

Unpacking the Toxic Trio: Exploring the Interplay Between Workaholism, Workplace Aggression, and Perfectionism

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Abstract The current study fills a gap in the extant research on three constructs that have been studied independently rather than collectively: aggressive behavior, perfectionism, and workaholism. Past research has not answered the more specific question of what relationship, if any, exists between these three variables. Our study builds on theoretical frameworks linking internal emotional states and performance-based self-esteem to workplace behavior. Notably, we explored the association between aggressive behavior, perfectionism, and workaholism with a survey comprised of three validated self-report measures. This survey was administered to a sample of full-time white-collar employees from various businesses. Findings supported previous research on the relationship between workaholism and perfectionism. Additionally, new links between aggressive behavior and the other study variables were found. Workaholism was positively associated with aggressive behavior and mediated the relationship between aggression and perfectionism. Further, exploratory analyses revealed gender moderated the relationship between perfectionism and workaholism, with women showing a stronger association. Our findings highlight the interaction between personality traits and behavioral outcomes in the workplace, and emphasize the importance of organizations implementing intervention strategies early on to lower the risk of harmful outcomes.

Keywords: aggressive behavior, perfectionism, workaholism, occupational health, organizational behavior

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1. Introduction

An increasing number of Americans are working more hours per week at their jobs. Prime-age adults (i.e., individuals between the ages of 25 and 54) worked, on average, 7.8% more hours per year in 2016 than in 1979 [1]. Based on a meta-analysis and systematic review, Andersen et al. [2] found that out of 71,625 participants from 23 countries, the pooled prevalence of workaholism was 15.2% (95% CI = 12.4–18.5). Harvey and Keashly [3] suggest that the more hours an employee works, which is one of many components of workaholism, the more likely they are to act aggressively toward their coworkers. This aggression can manifest itself in workplace violence which, in turn, deleteriously affects both the employee and the organization. In addition, perfectionism is another personality factor that correlates with both workaholism and aggression [4,5]. Perfectionism is defined by the American Psychological Association (APA) as “the tendency to demand of others or of oneself an extremely high or even flawless level of performance, in excess of what is required by the situation” [6]. As perfectionism intensifies, it could amplify the already harmful

relationship between workaholism and workplace aggression, thereby creating a more destructive cycle.

There is limited research on violence in the workplace related to aggression, perfectionism, and workaholism. In the current study, we sought to provide a better understanding of the existing literature in this domain. Hence, we investigated the potential relationship between workaholism and aggression. Moreover, we tested if perfectionism acts as a moderator between these two variables; this has yet to be examined. We also conducted some exploratory analyses. Our findings may further solidify the potential relationships between perfectionism, aggression, and workaholism. This could provide invaluable insight into how these constructs interact and influence both the workplace as well as the individual. Based on this knowledge, employee health and well-being could be enhanced by developing targeted interventions to mitigate the negative outcomes associated with workaholism.

1.1. Workaholism

Workaholism negatively affects employee health and well-being [7]. Relatedly, Kleiner and Pavalko [8] found individuals “... working between 40 and 59 hours per week report worse mental and physical health than those

working 40 hours per week...” (p.1463). Aziz et al. [9] showed that high levels of workaholism, coupled with low recovery experience and work-life imbalance, are associated with negative heart-related outcomes (e.g., increased risk factors for cardiovascular disorders). In addition, workaholism may be a contributing factor toward a wide range of metabolic diseases, such as cardiovascular diseases and type 2 diabetes, amongst others [7]. Further, the World Health Organization (WHO) found that “...working 55 or more hours per week is associated with an estimated 35% higher risk of a stroke and a 17% higher risk of dying from ischemic heart disease, compared to working 35-40 hours a week” (World Health Organization [10]. Vitiello et al. [11] established that workaholism is related to lower life satisfaction, as well as burnout [12]. Workaholism is also associated with a greater probability of disabling back pain and sickness absence [13], as well as self-reported sleep problems (e.g., daytime sleepiness; [14,15]). Due to these harmful outcomes, amongst others, workaholism has become an imperative research topic that warrants further investigation.

Oates [16] defined workaholism as an increasing and uncontrollable need to work. Workaholics are individuals whose need to work has become so excessive that it creates a noticeable disturbance or interference with their physical health, personal happiness, and interpersonal relations. Others suggest workaholics are addicted to work or the act of working itself [17]. Using cluster analysis, Aziz and Zickar [18] conceptualized workaholism as a multifaceted syndrome. More recently, Clark et al. [19] defined workaholism as an addiction to work characterized by an internal compulsion to work, persistent thoughts about work, and working beyond what is reasonably expected despite negative consequences; it is the uncontrollable need to work excessively.

The main causes of workaholism stem from dysfunctional cognitive beliefs, faulty assumptions, and automatic thoughts. Hallsten [20] labeled this concept as “performance-based self-esteem,” which is an orientation to gain or maintain self-esteem through good role performances (e.g., work is viewed to prove oneself; [21]). Another cause is the presence of compulsive behaviors, which arise when one commits to self-imposed and rigid rules, as well as sets high performance standards for themselves [22]. Burke et al. [23] found several other personality traits such as generalized self-efficacy, extraversion, and neuroticism are linked to workaholism. In addition, personality patterns (e.g., Type A personality) tend to correlate with workaholism [19]; Type A individuals are impatient, competitive, hardworking, and hyperactive, all traits found in workaholics.

