **	.17 **	-					
4	Mental Illness	0.13	0.34	−.00	−.09 **	−.02	-				
5	Extraversion	4.26	1.14	−.08 **	−.00	.08 **	−.00	-			
6	Agreeableness	5.52	1.05	.13 **	−.20 **	.01	−.02	.18 **	-		
7	Conscientiousness	5.43	1.17	.16 **	−.03	.06 **	−.10 **	.08 **	.20 **	-	
8	Neuroticism	3.74	1.15	−.15 **	−.26 **	−.08 **	.24 **	−.14 **	−.03	−.23 **	-
9	Intelligence/Imagination	5.02	1.16	−.16 **	.02	−.00	−.02	.22 **	.23 **	.08 **	−.09 **
10	T1 Org. Trust	4.84	1.28	−.05 *	.05 *	.05 *	−.16 **	.12 **	.14 **	.10 **	−.21 **
11	T1 Org. Justice	4.66	1.41	−.04	.06 **	.08 **	−.16 **	.11 **	.10 **	0.03	−.21 **
12	T1 P. Distress	2.4	1.11	−.15 **	−.12 **	−.00	.25 **	−.10 **	−.05 *	−.11 **	.40 **
13	T1 P.Symptoms	2.33	0.83	−.20 **	−.21 **	−.05 *	.27 **	−.03	−.02	−.10 **	.38 **
14	T1 Target	1.66	0.91	−.07 **	−.06 **	.01	.18 **	−.01	−.11 **	−.11 **	.20 **
15	T1 Perpetration	1.22	0.57	−.10 **	.01	.08 **	.11 **	−.00	−.16 **	−.18 **	.11 **

	Variables	M	SD	9	10	11	12	13	14	15
9	Intelligence/Imagination	5.02	1.16	-						
10	T1 Org. Trust	4.84	1.28	.08 **	-					
11	T1 Org. Justice	4.66	1.41	.05 *	.80 **	-				
12	T1 P.Distress	2.4	1.11	−.01	−.41 **	−.44 **	-			
13	T1 P.Symptoms	2.33	0.83	−.01	−.27 **	−.29 **	.54 **	-		
14	T1 Target	1.66	0.91	−.02	−.39 **	−.40 **	.45 **	.35 **	-	
15	T1 Perpetration	1.22	0.57	−.11 **	−.09 **	−.08 **	.21 **	.21 **	.42 **	-

Note: n= 2508; Gender: 0 = Female 1 = Male; Supervisory role: 0 = no; 1 = yes; Mental Illness: 0 = no; 1 = yes; * $p < .05$; ** $p < .01$.

4.5.2. WB Perpetration Frequency, Intensity and Duration

The WB perpetration scores were monitored throughout the study. At the end of the study, we grouped participants into five groups in terms of the intensity, frequency and duration of their perpetration behavior measured by the weeks acted out (Figure 7).

Figure 7.

Groups in Diary Study by perpetration frequency, intensity and duration.

1. *24-week Continuous High-Level of Perpetration (n = 2)*

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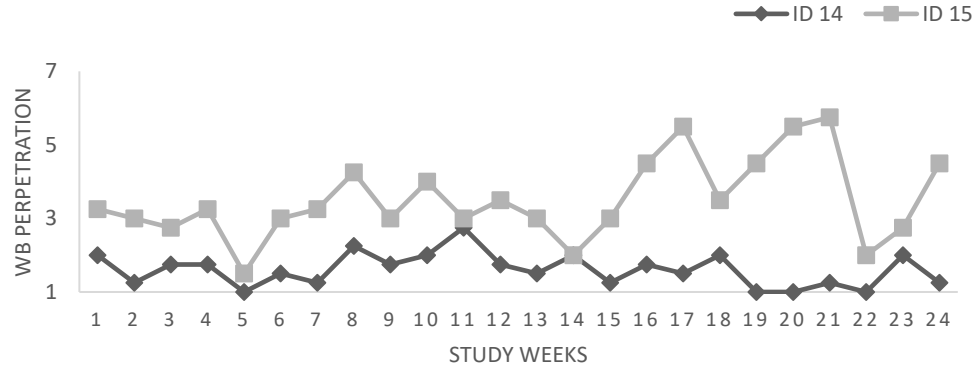
2.   *24-week Continous Medium-Level of Perpetration (n = 8)*
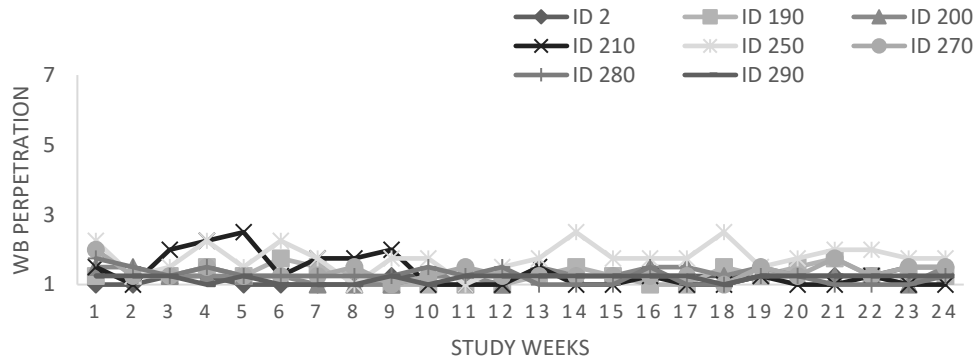
3.   *24-week Continous Low-Level of Perpetration (n = 3)*
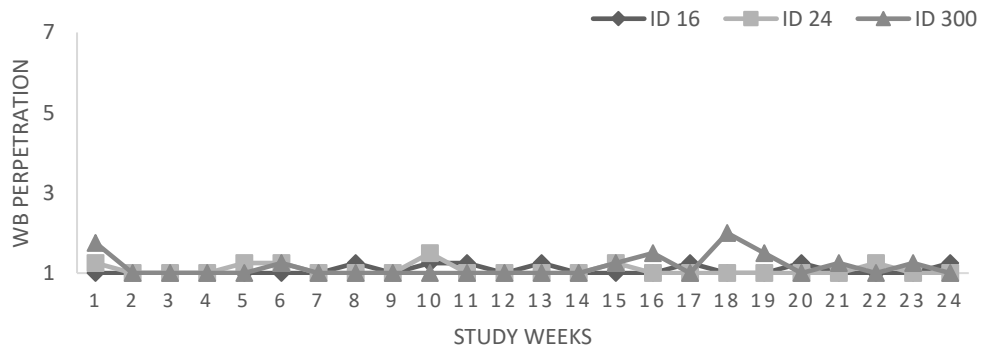
4.   *Up to 18-weeks of Low-Level Intermittent Perpetration (n = 10)*

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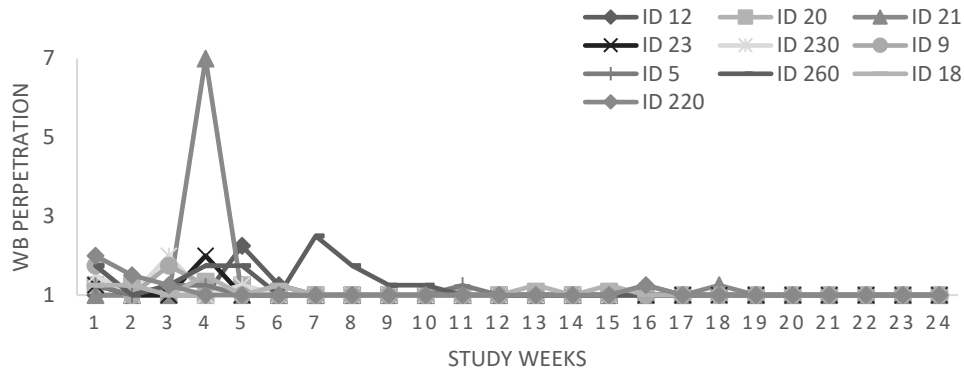
5.   *One-time Perpetrators (n = 8)*
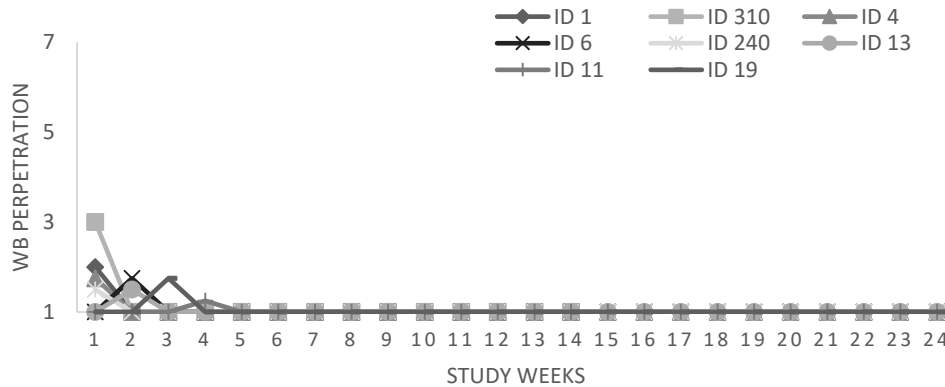
Note: ID: participant identification number

One of the aims of the diary study was to monitor perpetration as a process and observe how it unravels and evolves for each individual. The first three groups (1-3) represent how individuals may be caught up in the process where WB perpetration acts continue despite vacations, holidays or sick leaves with varying intensities. Previously, employees were classified as perpetrators when they performed at least one negative act per week or at least four negative acts per month (Escartín, Ullrich, et al., 2013). Based on this definition, participants who reported one negative act even for one week were included in the "involved" group. Therefore, when classified as per frequency and duration, eight participants reported

WB perpetration only for one week, seven reported between 2 and 4 weeks, and sixteen participants reported from 5 weeks (21% of the study period) up to 24 weeks (100% of the study period). Differences in behavior patterns showed us that perpetrators are not one homogenous group, as mentioned by previous studies (Zapf & Gross, 2001). While they may differ among themselves in the intensity of the act, WB perpetration behavior for most was sustained for a long time, and individuals did not change their behavior.