Research has also been conducted on the relationship between workaholism and the Big 5 personality traits (i.e., openness, conscientiousness, extraversion, agreeableness, neuroticism; [24]). Neuroticism, or emotional instability, is positively correlated with work involvement, work addiction, and burnout [19,25,26]. Aziz and Tronzo [25] found that neuroticism was negatively related to work enjoyment, while conscientiousness and agreeableness were positively related to work involvement. Conscientiousness and openness had a positive relationship with work drive, while agreeableness is

positively related to work enjoyment.

A competitive, “winner-take-all” culture encouraged at work may also fuel workaholism [18]. The praise received from working hard can perpetuate obsessive thoughts, which deepens the intense fixation with work [18]. Hence, those who are predisposed to the underlying traits of workaholism may develop workaholic tendencies if the work environment encourages this type of behavior [27]. Workaholics tend to have negative relationships and interactions with their coworkers, especially those who they see as competition [19].

1.2. Aggressive Behavior

In 2021–2022, there were 57,610 nonfatal workplace violence cases requiring time off, job restrictions, or transfers, with an incidence rate of 2.9 per 10,000 employees [28]. However, violence is only a small part of workplace aggression, which can loosely be summed up as any effort one makes to harm coworkers [29]. Most aggressors like to maximize the harm they inflict, while also minimizing the likelihood of retaliation [29].

Workplace aggression can fall into one of three categories: incivility, obstructionism, and overt aggression [29]. Incivility describes behaviors that demonstrate a lack of regard for others or denying others the respect they are due, such as spreading rumors or belittling them. Obstructionism refers to behaviors designed to obstruct or impede the target’s performance, such as withholding needed information or failing to return phone calls and emails. Overt aggression is what we typically think of when considering aggression; it contains behaviors that can usually be explained as violence, both physical and verbal abuse.

Consensus tends to be that aggressive behavior is any form of behavior directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment [29]. There are four themes central to this definition. First, it involves effortful behavior, intentional in nature. Second, it intends to cause harm to one or more individuals. Third, it involves actions against other living beings. Fourth, targets of aggression are motivated to avoid such treatment, suggesting the behavior is not invited nor welcomed by them [30]. Aggression refers to all forms of intentional harm-doing, while violence falls within the spectrum of workplace aggression and is the most severe and overt form of it [31].

Aggressive behavior can be broken down and defined even further by with the Buss Typology [32]. This typology includes three dichotomies: physical-verbal, active-passive, and direct-indirect. Physical aggression involves physical actions on the part of the actor. Verbal aggression inflicts harm through words as opposed to deeds. Active aggression requires the actor to do something to harm the target, while passive aggression involves withholding something the target needs or values. Direct aggression involves the actor harming the target directly, while indirect aggression involves the actor doing something that may inflict harm on something the target values or cares about.

Perceived unfairness repeatedly emerges as a cause of aggressive behavior—aggressive individuals feel as if they need to “even the score” against people or the

organization that has wronged them [29]. The amount of change within a work environment (e.g., downsizing, layoffs, and increased use of part-time employees) can also begin to cause aggression among employees. The more stress a change seems to cause, the more likely aggression becomes prevalent [29].

Hershcovis et al. [33] suggest the cause of aggression can either be individual or situational. Some common individual causes include trait anger, negative affectivity, and sex. Trait anger describes the tendency to react to situations with hostility, negative affectivity describes those who regularly experience distressing emotions such as anxiety, hostility, and fear, and sex refers to the fact that men tend to be much more aggressive than women. Common situational causes of aggression include interpersonal conflict, situational constraints, and job dissatisfaction. Harvey and Keashly [3] found that the number of hours worked positively correlates with the likelihood of the individual to aggress. They suggest this finding is due to fatigue and frustration.

The consequences of aggressive behavior have received much less attention by psychologists and researchers [34]. Victims of workplace aggression experience more work stress, depression, and poorer overall health, especially when their peers are unsupportive. This makes them feel isolated and a sense of unfairness in the organization [35]. Merecz et al. [35] found job dissatisfaction and burnout are at a high when individuals experience aggressive behavior from their coworkers, as aggressive clients are seen as a part of the job. Having an aggressive individual in the workplace may also contribute to economic costs to the organization [35].

1.3. Perfectionism

Hamachek [36] initially described perfectionists as being either “normal” (healthy) or “neurotic” (maladaptive). While both types are associated with setting high standards, they differ in their ability to accept certain circumstances—in circumstances in which they fall short of their goals, normal perfectionists are flexible and adaptive, and still derive pleasure in accomplishments. Neurotic perfectionists, however, are incapable of feeling satisfaction from their efforts and see themselves as never being good enough. Hamachek [36] suggested perfectionism determines an over-generalization of failure, a rigid, severe self-evaluation of an all or nothing approach, in which only success or failure is contemplated. Flett and Hewitt [37] defined perfectionism as striving for flawlessness, it is only when these high sets of standards begin to interrupt functioning in one or more aspects of life, does it become a concern.