4.5.3. Hypothesis Testing

We conducted a series of multilevel confirmatory factor analyses with Mplus 8.8 (Muthén & Muthén, 2017) to discriminate the variables included in the study (e.g., being bullied; sleep quality; weekend and weekday sleep duration; weekend and weekday step counts). We assessed if the previous week's variables were predictors for this week's perpetration. The model fit was unacceptable. Therefore, we concentrated on this week's variables in this week's perpetration incidences. The only combination of predictor variables that had a model fit was sleep quality, weekday steps and target score ($\chi 2$ (df = 6) = 6.5, CFI = .98, TLI = .96, RMSEA = .01, SRMR$_{within}$ = .03, SRMR$_{between}$ = .09). These variables explained 5.90% of the variance in perpetration score on the within-level while control variables explained 27.70% of the variance on the between-level. Table 10 presents all predictors' standardized estimates, standard errors, and t and p values. Without the control model fit was lower ($\chi 2$ (df =3) =3.4, CFI = .97, TLI = .93, RMSEA = .01, SRMR$_{within}$ = .03, SRMR$_{between}$ = .00).

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Table 10.

Multilevel associations between predictors and WB perpetration (same week)

	WB Perpetration			
	Estimate	*SE*	*t*	*p*
Within-level				
Sleep Quality	.02	.05	.46	.65
Average Weekday Steps	.07	.03	2.05	.04
Target Score	.23	.07	3.17	.00
Between-level				
Mental Illness	− .24	.10	−2.42	.02
Supervisory Role	.28	.11	2.60	.01
Psychological Distress	.37	.19	1.99	.05

Note: n = 31 participants, *N* = 720 measurement occasions.

Hypothesis 1 stated that weekly exposure to bullying would positively predict weekly WB perpetration. Results supported our hypothesis because target scores reported during the week strongly and positively predicted WB perpetration at the within-level (β = .23, *SE* = .07 *p* = .002). Of the 31 participants, 12 (38.71%) were supervisors with a group average perpetration score of 1.41 (1.14 for 19 non-supervisors). All but one was bullied; their average target score was 1.47 (1.53 for 19 non-supervisors). The Supervisor group reported 129 perpetration incidences and 135 target experiences; six were bullied more times than they bullied others, and the remaining six bullied others equal to or more times than they were bullied. This result shows us that even supervisors could be a target of WB and suffer resource losses. When unable to cope, they show negative behaviors toward others. In the non-supervisor group of nineteen, 127 WB perpetration and 235 target experiences were reported; fifteen were bullied more times than they bullied others, and the remaining group of four bullied others equal to or more times than they were bullied. Our results show that bullied employees enter a defensive mode to preserve the self and act out.

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Hypothesis 2a stated that steps taken during the week would positively, and Hypothesis 2b stated that during the weekends would negatively predict weekly WB perpetration. The multilevel analysis results on steps supported Hypothesis 2a because steps taken during the week positively predicted WB perpetration at the within-level ($\beta = .07$, *SE* $= .03$, *p* $= .04$). H2a was confirmed. The weekend steps data did not fit the data. H2b could not be tested. Therefore, our results showed that excess over the individual's weekly average PA as steps taken during the week is related to weekly WB perpetration.

Hypothesis 3a stated that weekly sleep quality would negatively predict weekly WB perpetration. Average sleep quality for 24 working weeks was 5.98 out of 10 and ranged between 2.96 and 7.96. All participants were asked about their sleep troubles before joining the diary study. They scored an average of 2.98 out of 7 on the Karolinska Sleep Scale. A nine-item short version of the Karolinska sleep scale was used (Nordin et al., 2013) to set the base measure for sleep quality (1 = never, to 7 = all the time). The participants reported similar sleep difficulties in their childhood, scoring 2.58 out of 7. Despite participants' poor baseline sleep quality, the relationship between sleep quality and WB perpetration was insignificant at the within level ($\beta = .02$, *SE* $= .05$, *p* $= .65$). Therefore, H3a was not supported. We also expected short sleep to cause stress, anger and change in mood, resulting in perpetration behavior. Having adequate sleep is one of the primary resources of COR (Hobfoll, 2001). The participants recorded an average sleep duration of 6.21 h within 24 weeks. They slept more on weekends (6.83 h) than on weekdays (6.21 h). Supervisors, on average, slept less (5.91 h) than non-supervisors (6.69 h), but their sleep quality was higher at 6.21 as opposed to 5.84 out of 10 for non-supervisors. However, sleep duration did not fit any models; therefore, H3b could not be

tested. We also tested if sleep moderates the relationship between being bullied and bullying others, but the results were inconclusive as the model did not fit the data.

While being bullied, sleep and PA were tested as antecedents to perpetration on a within-level; we controlled for psychological distress, supervisory position and mental illnesses on a between-level.

The participants reported an average psychological distress score of 3.11 ($SD =1.49$) compared to the rest of the LS participants of 2.39 ($SD = 1.49$), which was a significant difference, t (2429) = 3.61, $p <.00$. These results suggested that our sample may have been confronted with especially stressful events. As per COR, events are considered stressful if the stimulus leads to emotional upset, psychological distress, or physical impairment (Hobfoll, 1989). At the baseline, they had a higher target score ($M = 2.28$, $SD = .86$, t (2384) = 3.84, $p <$ .00), higher physical symptoms ($M = 2.61$, $SD =.77$, t (2404) = 1.92, $p = .05$), lower organizational trust ($M = 3.97$, $SD = 1.49$, t (2483) = - 3.82, $p < .00$) and lower organizational justice environment ($M = 3.73$, $SD = 1.58$, t (2477) = - 3.73, $p < .00$), which were significantly different from the rest of the LS group. Our results showed that psychological distress predicted perpetration as a control variable on the between-level. Our sample had twelve supervisors (38.71%), and the supervisory position also predicted perpetration in between-level analysis. Lastly, we controlled for mental illnesses. Nine (29.03%) out of 31 participants have been diagnosed with mental illnesses (Depression = 8, obsessive-compulsive disorder = 1), and mental illness score predicted lower WB perpetration.

In summary, our results showed that individuals engaged more in WB perpetration towards others during the weeks they were bullied and when they were more physically active than their average levels. The group engaged in increased perpetration if they were supervisors

and reported higher psychological distress. The reports of WB perpetration were lower for participants with mental illnesses.

4.6. Discussion

The present study utilized a within-person approach, incorporated the perspectives of perpetrators, and focused on the dynamic process of WB. We believe we have made two important contributions to the literature on WB from the perspective of the perpetrators. First, by applying a 24-week diary design, we demonstrate the dynamics of perpetration incidences on a within-level and how they emerge, intensify, prevail or die away. Our results support the theoretical structure of COR. Being bullied tarnishes major resources of the COR (e.g., feelings of being valuable and successful). Once employees lose these resources, stress, anger, and depressive moods occur. Loss of self-esteem may be met with attempts to re-establish self-esteem or losses incurred in some conflicts may be compensated by gains in others (Hobfoll, 2001). Employees with no supervisory roles usually have less power, are more exposed to WB and may lack experience handling work conflicts. However, we also showed that supervisors who bully are also being bullied. Previous research also indicated that employees show continuous linear responses to being bullied and bully others (Escartín, Ceja, et al., 2013). Based on the frequent, long-lasting nature of the acts, our results align with the previous result that workplace bullying differs from interpersonal conflicts in duration and frequency (Baillien et al., 2017). Our results also support the three-way model (Baillien et al., 2007), suggesting that perpetration behavior may arise due to unsolved escalating interpersonal conflicts, ineffective coping and a toxic work environment. Furthermore, our participants scored high in psychological distress, were caught up in a vicious cycle of workplace bullying and had lower-than-average organizational trust and justice environments.

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The second major contribution is incorporating psychological and, more importantly, physical health into the study of perpetrators using objective data and not only using perceptions. To our knowledge, in previous studies, perpetrators were not assessed for their stress levels and mental and physical health. Our results showed that excess PA during the week impacts the individual reporting weekly WB perpetration. This result suggests that excess PA at work, in the household, during leisure time or commuting to work may exhaust the individual. There may be several explanations for physical fatigue. Firstly, during the research, 29% of the participants switched to working from home to the office, and 19% changed jobs and positions, which may have caused lifestyle and commuting schedule changes that may have drained their resources. Second, except for one, all our participants were being bullied. They may have relied on physical activities during the weekdays as a stress relief tool to recuperate lost resources due to being bullied. However, these activities may have caused physical fatigue along with weekday tasks in other domains, diminishing health and stress resistance capacity instead of enhancing it. Third, participants may have exerted too much effort to stay active during the weekdays. Previous research with activity trackers has shown that steps taken may increase throughout the study since the participants know they are being monitored (Torres & Zhang, 2021). As we hypothesized that PA may trigger WB perpetration incidences, we encouraged the participants to engage in good health habits during the study as much as possible. We told them that engaging in the task is up to them. We did not mention that they should walk more or increase their average steps. Despite this, some participants may have forced themselves to increase activity levels to adhere to the "good health habits" task. If participants engaged in irregular PA, these activities may have also exhausted them, facilitating increased perpetration incidences. We also tested if PA moderates the relationship between

being bullied and bullying others, but the results were inconclusive as the model did not fit the data. Another physical health marker was sleep (i.e., quality and duration). While we could not test sleep quantity, our results showed that variations from average weekly sleep quality did not predict perpetration, diverging from the positive link between sleep quality and various aggression constructs established by previous studies (Christian & Ellis, 2011; Freitag et al., 2017).