Perfectionism has been correlated with several of the Big 5 personality traits. First, it has been well established that it is positively correlated with neuroticism [38]. Numerous researchers have found a positive relationship between perfectionism with agreeableness and conscientiousness [39,40,41], as well as a negative correlation between perfectionism and extraversion [39]. In addition, Barrow and Moore [42] hypothesized that certain parenting techniques may be a cause of perfectionism. They suggest there are four types of early experiences that lead to the development of perfectionism,

including: (1) overtly critical and demanding parents; (2) parental expectations and standards of performance that are excessively high and criticism that is indirect; (3) parental approval that is absent, inconsistent or conditional; and (4) perfectionistic parents who act as models for perfectionistic attitudes and behaviors.

As previously mentioned, perfectionism is a common characteristic of workaholics, and it can manifest itself in aggressive behavior in the workplace. In fact, Curran and Hill [43] found that perfectionism has increased 32% in the birth cohort of United States, Canadian, and British students from 1989-2016. Perfectionism can be broken down into two distinctions: adaptive or maladaptive. Adaptive perfectionism yields positive emotions, whereas maladaptive perfectionism yields negative emotions. In particular, maladaptive perfectionism has been linked to an increased risk of ulcers, migraines, chronic fatigue, and hypertension [43]. These physical ailments are just one of the consequences of perfectionism. In addition to the health risks, it has shown to be positively correlated with aggression [44]. This aggression can then manifest into workplace violence which, according to the Society for Human Resource Management [45], costs organizations billions of dollars annually.

2. Current Study

In the current study, the possible connection between workaholism and aggressive behavior in individuals was investigated. There is a dearth of research on this topic and this relationship has been rarely studied in the existing literature—psychologists have only proposed logical rationale for why and how these two factors may be related. For example, Balducci et al. [46] proposed the two constructs are likely to be positively related due to internal emotional states found in both workaholics and aggressive individuals. In addition, Harvey and Keashly [3] found that number of hours worked, an important aspect of workaholism, is positively correlated with aggressive behavior, thereby making it likely that workaholism itself is related to aggressive behavior. Recently, Skinner et al. [47] found that workaholism was positively related to, and significantly predicted, workplace aggression. These findings highlight the importance of further exploring this dynamic. Hence, in the current study, the relationship between workaholism and aggressive behavior in working professionals was further examined.

In addition, the associations between perfectionism and aggressive behavior, as well as perfectionism and workaholism, were investigated. Perfectionism was tested as a potential moderator of the relationship between workaholism and aggressive behavior. Both workaholism and aggression have previously been shown to correlate with perfectionism [4,5]. However, no research to date has been conducted with the possibility that perfectionism moderates the link between workaholism and aggression. In the current study, we suggest perfectionism is often linked to higher expectations for oneself and self-critical tendencies, which could amplify the negative outcomes of workaholism (e.g., workplace aggression). By exploring this potential moderating role of perfectionism, we will add to the existing body of literature to provide a deeper

understanding of how perfectionism may influence aggressive behavior in the work environment.

3. Hypotheses

Balducci et al. [46] theorized workaholism and workplace aggression may be related. Common definitions of workaholism fit well with what has been called the ‘hot temperament,’ defined as being high in emotional reactivity and low in self-regulative capacity, which is a risk factor for engaging in aggressive behavior at work [48]. Models of aggressive behavior emphasize the role of critical internal states, particularly high arousal negative emotions, as the immediate antecedent of aggression. Given that workaholics report low subjective well-being, perhaps they will tend to experience those critical internal states which trigger aggressive behavior more frequently [49]. In addition to internal emotional states, external factors such as work stress may increase the likelihood of counterproductive work behaviors (CWBs; [50]). The prevalence of CWBs can vary across different occupational groups—compared to white-collar workers, blue-collar workers are more counterproductive, with the most frequent CWB being abuse [51]. Additionally, based on findings from Finstad et al. [52], a lack of autonomy, supportive environment, and heavy job demands could lead to workplace aggression. Lastly, in a sample of 249 university employees, Skinner et al. [47] found that while self-reported occupational category was not significantly related to workaholism or workplace aggression, workaholism itself significantly predicted workplace aggression. Additionally, discrepancies between self-categorized and actual occupational roles suggest the need for organizational policies that address workaholic tendencies to reduce aggression in the workplace. Therefore, the following hypothesis was expected:

Hypothesis 1 (H1): Workaholism will positively correlate with aggressive behavior.

Although relationships between perfectionism and aggression have seldom been studied, several correlations have been demonstrated. Frost et al. [53] found positive associations between hostility and the maladaptive aspects of perfectionism. Saboonchi and Lundh [54] found trait anger was positively linked to self-prescribed perfectionism, while Hewitt and Flett [55] found positive correlations between anger and socially-prescribed perfectionism. Öngen [5] tested the link between perfectionism and aggression—they found maladaptive perfectionism positively correlated with all aspects of aggressive behavior, except verbal aggression; verbal aggression still correlated positively with high standards, a defining feature of perfectionism. Chester et al. [56] demonstrated that individuals with high levels of maladaptive perfectionism showed a greater tendency to respond to failure or negative feedback with aggression. In addition, socially-prescribed and other-oriented perfectionism are associated with greater aggression across provocation types [57], which supports our hypothesis that people who feel pressure from others to be perfect, and who expect others to be perfect, are more likely to act aggressively when frustrated. Hence, the following hypothesis was proposed:

Hypothesis 2 (H2): Perfectionism will positively correlate with aggressive behavior.