Thirdly, our control variables for between-level showed that reports of WB perpetration tended to arise more from supervisors, from participants with high psychological distress and without mental illnesses. Many victims are being bullied by their supervisors, but supervisors' chances of being reprimanded, dismissed, or socially isolated are low, so they may also perceive a low risk for themselves. Supervisors may also use bullying as a disciplinary action or to eliminate unwanted employees (Salin, 2003). COR can explain supervisors' behavior. They weigh potential resource gains (e.g., team success) against resource losses (e.g., time spent supporting subordinates). When their resources are low, supervisors may become defensive in their resource investment strategies and thus trigger resource losses around themselves (Hobfoll et al., 2018). Previous research showed that mental illnesses were positively correlated with WB perpetration (Özer et al., 2022). However, our results showed that mental illnesses predicted lower perpetration. COR suggests severe resource losses and resource investments that fail to resolve conflicts are responsible for depression (Hobfoll, 1989). Based on this, we may say that the participants with mental illnesses may already be low on resources. They might feel that their health, well-being and employment are at risk. Experiencing bullying may put additional stress on this group. By weighing the outcome potential instead of further risking

their resources, they may refrain from engaging in conflicts, and hence perpetration behavior is less prominent.

4.6.1. Theoretical and Practical Implications

We contributed to COR with two important pieces of evidence. Firstly, we demonstrated an empirical example of resource loss spirals (Figure 7). Resource loss spirals emerge when an individual with low resources attempts to redeem the self by using remaining resources to cope. This effort results in ineffective coping without positive outcomes but with higher distress (Hobfoll et al., 2018). During our study, the frequency of being bullied was 370 observations; the WB perpetration frequency was 256 observations of behaviors; 80% (206) of the total perpetration behaviors appeared during the week of participants being bullied. For seven participants, the resource loss spirals of bullying and perpetration continued between 18-24 weeks, suggesting that aggressive responses did not work, conflicts were not resolved, and resource loss spirals continued. Previous research showed that once perpetration behavior starts, individuals tend to resist change (Escartín, Ullrich, et al., 2013).

Secondly, we contributed to COR on psychological and physical health, which WB scholars usually do not cover. COR suggests that when individuals invest in resource gains, and if this investment does not provide a good return, it may be perceived as a loss of expected gains and create stress (Hobfoll, 1989). As the participants were in a wellness program, they may have invested time in PA, expecting to feel healthier. If these expectations did not materialize, they may have perceived the result as a resource loss and displayed negative behaviors to regain resources. Similarly, engaging in excess weekday and work-time PA may also physically drain employees, resulting in resource losses. COR also suggests that individuals with low resources are more prone to resource losses (Hobfoll, 2001). If employees

were low on resources due to a stressful work environment (e.g., being bullied), excess PA may also have caused further resource losses. These losses may have been in the form of physical or emotional fatigue. Therefore, the resource losses caused by (i) unmet expectations, (ii) excess PA, and (iii) a toxic work environment may have pressured employees to display coping behavior and protect the self through perpetration behavior.

Employers are primarily responsible for protecting employees from bullying that undermines their reputation, health, and dignity. Therefore, top management guided by human resources departments should create just and fair policies, publish the organizational code of conduct to guide the employees on unacceptable behavior and hold employees accountable in case of breach (Salin et al., 2020). They also should ensure that job roles are clear, workloads are manageable, and conflicts are actively managed to inhibit the emergence of bullying. This study's results suggest that organizations must be alert to their employees' physical and psychological well-being. By mass surveying or through their occupational physicians, organizations may ensure that the PA employees undertake during weekdays are not over and beyond their endurance levels. Organizations may engage in job redesigns to enhance employee health and wellness and look beyond the working hours to support and coach employees against physical strain.

4.6.2. Strengths, Limitations and Future Research

The first strength of this study was the 24 working week design analyzing the dynamics of perpetration behavior, which was long called for (Nielsen & Einarsen, 2018). Our study was one of the first to observe active and potential perpetrators over and above one month and analyze within-person fluctuations. Therefore, by monitoring individuals' lives for over nine months with 24 waves, we were able to maximize our chances of detecting patterns in their

perpetration behavior related to the variables studied (Taris & Kompier, 2014). Second, the weekly diary design reduced the risk of retrospective bias as opposed to looking back six months, as generally conducted in cross-sectional or longitudinal studies. Third, we gathered sleep duration and step count directly from the fitness tracker app through an aggregator platform, increasing the objectivity of the data and reducing the reliance on self-reports.

The sample size was one of our main limitations. Despite the relatively small sample size, we had an appropriate number of observations for within-level analysis ($N = 720$ observations). However, our sample size was not appropriate for between-level analysis as it was less than the suggested 50 for unbiased estimates on the between-level (Gerhardt et al., 2019; Maas & Hox, 2005). Our second major limitation was that our results for the relationship between predictors and WB perpetration remain correlational and not causal. Although we tested if antecedents predicted WB perpetration with one week lag, the model fit was unacceptable. Perhaps the reason for this was the breaks during the 24-work week study. A general limitation was the problem of common method variance due to self-reports (Podsakoff et al., 2003). To mitigate this risk, (i) we separated the measurement of the predictor variable from the outcome variable by announcing the study as a wellness training program, (ii) assured respondents that there are no right or wrong answers and that they should answer questions as honestly as possible, and (iii) we changed the order of questions in the scales and the order of scales. Another limitation was the social desirability effect, where participants may have underestimated their responses, particularly on perpetration incidences. To mitigate this risk, we (i) assured anonymity, (ii) conducted the research outside participants" organizations, (iii) did not inquire about where they worked, and (iv) we did not mention "bullying" throughout the study. We believe this risk was largely mitigated, evidenced by the persistent reports on

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WB perpetration except for one-time perpetrators in the study. One may also see the low frequency and duration of perpetration acts in Groups 4 and 5 (Figure 7) as a study limitation and argue that low-intensity perpetration groups should not have been classified as WB perpetrators. However, we examined perpetration weekly rather than seeking accumulated scores (e.g., the previous six months). Therefore, we used every observation possible. Finally, Fitbit activity trackers may not provide accurate measurements for sleep and PA (Feehan et al., 2018). However, group-mean centering mitigated this risk using relative values rather than absolute numbers in the within-level analysis.

In the future, WB perpetration studies may focus on health markers such as diabetes, mental illnesses, heart rate and conditions, sexual health, menstruation, maternity, menopause and health practices such as meditation, yoga, or mindfulness exercises. As workplaces are important places of activity for promoting public health and well-being initiatives, WB perpetration research may be teaming up with occupational health physicians or union representatives. Through the health and safety committees, occupational health physicians are made aware of the health consequences of bullying on victims (Salin et al., 2020), and they have more 'sense of urgency' to implement or improve stress-prevention measures for employees than human resource practitioners (Junne et al., 2018). However, they do not have managerial authority to act against bullying incidents. However, the recent acceleration of policy developments on "wellbeing at work" by government bodies and organizations may require occupational health physicians and organizational psychologists to act against bullying by joining forces.

In the future, fitness trackers, smart watches, diabetes patches and wellness apps may be used to track health relationships with perpetration. Studies with fitness trackers on physical

activity may incorporate surveys to enhance the knowledge of data collected (e.g., classifying collected data as energizing or draining). Future studies testing causality between perpetration and predictors may use more frequent or uninterrupted data collection cycles and add other sources of information through subordinates or colleagues.

4.7. Conclusion

This study examined the impact of sleep, PA and being bullied on employees' within-level perpetration behavior using a multi-source 24-workweek diary study. Our results showed that on a within-level, employees who were physically active more and were being bullied more had higher perpetration behavior, while sleep quality was not related to perpetration behavior. On a between-level, supervisors more than non-supervisors and employees high on psychological distress showed higher perpetration behavior. In contrast, employees who had mental illnesses exhibited lower perpetration acts compared to mentally healthy employees. Our results aligned with the theoretical notions presented in the COR and three-way model. This daily and weekly diary study extended previous research that perpetration behavior is not a constant phenomenon but varies systematically and unsystematically. Future studies should investigate what causes perpetration and such fluctuations (Escartín, Ullrich, et al., 2013). Our findings broadened the conceptual view of what may cause perpetration by focusing on the physical health of perpetrators as well as their psychological health. We urge organizations to implement measures to fight bullying and refrain from creating new victims as they may become new perpetrators. To reduce WB prevalence, we also urge organizations, scholars and practitioners to listen, understand, and help perpetrators change their behaviors. We hope this research will inspire future researchers to adopt a more dynamic way of thinking about the complexities of perpetration behavior.

SECTION 5: GENERAL DISCUSSION

5. GENERAL DISCUSSION

This doctoral thesis contributed to the knowledge of the bullying phenomenon from the perpetrators' viewpoint by studying perpetrators' work environment and individual characteristics longitudinally and focusing on their physical and psychological health. This section (Section 5) provides an overall discussion of the systematic review and the two empirical studies. It also discusses theoretical and practical implications and recommendations for future research.

5.1. Work environment and individual dispositions

Scholars have long analyzed bullying victims and targets and concluded that the work environment and individual characteristics of targets and victims could explain why they encounter bullying behavior. The work environment hypothesis (Leymann, 1996) suggests that work conditions foster bullying, such as role conflicts, work overload, and job ambiguity, created by poor job design and an unfavorable social environment. The second dominant explanation for bullying from the viewpoint of targets and victims has been the individual-dispositions hypothesis, which argues that individual characteristics of targets and victims, such as the outsider position of the victim, social competence and self-esteem, overachievement, clash with group norms and victims' provocative behavior play a role in being bullied (Zapf & Einarsen, 2020).

This thesis analyzed perpetrators' work environments and individual dispositions as precursors of perpetration together (Nielsen & Einarsen, 2018).

SECTION 5: GENERAL DISCUSSION

5.1.1. Systematic review

This review examined the antecedents, moderators, mediators, and outcomes associated with workplace perpetration to determine why certain persons became perpetrators and how their acts affected them. Details of the studies' methodologies and the theories employed to explain the results were also examined. To prevent WB perpetration, recommendations for management, organizations, and policymakers were also compiled.

The systematic review on workplace bullying perpetrators and bullies showed that the combination of demanding work conditions and poor work design (Baillien, De Cuyper, et al., 2011; Jenkins, Zapf, et al., 2011) placed employees in a difficult situation where they were unable to complete their tasks effectively and were in conflict with their colleagues (Balducci et al., 2012; Hauge et al., 2009; Jenkins, Zapf et al., 2011; Matthiesen & Einarsen, 2007). This created frustration and exhaustion sometimes manifested as anger towards others. If the organizations did not have clear policies against bullying (Nielsen, 2013) and management was perceived as indifferent to employee well-being (Ceja et al., 2012; Escartín et al., 2013; Escartín, Ceja, et al., 2013, Escartín, Dollard, et al., 2021), or if there were toxic teams that encouraged negative behavior (Mortensen & Baarts, 2018), then incidents of bullying and other negative behaviors were more likely to occur. Organizations eventually faced destructive consequences such as lower productivity and increased costs due to harboring perpetrators (Kline & Lewis, 2018; McTernan et al., 2013). Nevertheless, organizations could also suppress employees from raising bullying incidences if organizational gains were more compared to being unresponsive to bullying (Hodgins et al., 2020). If WB perpetration behaviors were not addressed or condemned by management (Sischka et al., 2020), they became entrenched and were repeated by other employees (Abbink & Doğan, 2018). These behaviors sometimes

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became industry practice (Bloisi & Hoel, 2008). As a result, individuals who were sometimes originally targets of negative behavior became perpetrators as a coping mechanism to protect the self and survive (Mortensen & Baarts, 2018), only to be bullied further over time (Vranjes et al., 2021).

The systematic review results indicated that perpetrators may be workaholics (Balducci et al., 2022); tend to be low on conscientiousness (Jacobson et al., 2016); narcissistic (Dåderman and Ragnestål-Impola, 2019), sadistic (Fernández-del-Río et al., 2021), selfish (Seigne et al., 2007), manipulative (Brotheridge et al., 2012; Linton & Power, 2013; Pilch & Turska, 2014), uncompassionate, and disagreeable individuals (Dåderman and Ragnestål-Impola, 2019). Moreover, these perpetrators exhibited inappropriate social behaviors (Jenkins, Zapf, et al., 2011; Mortensen & Baarts, 2018) and had low moral emotions (Jacobson et al., 2016). Perpetrators could believe that their behavior was acceptable managerial behavior (Jenkins, Zapf, et al., 2011), and could even believe that the targets of their negative behavior deserved it (Zabrodska et al., 2014) or were responsible for it (Bloch, 2012). Perpetrators could also take advantage of their position if they believed they were highly employable (De Cuyper et al., 2009), if they had task autonomy (Van den Broeck et al., 2011) or if they had an absent supervisor (Nielsen, 2013; Sischka et al., 2020). Contrasting to their generally believed powerful image, perpetrators doubted themselves (Brotheridge et al., 2012; Zabrodska et al., 2014), and had low or fluctuating self-esteem (Matthiesen & Einarsen, 2007). Perpetrators were also bullied at home and school (Kizuki et al., 2019), and at work (Escartín, Ceja, et al., 2013; García-Ayala et al., 2014; Hauge et al., 2009; Jenkins, Zapf, et al., 2011), even at managerial levels (Özer et al., 2023). While factors such as strain (Vandevelde et al., 2020) and emotional exhaustion (Van den Broeck et al., 2011) were related to perpetration, recovery experiences

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and psychological detachment from work (Garcia-Ayala et al., 2014) seemed to attenuate perpetration.

As for the outcomes of WB perpetration, those accused of bullying experienced sadness, anxiety, post-traumatic stress disorder, suicidal ideation, and a sense of injustice. They were fired or resigned from their positions, and lost faith in their managerial skills (Jenkins, Winefield, & Sarris, 2011). They also withdraw from others, self-reflected, and experienced stress, anxiety, depression, and physical illness (Wicks et al., 2021). Perpetrators could have continuous work lives (Glambek et al., 2016) but could also face bullying over time with the build-up of interpersonal problems (Vranjes et al., 2022).

The review also synthesized suggestions to inhibit WB perpetration. Organizations were suggested to conduct character trait assessments, monitor teams to prevent isolation, stress, and worsening well-being (Coyne et al., 2004; Fernandez-del-Rio et al., 2021; Mackey et al., 2016), and promote people with good moral character (Jacobson et al., 2016). Providing employees with training on conflict management (Baillien et al., 2013; Baillien et al., 2015; Escartín et al., 2013; Lee & Brotheridge, 2006; Vandevelde et al., 2020; Vranjes et al., 2022), empathy (Garcia-Ayala et al., 2014; Mazzone et al., 2021), and ethical and rational leadership practices (Sischka et al., 2020; Vandevelde et al., 2020) were also suggested.

As perpetration appeared to stem from stressful, poorly organized workplaces, organizations were advised to evaluate their work designs (Vandevelde et al., 2020) so that high-strain jobs with imbalanced job demands and resources were reduced (Baillien, De Cuyper, et al., 2011; Van den Broeck et al., 2011), supportive cultures were established (Ceja et al., 2012), and dysfunctional or conflict-escalating behaviors were discouraged (Baillien et al., 2018; Holten et al., 2016).

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Organizations were encouraged to develop positive types of leadership and reduce job stress in order to prevent the emergence of supervisor perpetrators (Hauge et al., 2009). In competitive work contexts, organizations were cautioned against absent supervisors (passive avoidant leadership) (Sischka et al., 2020).

Managers were recommended to actively focus on employees with undesirable traits (Pilch & Turska, 2014), and manage their stress, physical and psychological weariness (Ozer et al., 2023; Van den Broeck et al., 2011), as well as their frustrations (Hauge et al., 2007). It was also advised that disputes be addressed swiftly, problem-solving behavior be encouraged (Baillien et al., 2013; Escartín et al., 2013), and work recovery events be encouraged to enable psychological separation from work (Garcia-Ayala et al., 2014).

If bullying were to be reported, managers should listen to bullies (Bloch, 2012; Jenkins, Winefield, & Sarris, 2011; Linton & Power, 2013; Wicks et al., 2021); discover the originating event (Vranjes et al., 2021); balance out excess job resources that could be used to abuse others (Van den Broeck et al., 2011); and provide perpetrators with feedback and assistance (Balducci et al., 2022).

Organizations were suggested to establish explicit policies and accountability mechanisms against bullying, set up hotlines to report mistreatment (Mackey et al., 2016), introduce employee health and safety rules (Escartín, Dollard, et al., 2021; Nielsen, 2013), and discontinue harmful social practices (Mortensen & Baarts, 2018).

To prevent workplace bullying, it was recommended that policymakers hold organizations accountable for WB by imposing fines for the absence of defined policies and practices (Lacy, 2020) and enforce clear descriptions of potential sanctions to bullying-related parties (Glambek

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et al., 2016). Researchers recommended governments combat bullying in families and schools early on by initiating public awareness and prevention campaigns (Kizuki et al., 2019).

The review revealed that the results are skewed towards the experiences of European employees (90% of the sample base) from various sectors, where most participants were female (54%). Generally, perpetration reports were gathered using target scales developed with behavioral methods and modified to an active form. A restricted number of moderators and mediators were employed. Collecting data on victims, witnesses, and perpetrators concurrently de-emphasized perpetrators, making extensive analysis and presentation of perpetrators' data more difficult (Holten et al., 2016; Lee & Brotheridge, 2006; Liu, 2012; Mazzone et al., 2021; Nielsen, 2013).

WB perpetration literature seemed fragmented, missing broader organizational concepts and variety in individual dispositions of WB perpetrators. The literature also lacked causality analysis. Therefore, studies over at least three data collections (Cole & Maxwell, 2003), including diary studies (Navarro et al., 2015), are needed to unravel what triggers WB perpetrators.

5.1.2. Longitudinal study

The longitudinal study added to the existing knowledge of workplace perpetration and COR Theory in three important ways.

First, two new perspectives were introduced to WB perpetration literature based on the literature gaps and inconsistencies identified: organizational trust and justice tested as antecedents and the physical and psychological health status of perpetrators tested as mediators between organizational trust, justice and WB perpetration relationship.

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The positive correlation between justice and employees' current physical health (Herr et al., 2018), and psychological health (Sutinen et al., 2002; Matta et al., 2017) was already established, while the organizational trust was not examined with employee health. Organizational justice and trust had not been studied with WB perpetration, whereas research demonstrated both concepts' favorable elements. For example, organizational justice lowered knowledge sabotage behavior (Serenko & Abubakar, 2022) and trust reduced negative gossip behaviors (De Clercq, 2022).