When individuals are perfectionists in the workplace, they show a high level of concern for details, examine and double check work several times to eliminate errors, have difficulty delegating tasks to colleagues for fear they will not be adequately carried out, and expect perfection from colleagues. When perfection is expected of both oneself and others around them, one can easily develop a strong urge to compulsively dedicate time and energy to work [58]. Some view workaholism as a socially acceptable means of expressing one’s perfectionistic inclinations [59]. Perfectionism appears to be an important correlate of workaholism, and studies have shown evidence that perfectionism and workaholism are positively correlated (e.g., [60,61,62]). In a sample of 523 Italian employees from an international company, perfectionism was positively associated with workaholism, a negative form of heavy work investment [63]. Thus, the following hypothesis was predicted:

Hypothesis 3 (H3): Workaholism will positively correlate with perfectionism.

Given the similar positive relationships between workaholism and perfectionism, and perfectionism and aggressive behavior, it seems plausible that perfectionism may intensify the positive relationship between workaholism and aggressive behavior. Along with this logic, there is also face validity to this line of thinking. If one is addicted to and obsessed with work, it is reasonable that any slight errors observed in work would cause them to act out aggressively due to the “hot temperament” described by Balducci and colleagues [46]. However, if one is also consumed with perfection and has a high set of standards, irritation by observed errors in work, a defining factor of both workaholism and perfectionism, would occur more often and at a more intense level [19]. Therefore, the following hypothesis was expected:

Hypothesis 4 (H4): The relationship between workaholism and aggressive behavior will be moderated by perfectionism, such that the greater the level of perfectionism, the stronger the relationship between workaholism and aggressive behavior.

4. Methods

4.1. Participants

Participants consisted of 113 full-time, white-collar employees (43.8% men, 56.3% women) ranging in age from 22 to 67 years old ($M = 43.11$). To ensure maximum generalizability, they were recruited from various businesses such as banks, law firms, and insurance companies located in Virginia, Maryland, Massachusetts, and Tennessee. A snowball technique (e.g., [64]) was utilized as participants were contacted through direct communication with personal networks, and they were requested to forward the survey link to other personal networks. They were also asked to provide demographic information such as gender, age, race/ethnicity, marital status, number of children, highest level of education, organizational tenure, position tenure, and income bracket.

Most respondents identified as Caucasian (92.9%),

followed by “Other” (2.7%), African American and Latin American (1.8% each), and Asian/Pacific Islander (0.9%). They were primarily married (71.7%) with at least one child (67%). Participants were also well-educated, with the majority earning a bachelor's degree (47.8%), followed by a professional degree such as an M.D. or J.D. (20.4%), a master's degree (13.3%), and a doctorate (1.8%). Additionally, over half of the respondents were in a management position (51.3%) and salaries were negatively skewed, with the majority earning \$40,000-\$59,999 (21.6%), followed by \$250,000 and over (20.7%), \$150,000-\$249,999 (17.1%), and \$100,000-\$149,999 (15.3%). Other ranges included \$39,999 and under (9.9%), and \$60,000-\$99,999 (15.9%). The mean organizational tenure was 20.98 years.

4.2. Procedure

After Institutional Review Board (IRB) approval was obtained from respondents, those who chose to participate in the study were sent an email that contained study requirements, the estimated time commitment, and a link to the survey. The survey was taken on Qualtrics, an online survey software. Participants were provided with an informed consent form prior to beginning the survey. They were also told they could exit the survey at any time and their responses would be kept confidential and anonymous. The survey measured each participant's level of workaholism, aggressive behavior, and perfectionism, as well as relevant demographics. The survey was intended to take around 10 to 15 minutes to complete. The average completion time was 13 minutes.

4.3. Measures

4.3.1. Workaholism

The 29-item Workaholism Analysis Questionnaire (WAQ; [65]) was used to measure workaholism. Sample items include, “I feel very addicted to my work” and “I enjoy spending evenings and weekends working.” Participants responded to items on a Likert scale, which ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). An internal consistency of .88 was found in the current study.

4.3.2. Aggressive Behavior

The 29-item Buss-Perry Aggression Questionnaire (BPAQ; [66]) was used to measure aggressive behavior. The BPAQ consists of items such as, “My friends think that I am somewhat argumentative,” and “I have threatened people I know.” Participants responded on a Likert scale, which ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). An internal consistency of .89 was obtained.

4.3.3. Perfectionism.

The Hewitt Multidimensional Perfectionism Measure (HMPS; [67]) was used to measure perfectionism. Due to survey fatigue, the 45-item measure was shortened to 15 items, as recommended by Hewitt et al. [67]. Individuals were asked to respond to items such as, “It makes me uneasy to see errors in my work” and “The better I do, the better I am expected to do.” They selected from a seven-point scale, ranging from 1 (*disagree*) to 7 (*agree*). In the current study, an internal consistency of .84 was obtained.

4.4. Data Analysis

First, descriptive statistics (i.e., means and standard deviations) and correlations were determined for all study variables (i.e., workaholism, aggressive behavior, perfectionism, and number of hours worked). Next, the demographic variables were used to describe the study sample. A reliability analysis was conducted on all measures to determine if the internal consistency was adequate, per Nunally and Bernstein's [68].70 threshold.

To evaluate the proposed moderation model, workaholism served as the predictor variable, aggressive behavior as the criterion variable, and perfectionism as the potential moderating variable. To test the model, a multiple regression analysis was conducted. After testing the main effects and interaction, a Process Hayes analysis was used to determine if perfectionism served as a moderator between workaholism and aggressive behavior. A .05 criterion of statistical significance was used for all statistical analyses.

5. Results

Descriptive statistics, Cronbach's alphas, and zero-order correlations are presented in Table 1.

Table 1. Descriptive Statistics and Intercorrelations

Variable	HMPS	WAQ	BPAQ	Hours Worked	Female Gender	Age	Tenure	IncomeBracket
HMPS	(.84)							
WAQ	.43**	(.88)						
BPAQ	.04	.41**	(.89)					
Hours Worked	.22*	.26*	-.07	—				
Female Gender	.21*	.05	-.03	-.40**	—			
Age	-.21*	-.15	-.24*	.23*	-.33**	—		
Tenure	-.08	-.01	.03	-.14	.09	-.15	—	
Income Bracket	-.08	-.06	-.25**	.49**	-.53**	.75**	-.27**	—
<i>M</i>	49.65	71.79	60.23	46.38	1.57	42.99	21.17	5.27
<i>SD</i>	7.42	13.26	14.08	6.18	.50	12.54	18.12	2.14

Note. *N* = 110. Entries on the main diagonal are Cronbach's alpha. HMPS = Hewitt Multidimensional Perfectionism Scale; WAQ = Workaholism Analysis Questionnaire; BPAQ = Buss-Perry Aggression Questionnaire

p* < .05, *p* < .001.

Correlations were examined for all the study variables. Workaholism was significantly and positively associated with both perfectionism ($r = .43, p < .001$) and aggressive behavior ($r = .41, p < .001$). Perfectionism and aggressive behavior were not related to each other. The number of hours worked per week was significantly and positively correlated with both workaholism ($r = .26, p = .01$) and perfectionism ($r = .22, p = .02$).

Correlations between demographics and the study variables were also investigated. Age was significantly and negatively correlated with perfectionism ($r = -.21, p = .03$) and aggressive behavior ($r = -.24, p = .01$), but positively correlated with number of hours worked per week ($r = .23, p = .02$). Women were more likely to score higher on perfectionism ($r = .21, p = .03$) and men worked more hours per week ($r = -.40, p < .001$)—specifically, they worked on average 49.35 hours per week, while women worked 44.27 hours. Income bracket was significantly and negatively correlated with aggressive behavior ($r = -.25, p < .001$) and positively correlated with number of hours worked ($r = .49, p < .001$).

5.1. Tests of Hypotheses

The primary study aim was to determine the relationships among workaholism, perfectionism, and aggressive behavior. H1 stated workaholism would positively correlate with aggressive behavior, and it was supported ($r = .42, p < .001$). Additionally, H2, which stated perfectionism would positively correlate with aggressive behavior, was not supported. H3 stated workaholism would positively correlate with perfectionism, and it was also supported ($r = .40, p < .001$). H4 stated the relationship between aggressive behavior and workaholism would be moderated by perfectionism, such that the greater the level of perfectionism, the stronger the relationship between them. However, the interaction between workaholism and perfectionism fell short of statistical significance, $F(1, 109) = 0.52, p = .47, \Delta R^2 = .004$; therefore, H4 was not supported. A multiple regression was conducted without the interaction term, as shown in Table 2. It appears workaholism is a significant moderate-to-strong predictor of aggressive behavior, with a positive correlation, suggesting that as workaholism increases, so does the tendency for aggressive behavior.