The results of the longitudinal study indicated a negative relationship over time between employees' perceptions of justice in the workplace and their physical and psychological health after three months. Injustice triggered stress, eroding resources, and resulting in adverse health conditions. However, contrary to the hypothesis, a higher level of organizational trust was also associated with increased psychological distress and physical symptoms after three months. This unexpected result was explained by employees working hard and long hours for trusted organizations at the expense of their health, perhaps due to the pandemic conditions during data collection. Previous research indicated close and positive relations between organizational trust and justice cross-sectionally and longitudinally (Cropanzano et al., 2002; Holtz & Harold, 2009). However, this study contributed to the literature on organizational trust and justice by demonstrating that these concepts, despite their strong correlation, may sometimes have opposite results. Employees' trust in their organizations may be stable, while justice perceptions may be variable, generating different outcomes.

The second contribution to the literature was related to the methodology used. Hypotheses were tested in a longitudinal three-wave mediation model, making this study one of the four studies collecting data over two waves in the history of WB perpetration literature. Evidence

was collected to test causality between the organizational environment and being a perpetrator. A minimum of six months of exposure to bullying is an established operational measure in bullying studies (Leymann, 1996; Einarsen et al., 2020), as one can observe the detrimental effects of bullying on human health. Therefore, data were collected over nine months and in three waves to test the associations with WB perpetration.

The final contribution related to the test of temporal precedence of organizational trust and justice to WB perpetration within six months. No direct or indirect temporal effects were found between organizational trust and justice and WB perpetration within a 6-month time frame, while it appeared that low levels of organizational trust, justice, physical health, and psychological health coexisted with perpetration behavior. The COR Theory may explain this result as an example of adaptation to the work environment to preserve the already taxed resources, which may be another way of coping with stressful situations.

5.1.3. Diary study

Following up on the longitudinal study results suggesting that perpetration behavior co-existed with poor health and unfavorable work conditions, a subset of the longitudinal study participants was monitored for nine months (24 work weeks) for a more in-depth understanding of how their health and work environment impacted their behavior. The diary study added to the existing knowledge of workplace perpetration and COR Theory in four important ways.

First, this study has been the first of its kind within the WB literature owing to its novel design of observing perpetrators over 24 work weeks. This method enabled the first and only within-person analysis of perpetration behavior. The study examined the dynamics of perpetration, including how behaviors originate, escalate, persist, or die out. In addition to self-

reports, the method was strengthened by incorporating objective measurements (fitness trackers), which, to the author's knowledge, had never been done in the WB literature.

Second, this study introduced two other aspects of physical health into WB perpetration literature, which, to the author's knowledge, had not been tested before: physical activity and sleep quality.

Physical activity (PA) can improve mental health, quality of life and well-being (World Health Organization, 2018). Not all PA is beneficial to employees, as work-time PA is positively related to exhaustion (Van den Broeck et al., 2010), depressive symptoms (Werneck et al., 2020) and cardiovascular diseases (Li et al., 2013). Study results showed that excessive physical activities (steps taken) during the week could cause exhaustion, and coexisted with weekly increased WB perpetration incidences at work. Regardless of the domain of activity, excessive PA, such as commuting schedule changes, and irregular leisure time activities, eroded resources, possibly causing physical fatigue, and diminishing health conditions and stress resistance capacity.

Another physical health marker tested against perpetration behavior was sleep quality. Lack of enough sleep time and low-quality sleep negatively affected the individual (Barnes, 2012), hampering the restoration of resources (Rosario-Hernandez et al., 2018) and recovery of physiological resources regulating self-control (Baumeister et al., 2000). Poor sleep quality correlated with interpersonal conflict (Fortunato & Harsh, 2006); predicted increased reactive aggression (Freitag et al., 2017) and frequent anger (Metcalf et al., 2021). Supervisors' sleep quality predicted abusive supervision (Barnes et al., 2015), interpersonal conflict and depleted feelings (Baumeister et al., 2018), unethical behavior, and social deviance (Hisler et al., 2018) the next day. In our study, weekly sleep quality did not predict weekly reports of WB

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perpetration, diverging from the positive link between sleep quality and various aggression constructs established by previous studies (Christian & Ellis, 2011; Freitag et al., 2017).

Third, this study confirmed previous findings that supervisors tend to be perpetrators (Baillien et al., 2015; Escartín et al., 2012). Perpetrators tended to report high psychological distress and being bullied (Vranjes et al., 2022). COR Theory argues that stressful events such as being bullied create stress, and erode one's resources, triggering offensive behavior to protect the self, resulting in aggressive behavior. In the case of supervisors, initial resource losses stop supervisors from investing in establishing a better work environment for their staff to increase their performance. Therefore, their focus shifts from resource investment strategies to self-protecting, and they may bully others (Hobfoll et al., 2018).

In the empirical studies of this thesis, mental illnesses had contradictory associations with perpetration. Mental illness significantly correlated with perpetration in the longitudinal study. COR Theory suggests that resource gains are more important and valuable when resource loss circumstances are high. Thus, individuals with mental illnesses may be resource-poor and view resource gains as more valuable; consequently, they may engage in aggressive conduct to protect themselves and acquire resources (Gain paradox and desperation principle, Hobfoll et al., 2018). However, the relationship between mental illness and perpetration was negative for diary study participants. All the diary study perpetrators (except for one) were also targets of bullying, which showed that those with mental illness were under added stress. By weighing the outcome potential versus risking their scarce resources, they might have refrained from engaging in conflicts, and hence perpetration behavior was less prominent.

The final contribution to the WB literature was the relationship between being bullied and perpetration behavior. The positive correlation between active bullying and being bullied has

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been confirmed in previous cross-sectional empirical research (Escartín, Ceja, et al., 2013; Magee et al., 2015) and reviews (Nielsen & Einarsen, 2018) on between-level. The diary study showed that participants show WB perpetration behavior during the weeks they are bullied, demonstrating an immediate reaction instead of a weekly lag, adding within-level associations to the literature.

5.2. Theoretical contributions

The systematic review from the viewpoint of workplace bullying perpetrators and bullies showed that stressful work environments could lead to feelings of strain and decrease employees' resources, resulting in increased aggression within the organization. Various theories, including the COR theory, have explained this phenomenon. The two empirical studies in this research were supported by the COR theory, which allows the interpretation of human behavior under severe stress. People learn via personal experience what they need to gain and hold onto as resources for success or survival. These resources may be objects, jobs, salaries, benefits, positions, key skills, self-esteem, personal health or social connections. Individuals plan their work activities to develop and protect these resources. According to this theory, severe stress occurs when these essential resources are threatened or depleted. Work environments that threaten an individual's resources are regarded as stressful. The resource losses are more noticeable than resource gains, impact individuals rapidly and gain momentum fast. Therefore, quick interventions on loss spirals are needed to stop losses and reverse the trend. More resources can be invested to reverse the resource loss trend, such as looking for another job and improving skills at work to enhance self-esteem. However, resource gains tend to be small and slow. A stressful event will more deeply impact individuals with fewer resources, while individuals with greater initial resources will be resilient to stress. Therefore,
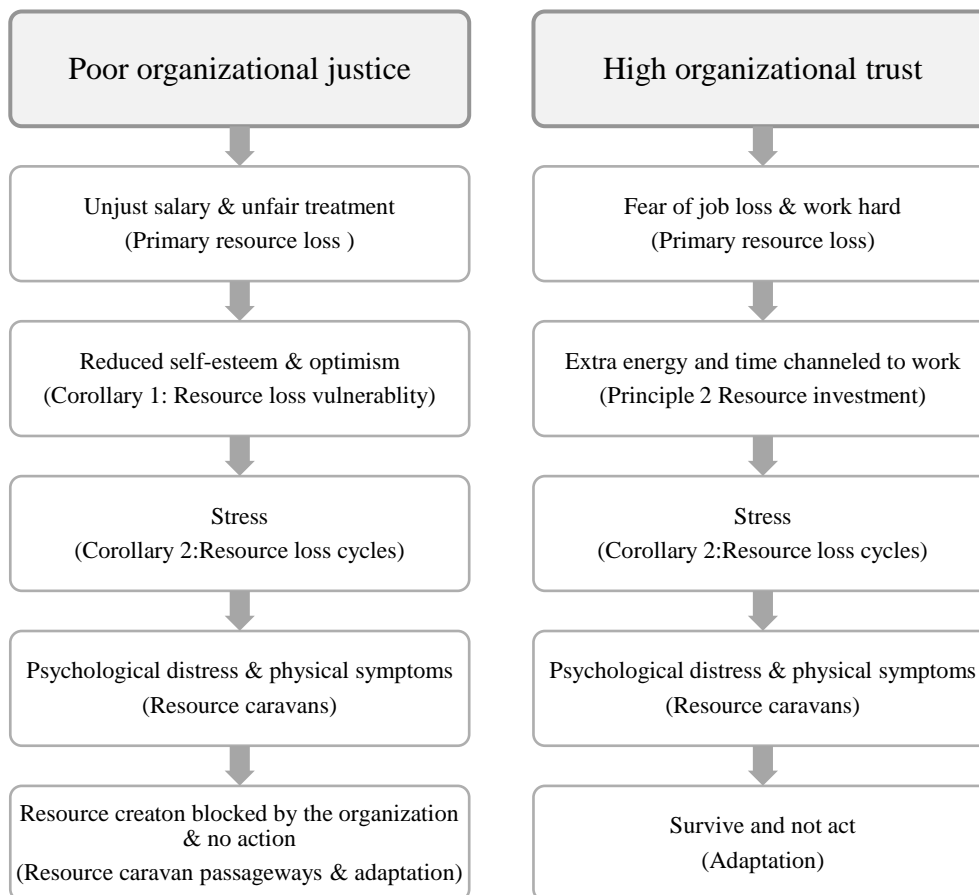
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when resources are very low or exhausted, further resource losses tend to be larger and quicker, exhausting individuals. In this case, they may start protecting the self and act aggressively (Hobfoll et al., 2018).