Table 2. Predicting Aggressive Behavior

Predictor	b	r
HMPs	-.16	-.04
WAQ	.49**	.42**

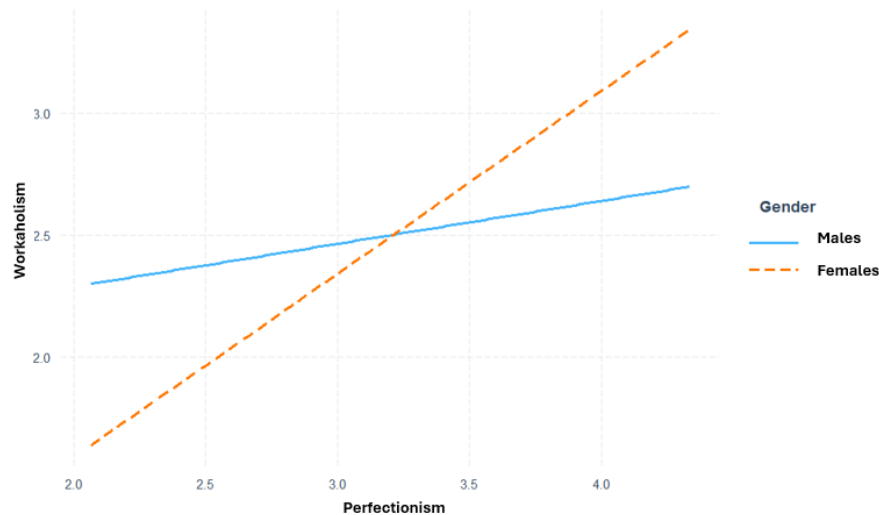
Note. $N = 110$. HMPs = Hewitt Multidimensional Perfectionism Scale; WAQ = Workaholism Analysis Questionnaire
* $p < .05$, ** $p < .001$.

For exploratory purposes, we examined if gender moderates the relationship between perfectionism and workaholism (see Table 3). In Model 1, perfectionism positively predicted workaholism, while gender was not a significant predictor, $R^2 = 0.17, F(2, 116) = 11.95, p < .001, 90\% CI [0.07, 0.26]$. In Model 2, adding the interaction between perfectionism and gender was significant, $R^2 = 0.24, F(3, 115) = 11.96, p < .001, 90\% CI [0.12, 0.33]$, indicating gender moderates the relationship between perfectionism and workaholism. Simple slopes results suggest that, for females, levels of perfectionism are a stronger predictor of workaholism, $b = 0.75, se = .13, p < .001$ (see Figure 1 for the interaction plot). In comparison, for males, levels of perfectionism became an even weaker and insignificant predictor of workaholism, $b = 0.18, se = .13, p = .170$. Overall, females seem to have a stronger relationship with levels of perfectionism and workaholism than males.

A confirmatory factor analysis was conducted to assess the overall fit of the model. Results indicated a very poor fit; however, all study variables were reliable with Cronbach's Alphas and McDonald's Omegas above .70, as shown in Table 4. The model indices were as follows: $\chi^2 = 5043.834, df = 2481, p < .001, CFI = 0.396, TLI = 0.378, SRMR = 0.115, RMSEA = 0.093 (90\% CI [0.089, 0.096])$. With the indices being significantly low, especially the CFI, modifications were made to improve the overall model fit. A series of covariances were added one at a time to see if they improved the model. After making modifications, the fit indices improved significantly—the new model's indices were as follows: $\chi^2 = 2477.264, df = 2051, p < .001, CFI = 0.900, TLI = 0.875, SRMR = 0.085, RMSEA = 0.042 (90\% CI [0.035, 0.048])$, which shows an overall better and acceptable model fit compared to the initial model.

Table 3. Regression Results using Workaholism as the Criterion

Predictor	b	se	p	sr ²	Fit	Difference
(Intercept)	1.13	0.30	.001		$R^2 = .171^{**}$	
Gender	-0.05	0.08	.530	.00	90% CI [.07, .26]	
Perfectionism	0.46	0.09	.001	.17		
(Intercept)	3.78	0.89	.001		$R^2 = .238^{**}$	$\Delta R^2 = .067^{**}$
Gender	-1.85	0.57	.001	.07	90% CI [.12, .33]	90% CI [.00, .13]
Perfectionism	-0.40	0.28	.163	.01		
Gender: Perfectionism	0.57	0.18	.001	.07		



*Note. Simple slopes analysis showed that perfectionism significantly predicted workaholism for females ($b = 0.75$, $se = 0.13$, $p < .001$), but not for males ($b = 0.18$, $se = 0.13$, $p = .170$). This means that for females, a one-unit increase in perfectionism is associated with a 0.75-point increase in workaholism, while for males the increase is smaller and not statistically significant

Figure 1. Gender moderating the relationship between perfectionism and workaholism

Table 4. Reliability Values: Cronbach's Alpha and McDonald's Omega

Variable	Cronbach's Alpha	McDonald's Omega
Aggression	0.85	0.86
Perfectionism	0.75	0.79
Workaholism	0.87	0.87

After running a confirmatory factor analysis, we assessed if workaholism mediates the relationship between aggression and perfectionism. The indirect effects of workaholism on the relationship between aggression and perfectionism were assessed through a series of models. Workaholism was related to perfectionism and aggression—for model results, see Table 5. The indirect effect of workaholism between the relationship of aggression and perfectionism was significant, $a*b = .115$, $p = .052$, 95% CI [0.015, 0.253], indicating that workaholism mediates the relationship between aggression and perfectionism.

Table 5. Results using Aggression as the Criterion

Predictor		<i>b</i>	<i>se</i>	<i>p</i>	Standardized Slopes
Perfectionism ~ Workaholism	(a)	0.43	0.12	.001	0.39
Aggression ~ Workaholism	(b)	0.27	0.12	.019	0.26
Perfectionism	(cprime)	-0.02	0.10	.843	-0.02

6. Discussion

Aggressive behaviors can be understood as a form of communication rooted in stress, where both the aggressor and the aggressed are engaged in a dynamic interaction shaped by their perception of threat and coping strategies [69]. Limited research exists on the potential relationships between aggressive behavior with factors largely seen in the workplace. For example, few studies have been conducted on correlating aggressive behavior with

perfectionism (e.g., [5,56,57]) and only one study has correlated aggressive behavior with workaholism. Specifically, Skinner et al. [47] found workaholism was positively related to and significantly predicted workplace aggression in a sample of university employees.

Due to this lack of research and potential organizational implications, both perfectionism and workaholism were included in the current study and compared with aggressive behavior. Not only have both constructs been widely studied in the past several years, but they are also detrimental to employee health and well-being. For example, perfectionism and workaholism induce stress and other psychological disturbances, such as burnout in workaholics and major depression in perfectionists [13,70,71]. Findings from Lunn et al. [72] highlight the substantial link between perfectionistic concerns and psychopathology in young people and, to a smaller extent, perfectionistic strivings, anxiety, and obsessive-compulsive disorder in people aged 6-24 years old. Therefore, it is surprising that aggressive behavior has not been examined more in relation to either of these factors, as all three are important constructs that have become prevalent both in research and in the workplace. The current study aimed to fill this gap in the literature by investigating potential associations among them. Our study serves as an additional area for future research and theories pertaining to aggressive behavior in the workplace. Notably, only Skinner et al. [47] have directly investigated this link. Similarly, Balducci et al. [73] found workaholism may be an important antecedent of enacted workplace bullying.

The current study findings have added important information to the extant research literature. First, there is now a basis for the relationship between aggressive behavior with both perfectionism and workaholism. As indicated, these relationships have rarely been examined in previous studies, thus, we seek to expand on the limited research. Second, some relationships that have been largely found in past research are confirmed. For example, other studies that have investigated relationships between workaholism and perfectionism similarly yielded a

positive correlation (e.g., [58,59,60,61,62]). Mazzetti et al. [63] found in a sample of 523 Italian employees from an international company, that perfectionism was positively associated with workaholism. Our findings confirmed and expanded on the validation of these results, which is discussed in the next section. Last, we demonstrated some conflicting results from less widely-studied research. For example, Harvey and Keashly [3] found a link between the number of hours worked and aggressive behavior; however, in our study no such association was obtained. Inconsistent results are an indication that further research is warranted to fully understand these relationships.

As hypothesized, workaholism positively correlated with aggressive behavior. This is an important result, as very little research has been done relating these two variables. This finding was supported by Skinner et al. [47], who found workaholism was positively related to and significantly predicted workplace aggression. Additionally, this may confirm Balducci et al.'s [46] theory that these two constructs are related due to having similar internal states. Balducci et al. [46] theorized (but did not test) that the low subjective well-being of workaholics will cause them to experience mental states associated with aggression (i.e., hot temperament, emotional reactivity, and high arousal negative emotions). These emotional states would, in theory, trigger aggressive behavior. Now that we have a base study to demonstrate the correlation between workaholism and aggressive behavior, Balducci, among others, have more room to develop this and other theories pertaining to this relationship.

Surprisingly, perfectionism did not correlate significantly with aggressive behavior. Aside from Öngen's [5] finding that perfectionism related to almost all aspects of aggressive behavior, this relationship has not been tested in past studies; other results that have led to this hypothesis were correlations between perfectionism and anger [53,54,55]. In addition, Chester et al. [56] found those with high levels of maladaptive perfectionism showed a greater tendency to respond to failure or negative feedback with aggression. Hence, our finding suggests anger and aggressive behavior are less synonymous and less related than previously believed. As the only studies in the current literature that attempt to directly correlate perfectionism and aggressive behavior are now contradictory, this opens many doors for future research.

Also, in line with the study hypotheses, workaholism positively correlated with perfectionism. Previous studies have also found this positive relationship [60,61,62]. This is because the expectation of perfection in both oneself and others can cause one to develop a compulsivity to dedicate time and energy into work [58]. Some psychologists have even identified perfectionism as a key factor in the development of workaholic behavior [59]. Stoeber & Damian [74] broke perfectionism down into two different types: Perfectionistic Strivings (PS) and Perfectionistic Concerns (PC). PS is setting goals to strive towards perfection, whereas PC is feeling anxiety about the pressure to be perfect. Both PS and PC were positively correlated with workaholism, as both lead to overworking, just in different ways. Therefore, our results further suggest that perhaps these two constructs are interrelated or dependent upon one another.

Contrary to expectations, perfectionism did not

moderate the relationship between workaholism and aggressive behavior; thus, the presence of perfectionism does not strengthen the relationship between workaholism and aggressive behavior. This may be due to the lack of correlation between perfectionism and aggressive behavior. The relationship between perfectionism and aggressive behavior has been conflicted within past research. If the association does not exist, then the level of perfectionism might not affect the level of aggressive behavior, despite being in a model with workaholism. However, it is noteworthy that workaholism, while showing an association with aggressive behavior, was a slightly better predictor of aggressive behavior when in a model with perfectionism than in one with hours worked per week.