The longitudinal and diary studies provided examples of the basic principles (i.e., primary loss, resource investment, gain paradox, desperation principle), of the resource caravans and resource caravan passageways, and of the three corollaries of COR Theory (i.e., resource loss vulnerability, resource loss cycles and resource gain spirals). Please refer to Figure 8 below for the conceptual illustrations of COR Theory (Hobfoll et al., 2018).

Figure 8.

Conceptual illustration of resource spirals in the longitudinal study

Poor organizational justice	High organizational trust
Unjust salary & unfair treatment (Primary resource loss)	Fear of job loss & work hard (Primary resource loss)
Reduced self-esteem & optimism (Corollary 1: Resource loss vulnerablity)	Extra energy and time channeled to work (Principle 2 Resource investment)
Stress (Corollary 2:Resource loss cycles)	Stress (Corollary 2:Resource loss cycles)
Psychological distress & physical symptoms (Resource caravans)	Psychological distress & physical symptoms (Resource caravans)
Resource creaton blocked by the organization & no action (Resource caravan passageways & adaptation)	Survive and not act (Adaptation)

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The basic concept of COR theory is that individuals work to get, keep, promote, and protect the things they most deeply value. In line with COR Theory, in low organizational justice environments, employees may perceive that they are not receiving the necessary outcomes, such as a just salary or fair treatment in exchange for their contributions at work (primary resource loss), leading to low self-esteem and reduction in optimism (resource loss vulnerability), causing stress for the individual. Stress accelerates resource losses (resource loss cycles). As resources move in groups, further resource losses may manifest as deteriorating health conditions, reports of psychological distress and worsening physical symptoms (resource caravans). If the individual cannot create additional resources, such as feelings of control at work, then the individual adapts to the environment (resource caravan passageways and adaptation).

In cases where employees trust the organization and believe that working for the organization would benefit them in the long run, they feel obliged to work harder. These perceptions may increase the perceived burden and initiate resource losses (primary resource losses). To avoid losing their job in an organization they trust, they may invest more time and energy at work (resource investment). The extra work they put in may create stress, and they may fall deeper into resource losses (resource loss cycles), leading the way to psychological distress and increased physical symptoms over time (resource caravans).

COR Theory suggests that individuals may start acting irrationally and aggressively in times of depleted resources (desperation). The longitudinal data collected under this thesis showed that adverse organizational environment, poor physical and psychological health co-existed with perpetration. Therefore, some individuals could have acted in desperation and bullied others to stop resource losses. However, Hobfoll (2002) also argues that even under the
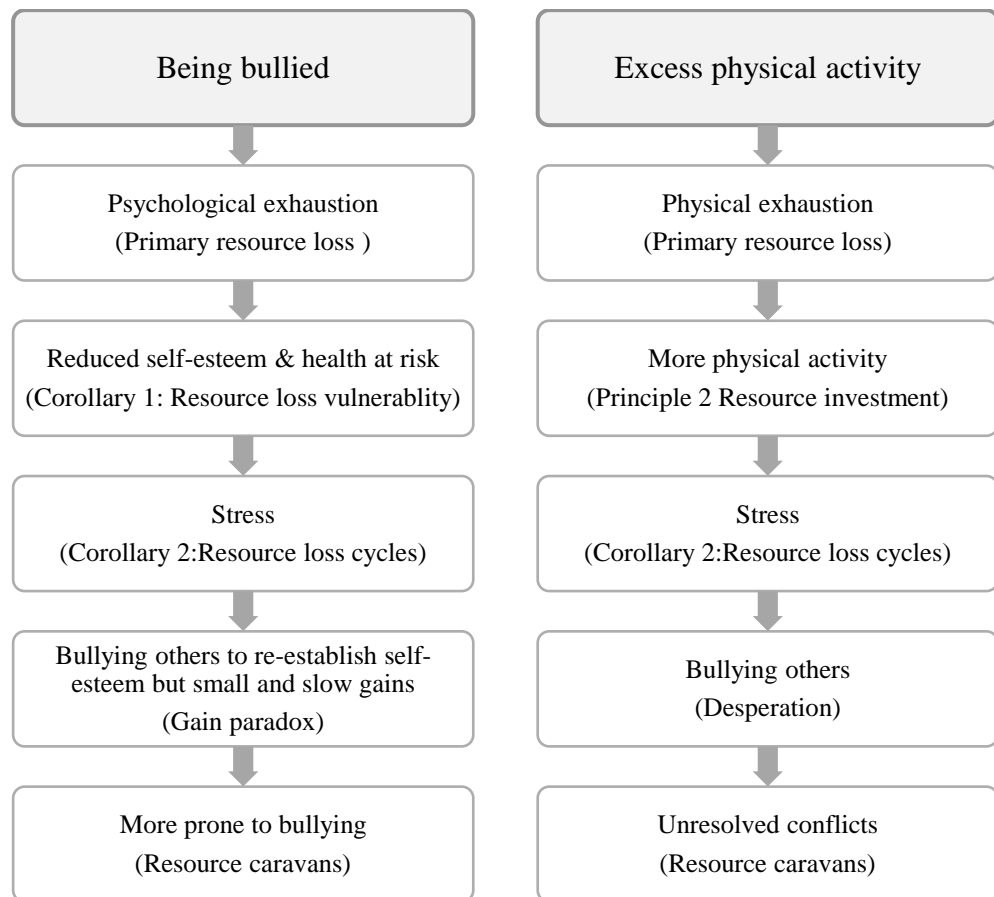
most difficult conditions, individuals look for solutions, concentrate on resource gains, and cope with the situation by adapting. This outcome was evident in the longitudinal study results, showing no causal mechanism between poor organizational environment and perpetration after six months. This suggested that individuals may have adapted to the unjust environment in the long term since the organization was trustworthy.

The diary study results also aligned with COR Theory, where being bullied and doing excess physical activities during the week exhausted the individuals psychologically and physically, resulting in aggressive acts (Figure 9).

Figure 9.

Conceptual illustration of resource spirals in the diary study

Being bullied	Excess physical activity
Psychological exhaustion (Primary resource loss)	Physical exhaustion (Primary resource loss)
Reduced self-esteem & health at risk (Corollary 1: Resource loss vulnerablity)	More physical activity (Principle 2 Resource investment)
Stress (Corollary 2:Resource loss cycles)	Stress (Corollary 2:Resource loss cycles)
Bullying others to re-establish self-esteem but small and slow gains (Gain paradox)	Bullying others (Desperation)
More prone to bullying (Resource caravans)	Unresolved conflicts (Resource caravans)

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Being bullied and having excess physical activity during the week exhausts the individuals psychologically and physically (primary resource loss), reducing self-esteem and poor health (resource loss vulnerability). Lower resources may cause stress for the individual (resource loss cycles). Resource losses continue if the individuals do not rest and continue to engage in physical activity while coping with bullying (resource investment). To gain resources and redeem self-esteem, perpetration behavior may start (desperation). However, any resource gains would be insignificant (gain paradox) compared to continued resource losses (resource loss cycles). As resource gains are slow and smaller, net resource recovery may not happen, leaving the individual vulnerable to continued conflicts and further bullying (resource caravans). Therefore, the vicious cycle of being bullied and bullying others starts with unsolved escalating conflicts with no prospects of ending quickly as the resource loss cycles drag the individual deeper into stress (resource caravans).

If the individual's work environment does not interfere or condemn these negative behaviors, other ways of resource creation may be blocked, trapping the individual in the vicious cycle of workplace bullying and perpetration (Escartín, Ceja, et al., 2013). Previous research also showed that after WB perpetration, individuals would experience increased relationship conflicts with colleagues, diminishing their sense of control and making them more likely to become exposed to bullying themselves (Vranjes et al., 2022). Time spent bullying others increased workload and enabled being bullied (Baillien, Rodriguez, et al., 2011).

Therefore, according to COR Theory, in adverse organizational environments, individuals may experience undesirable circumstances, causing reduced self-esteem. Similarly, they may engage in physical activities that are taxing their well-being. As individuals instinctively protect the self, stress occurs in case of threats to their well-being. This stress

erodes individual resources even more; therefore, further health, wellbeing, resilience, optimism and self-control reductions may be observed. Individuals may respond aggressively and bully others as a coping strategy, or they may adapt.

5.3. Practical implications for organizations and policymakers

Our findings could be used effectively to guide organizational interventions. Assessments of organizational trust and justice would be a valuable strategy to identify departments and teams that could have adverse work conditions. Our results indicated that employees could be distressed and show physical symptoms even if organizational trust was established. Therefore, organizations should conduct further health assessments that could help detect vulnerable, overworked, stressed departments, teams, and individuals. As the systematic review showed that psychological detachment and recovery exercises attenuated WB perpetration behavior, organizations should encourage such activities while being attentive to employees' physical and psychological well-being during and beyond working hours. For organizations that are reactive rather than proactive in altering the work settings, which may lag in assessing difficult conditions correctly and meeting employees' needs, academia may help accelerate change by teaming up with practitioners. This team may assess potential or active perpetrators, recognize misconduct, conduct interventions focusing on organizational well-being, assess the impact of the intervention, and improve work conditions (Giorgi et al., 2020).

Occupational health and safety constantly evolve, identifying and acknowledging new risk factors. According to the European Agency for Safety and Health at Work ([www.osh](a.europa.eu/en), addressing psychological hazards is crucial for protecting the health and well-being of workers. These job hazards can have detrimental effects on an employes'

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mental, social, or physical health. These may result from the design, organization, and direction of work and the social setting in which it is performed. Historically, occupational health experts focused primarily on physical risks in the workplace. However, psychological issues have become increasingly significant in recent years (Magnavita & Chirico, 2020).

Policymakers are under pressure to launch special laws to inhibit stress, burnout and suicide risk at work (Chirico & Leiter, 2022), to define potential sanctions for related parties in WB incidences (Glambek et al., 2016), and to charge penalties to organizations for lack of clear policies and practices (Lacy, 2020). They are urged to redefine and eliminate inconsistencies between government bodies in handling work-related illnesses caused by psychosocial risks (Chirico, 2016); to identify new interdisciplinary approaches and cooperation strategies between occupational health practitioners and public health stakeholders (Chirico, Sacco, et al., 2021); and to launch legislative interventions for implementing mandatory occupational health programs (Chirico, Capitanelli, et al., 2021).

Despite the many factors contributing to WB perpetration, this thesis specifically revealed that being bullied, and having poor psychological as well as physical health co-existed with perpetration behavior. Thus, organizations and policymakers should consider establishing intervention programs that improve workers' mental and physical health to detect and minimize WB perpetration early. Launching wellness programs would be the indirect and self-intervention techniques for inhibiting WB perpetration behaviors. Implementing such programs could involve giving employees resources and assistance to maintain and enhance their physical and mental health, such as allowing time for recuperation, access to mental health counseling services, or assisting in self-awareness on psychological and physical exhaustion.

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5.4. Limitations

Research on perpetrators has been limited, allowing for a narrative synthesis rather than a statistical pooling. The systematic review encompassed 50 articles from the perspective of perpetrators. The review covered only the empirical studies published in English, leaving out publications in other languages. Additionally, studies that did not focus only on perpetrators but analyzed a combination of actors may have been unnoticed. These limitations may suggest that the literature search was not comprehensive enough or that there was a publication bias. However, database search was conducted twice to mitigate this risk, carefully selecting all empirical studies reporting on WB perpetrator behavior. A similar systematic review on mediators and moderators in the antecedents, outcomes and bullying relationships covered 53 studies focused on targets and victims (Rai & Agarwal, 2018).

There are three general limitations on both empirical studies.

First, the social desirability bias (Spector, 2006) may have diminished the significance of the relationships investigated since individuals are usually reluctant to disclose their negative behaviors, restricting access to only a subset of perpetrators ready to admit their undesirable behaviors. Hence, the social desirability effect may lead to an underestimation of effects resulting from invariance. In addition, examining the causes of perpetration is significantly more difficult because temporal precedence research requires data collection over two waves, which demands repeatedly encouraging people to admit to their undesirable behavior. To mitigate this risk, i) the measurement of the predictor variable was separated from the measurement of the outcome variable by announcing the study as a "Leadership Training in Wellness", ii) respondents were assured that there are no right or wrong answers and that they should answer questions as truthfully as possible, iii) research was conducted outside of

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participants' organizations, iv) no inquiries were made about where they worked. Especially critical in the diary study, the term "bullying" was never mentioned.

The second general limitation is the common method invariance due to self-reports (Podsakoff et al., 2003). Common method bias may have happened where variations in responses may be caused by the self-report measures used, as opposed to the actual predispositions of the respondents that the measures intended to reveal. To mitigate this risk, the order of questions in the scales and the order of scales were altered. Additionally, objective measurements by fitness trackers were utilized in the diary study.

The third and final general limitation is that the variables tested against WB perpetration (physical and psychological health of perpetrators) may not have been emphasized as important factors to be examined by the systematic review. Prior to the publication of the review, however, the review's knowledge gap regarding the perpetrators' work environment, and physical and psychological health (e.g., sleep, physical exercise, psychological conditions) was identified, prompting the decision that the subsequent empirical studies planned should examine the perpetrators' work environment and health states. Due to delays with the publisher, the systematic review awaited approval for a year. Meanwhile, the empirical studies under this thesis were published. Therefore, during the final edit of the review, the author revised the systematic review to include both the published empirical studies in the list of articles reviewed, reduced the section on the gap in the literature on sleep, physical exercise and psychological health of perpetrators and emphasized other gaps found in the literature. Therefore, the empirical studies filled the initial literature gaps detected.

There are four specific limitations of the longitudinal study. First, the low response rates in the follow-up data collection times (time 2 and time 3) may have reduced the statistical

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significance of the results. One reason for the low response rates may have been the social desirability bias causing a low likelihood of uncovering significant relationships and reaching generalizable conclusions. This risk was mitigated by ensuring full anonymity and offering gift vouchers for continued participation. The second reason for lower response in follow-up was the disqualification of some participants as they discontinued work life due to pandemic circumstances (e.g., job losses, sick leaves or furloughs). However, the risk of low response rates was mitigated using the full maximum likelihood method, where missing data was used within the analysis method. The third limitation of the longitudinal study was that the organizational justice and trust dimensions examined in the longitudinal study were highly correlated, raising issues of multicollinearity and suggesting that statistical significance may have been compromised. While performing confirmatory factor analysis, trust and justice were reported as distinct variables. However, multicollinearity may have explained why organizational trust had a negative correlation (higher organizational trust coexists with lower health issues) but a positive regression with health data (higher organizational trust predicted higher health issues after three months). In contrast, organizational justice had a negative correlation (higher organizational justice coexists with lower health issues) and a negative regression with health data (higher organizational justice predicted lower health issues after three months). The final limitation may be using six months between antecedents (organizational trust & justice) and the outcome (WB perpetration). Perhaps shorter or longer periods would have been more appropriate for observing the cause-and-effect relationships.

There are four specific limitations of the diary study. Firstly, the sample size may be seen as a limitation. Previous research provided 680 observations on 68 targets (Rodríguez-Muñoz et al., 2017); 1509 observations on 36 targets (Ågotnes et al., 2020); and 2771 observations on

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110 targets (Hoprekstad et al., 2019). This study generated 720 observations with 31 perpetrators, more than enough to generate statistically significant reporting on the within-person level. The second limitation may be the breaks given in data collection. The diary study lasted for nine months, where six months of workweek data were collected. Allowing the breaks may have lowered the significance of effects from the previous week, and models with a one-week lag may not have fit the data. Therefore, the study results were correlational, not causal. The third limitation may be the low frequency and duration of perpetration acts in Groups 4 and 5 (Figure 7). However, perpetration was analyzed weekly using every possible observation instead of using accumulating scores (e.g., the previous six months). Lastly, Fitbit activity trackers may not give accurate step count assessments, but group-mean centering addressed this risk by employing relative values rather than absolute numbers.

5.5. Future research

Future research suggestions are grouped as novel concepts from work and individual dispositions, approaches from various cultural norms, methodological suggestions on analysis methods, measurement usage, and advanced theoretical approaches.

Work environment concepts to be tested may include broader constructs instead of job demands and resources or team structures. These constructs may be related to types of organizational culture (i.e., bureaucratic, competitive, community, or entrepreneurial) and organizational focus (e.g., stability, control, flexibility, internal or external focus) that disregards, allows, or pardons this behavior. Additionally, the leader types (e.g., visionary, mentor, team builder, manager) and their leadership styles (e.g., transformational, transactional, democratic, autocratic, bureaucratic, servant, laissez-faire, and ethical) may also be studied in

relation to how and why they create toxic environments allowing these unethical conducts. If the constructs tested with perpetration include performance measures, the results may yield intervention designs that simultaneously address performance explicitly and WB perpetration implicitly.

The individual dispositions to be tested may be other physical or psychological health markers such as diabetes, mental illnesses, heart rate and conditions, sexual health, menstruation, maternity, menopause and health practices such as meditation, yoga, or mindfulness exercises. Another variable that may be incorporated into perpetration studies is self-control. As per the Ego Depletion Model (Baumeister et al., 1998) derived from COR Theory, negative behaviors are self-control dysfunctions. Low self-control is a significant predictor of aggressive behavior (Lei et al., 2020), and interventions targeting self-control could help reduce negative behaviors.

Contradictions in the individual characteristics of perpetrators suggest that perpetrators are a diverse group. In the future, perpetrators should be analyzed in subgroups that may require larger research sample sizes. In addition, as this thesis and many studies point towards a vicious cycle of being a target of bullying behaviors and perpetration, future studies should distinguish between perpetrators and target-perpetrator groups, analyze each group separately, and aim to design effective interventions for each group.

While collecting the data for WB perpetration behavior, newly developed perpetrator scales would be a better fit for studying perpetration. In addition, verifying WB perpetration behavior from varying sources (e.g., coworkers, subordinates, supervisors) may provide valuable insight to researchers. To increase objective data collection, wellness apps, smartwatches, wearable blood pressure monitors, continuous glucose meters, ECG monitors and biosensors, and other

wearable technologies may be used. Researchers working on WB perpetration may also collaborate with occupational health physicians or union representatives to advance workplace public health and well-being initiatives.

Additionally, cultural norms may also be an area for research. Previous research showed inconsistencies, where accepting bullying differed over national cultures (Power et al., 2013), but human resources practitioners from different cultures responded similarly to workplace bullying (Salin et al., 2018). Therefore, national comparisons may be conducted to understand the differences in national cultures in perpetration behavior.

A combination of work and individual factors may be used to test mediators and moderators of WB perpetration and the outcomes of this behavior. Most importantly, three or more waves or intensive longitudinal methods may be conducted to establish cause-and-effect relationships with different time lags. While testing causality between perpetration and predictors, uninterrupted data collection cycles could be utilized not to lose significance in relationships.

Finally, future studies must be based on theoretical models, as the models put the research questions in perspective, scientifically explore the relationship between variables, and enhance research quality. COR Theory may help researchers understand the layers of relationships and causalities, explore the phenomenon's overall dynamics and suggest innovative interventions. If the COR Theory is utilized, future research may attempt to understand the conditions in which individuals use defensive strategies (retreating, waiting, and adapting) or use offensive strategies (acting aggressively and engaging in bullying others).

SECTION 6: GENERAL CONCLUSION

6. GENERAL CONCLUSION

This thesis makes five major contributions to the WB literature. First, it provides the first systematic review synthesizing the literature on WB perpetration, highlighting current gaps and contradictions in the field, recommendations to prevent bullying, and a research agenda for developing effective perpetrator-focused interventions. The second contribution is the 3-wave longitudinal study, which tests the causality of organizational trust and justice, physical symptoms and psychological distress on perpetrator behavior on a between-person level and shows the co-existence of variables. This study is also one of the four longitudinal studies in WB perpetration literature testing causality over two waves in the last 20 years of WB perpetration literature. The third contribution to the field is the daily and weekly diary study which is also the first of its kind to study a group of perpetrators for nine months showing how each individual's experiences of being bullied, physical activities and sleep affected their behavior. The fourth contribution to the literature is the first-time use of wearable technologies to collect objective measurements. The fifth contribution is the evidence provided to the theory through hypothesis testing in unexplored areas of COR Theory.

Despite three decades of research on WB, the phenomenon is widespread and sustained worldwide, resulting in significant health impairments and economic costs. The field of work, organizational and personnel psychology is still responsible for providing solutions to employees, organizations and policymakers. To do so, complex research designs should be applied based on theory capturing the causality of events and offering evidence-based solutions to this tenacious virus infecting employees, teams, workplaces, organizations and societies. It is crucial to enhance knowledge of the dynamics of the perpetration process, be well informed on how the negative behavior is triggered, and what can be done to transform this behavior to

SECTION 6: GENERAL CONCLUSION

attain higher efficiency in organizations, ultimately improving the quality of public and private

lives.

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APPENDICES

Appendix A: Measures used in the longitudinal study

THE RELATIONSHIP BETWEEN ORGANIZATIONAL ENVIRONMENT AND PERPETRATORS' PHYSICAL AND PSYCHOLOGICAL STATE: A THREE-WAVE LONGITUDINAL STUDY

Organizational Trust (Robinson, 1996)

Please indicate the extent to which you agree with the following statements:

I believe my employer has high integrity.

I can expect my employer to treat me in a consistent and predictable fashion.

My employer is not always honest and truthful (R).

In general, I believe my employer's motives and intentions are good.

I don't think my employer treats me fairly (R).

My employer is open and upfront with me.

I am not sure I fully trust my employer (R).

1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = neither disagree, nor agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree

Organizational Justice (Ambrose & Schminke, 2009)

Please indicate the extent to which you agree with the following statements:

Overall, I'm treated fairly by my organization.

In general, I can count on this organization to be fair.

In general, the treatment I receive around here is fair.

Usually, the way things work in this organization are not fair (R).

For the most part, this organization treats its employees fairly.

Most of the people who work here would say they are often treated unfairly (R).

1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = neither disagree, nor agree; 5 = somewhat agree; 6 = agree; 7 = strongly agree

Psychological distress (Restubog et al., 2011)

In the past month, how often have you been feeling any of the following descriptions.

Fearful

Restless

Worthless

In panic

1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Usual; 6 = Almost always, 7 = Always

Physical Symptoms Inventory (Duffy et al., 2019)

Over the past month, how often have you experienced each of the following symptoms?

An upset stomach or nausea

Trouble sleeping

Headache

Acid indigestion or heartburn

Eye strain

Diarrhea

Stomach cramps (Not menstrual)

Constipation

Ringing in the ears

Loss of appetite

Dizziness

Tiredness or fatigue

1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often; 5 = Usual; 6 = Almost always, 7 = Always

Exposure to Bullying (COPSOQ III; Burr et al., 2019)

Bullying means that a person repeatedly is exposed to unpleasant or degrading treatment, and that the person finds it difficult to defend himself or herself against it.

Have you been exposed to bullying at your workplace in the last 6 months?

1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

Two additional questions

Have you been exposed to bullying at your workplaces prior to the current workplace?

Have you been exposed to bullying during your childhood?

1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

Enactment of Bullying (Modified COPSOQ III)

Have you bullied others at your workplace in the last 6 months?

1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

Two additional questions

Have you bullied others at any of your previous workplaces?

Have you bullied others during your childhood?

1 = never; 2 = very rarely; 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

EAPA-T-R (Escartín et al., 2017)

During the last six months

My correspondence, telephone calls or work assignments have been controlled or blocked.

My professional standing has been attacked at every opportunity.

My beliefs or opinions have been attacked.

I have been assigned lower-level tasks than I had been performing previously.

1 = never; 2 = very rarely / a few times over the course of six months; 3 = rarely / less than once a month; 4 = occasionally / monthly; 5 = sometimes / more than once a month; 6 = frequently / weekly ; 7 = very frequently / more than once a week.

Modified EAPA-T-R (for perpetration)

During the last six months

I controlled or blocked correspondence, telephone calls or work assignments of others.

I attacked others' professional standing at every opportunity.

I attacked others' beliefs or opinions.

I assigned lower-level tasks to others than they had been performing previously.

1 = never; 2 = very rarely / a few times over the course of six months; 3 = rarely / less than once a month; 4 = occasionally / monthly; 5 = sometimes / more than once a month; 6 = frequently / weekly; 7 = very frequently / more than once a week.

Demographic questions

Please answer the questions below;

Age
Gender
Nationality
Department are you working in

Tenure in the current organization (years)
How many days do you work in a week?
Officially, how many hours do you work in a week?
How many hours do you actually work in a week?
How many employees are there in your organization?

In which country do you live?

Sector of your organization

AGRICULTURE, FORESTRY AND FISHING
MINING AND QUARRYING
MANUFACTURING
ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY
WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION
ACTIVITIES
CONSTRUCTION
WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND
MOTORCYCLES
TRANSPORTATION AND STORAGE
ACCOMMODATION AND FOOD SERVICE ACTIVITIES
INFORMATION AND COMMUNICATION
FINANCIAL AND INSURANCE ACTIVITIES
REAL ESTATE ACTIVITIES
PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES
ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES
PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY
EDUCATION
HUMAN HEALTH AND SOCIAL WORK ACTIVITIES
ARTS, ENTERTAINMENT AND RECREATION
OTHER SERVICE ACTIVITIES
ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS; UNDIFFERENTIATED GOODS- AND
SERVICES-PRODUCING ACTIVITIES OF HOUSEHOLDS FOR OWN USE
ACTIVITIES OF EXTRATERRITORIAL ORGANISATIONS AND BODIES

Do you have a supervisory position (do you manage other employees)?

What is the gender ratio in your organization, approximately? (Please check with your Human
Resources Department before you answer and percentages must add to 100%)

Currently, where are you mostly working from?
    Company location (office, warehouse, factory etc.)
    Any location where you provide services (e.g. public places, customer offices)
    Home
    Other

Appendix B: Measures used in the diary study

A MATTER OF HEALTH? A 24-WEEK DAILY AND WEEKLY DIARY STUDY ON WORKPLACE BULLYING PERPETRATORS' PSYCHOLOGICAL AND PHYSICAL HEALTH

EAPA-T-R (Escartín et al., 2017)

Over the last seven days at work

My correspondence, telephone calls or work assignments have been controlled or blocked

My professional standing has been attacked at every opportunity

My beliefs or opinions have been attacked

I have been assigned lower-level tasks than I had been performing previously

1 = never; 2 = very rarely 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

Modified EAPA-T-R (for perpetration)

Over the last seven days at work,

I controlled or blocked correspondence, telephone calls or work assignments of others

I attacked others' professional standing at every opportunity

I attacked others' beliefs or opinions

I assigned lower-level tasks to others than they had been performing previously

1 = never; 2 = very rarely 3 = rarely; 4 = occasionally; 5 = sometimes; 6 = frequently; 7 = very frequently

Self-rated sleep quality (Cappelleri et al., 2009)

Over the last seven days (0= best possible sleep, 10 = worst possible sleep)

How satisfied were you with your sleep quality?

APPENDICES

Appendix C: Fitness trackers used by the participants in the diary study

APPENDICES

Appendix D: Electronic database search, hits and search formulation

Electronic Library	Hits	Search formulation (Jan 8, 2023)
Scopus	372	(TITLE-ABS-KEY (workplace AND bullying) AND TITLE-ABS-KEY (perpetrator) OR TITLE-ABS-KEY (perpetration) OR TITLE-ABS-KEY (bully) OR TITLE-ABS-KEY (bullies) OR TITLE-ABS-KEY (perpetrators)) AND PUBYEAR > 2002 AND PUBYEAR < 2024 AND (LIMIT-TO (LANGUAGE , "English"))
Science Direct	251	Title, abstract or author-specified keywords (workplace bullying) AND ((perpetrator) OR (perpetrators) OR (perpetration) OR (bully) OR (bullies)) 2003-2023
PubMed	1385	((workplace bullying) AND (perpetrators OR perpetrator OR perpetration OR bully OR bullies)[Title/Abstract]) Year: 2003-2023, full text, English
Web of Science	1413	(AB=(workplace bullying) AND AB=((perpetrators) OR (perpetrator) OR (bullies) OR (bully))) Year : 2003-2023, articles
Proquest	86	abstract((workplace bullying) AND (perpetrators OR perpetrator OR perpetration OR bully OR bullies)) full text, Year; 2003-2023, English
Total	3507	

APPENDICES

Appendix E: Facebook Pages and Advertisement on Social Media