Additionally, number of hours worked positively correlated with both perfectionism and workaholism. It makes sense that those who strive for perfection would take longer to complete tasks [58]. Accordingly, perfectionists are likely working longer hours to complete said tasks. However, the number of hours worked did not correlate with aggressive behavior. This result is further supported by Giusti et al. [75], who found that while overtime and nightshifts were associated with increased workplace violence, the overall number of hours worked per week did not show a significant correlation with workplace aggression. This is particularly surprising as Harvey and Keashly [3] previously found these factors are related due to fatigue and frustration. One explanation for this contradiction is the argument some psychologists put forth that aggression is a trait and not a behavioral tendency [76]. If true, then perhaps potential antecedents would not influence the level of aggression.

Further, women tended to score higher on the perfectionism scale than men. This notion is supported by other studies, as women seem to be more likely to exhibit perfectionism than men [77], though this may differ between types of perfectionism. Also, there was a negative correlation between age and perfectionism. Both results are surprising as Hanchon [4] found perfectionism is a trait that is equal across all ages and genders. He theorizes that mental states and personality traits are more likely to predict perfectionism than any demographic variable. Perhaps the opposing result is because, in the current study, working professionals were assessed; however, Hanchon [4] did not specify the careers or working conditions of the participants. Employed women may feel the need to be more perfect in their job-related tasks than do men, given that workplace sexism is an ever-present factor in many work environments. They might think they need to prove themselves to obtain the same opportunities as their non-perfectionist male peers. Regarding age, similarly, younger professionals who are newer to the workforce may feel more pressure to prove themselves as perfect than their older peers.

Notably, aggressive behavior was negatively associated with age. This could be due to either a developing sense of maturity or a learned suppression of aggressive thoughts and behaviors. Perhaps less surprising, but equally interesting, aggressive behavior had a negative correlation with income bracket. It makes sense that perhaps one who acts out and picks on fellow employees would not be the first choice for promotions and/or raises.

Workaholism did not significantly correlate with any of

the tested demographics. Other researchers have found similar results (e.g., [19]). For instance, Aziz et al. [78] found cultural origin did not moderate the relationship between workaholism and work-life imbalance, and there was no significant mean difference between Caucasian and Black participants in terms of workaholism. Interestingly, Bereznowski et al. [79] found people who experience high levels of stress are more likely to use work to manage or escape negative emotions; thus, stress contributes to workaholism. However, Beiler-May et al. [80] found women are less likely to endorse some self-report items related to workaholism compared to men; they posit women have greater levels of workaholism than men.

Furthermore, gender moderated the relationship between perfectionism and workaholism, such that, compared to men, women with higher levels of perfectionism were more likely to have higher levels of workaholism. This finding supports previous research that suggests women in professional settings are more likely to experience increased pressure to meet and maintain higher standards due to stereotypical gender expectations. In turn, this may lead to unhealthy levels of work-life balance which can negatively impact both individual and organizational outcomes [81]. For instance, there may be a diminishment of well-being, higher turnover, and less opportunities for women to advance in upper-level positions. Additionally, a confirmatory factor analysis was run to assess the initial fit of the overall model; it indicated the model had very poor fit. The poor fit likely stemmed from the latent variables of aggressive behavior and workaholism, as they both had poor fit, while perfectionism had close to moderate fit indices. Hence, a series of modifications were made to improve the overall model fit to an acceptable level. Once the model showed acceptable fit, further testing was conducted to assess a mediation relationship—workaholism mediated the relationship between perfectionism and aggression. Thus, perfectionistic tendencies may not directly influence aggression, rather they may do so indirectly by fostering unhealthy work habits (i.e., workaholic tendencies) which can influence stress and strain. This result highlights the importance of managers readily identifying and addressing workaholic behaviors, especially among individuals with higher levels of perfectionism. Doing so may reduce aggressive forms of behavior in the workplace.

6.1. Study Limitations and Future Research

One limitation was the geographical locations from which the participants were drawn. Surveys went out to four different states due to the availability of personal contacts. These states cannot be confined to one area such as “the South” or “the East coast.” Therefore, the study results lack generalizability to the country as a whole or one specific part of the country. In addition, a small sample size of participants agreed to complete the survey. Thus, future researchers should obtain a larger number of participants to increase statistical power.

The survey distribution process was another potential limitation, as the way some participants received the survey could have discouraged them from completing it. By having employers disseminate the survey to their employees, researchers are unaware of the exact number

of individuals who received the survey, thereby making it impossible to ascertain response rate. Further, there is no way for the researcher to be certain that employers are sending out the survey after they have agreed to participate in the study.

Future researchers should not only replicate the association between workaholism and aggressive behavior, but also implement a longitudinal design to determine causality and empirically relate the findings to Balducci et al.’s [46] theory of related internal states. Potential relationships between perfectionism and aggressive behavior must also be further explored, since existing research shows conflicting results.

6.2. Organizational and Practical Implications

The significant positive correlation between workaholism and aggressive behavior is an important relationship for managers and employees to be aware of. Previous research shows workaholism negatively affects the health and well-being of employees [7]. However, now we know these individuals are not only negatively affecting themselves, but they are also harming those around them [35]. For example, workaholics not only undergo stress due to their own compulsive actions, but the targets of their aggressive behavior also experience increased stress and decreased job satisfaction. As 25% of men and 11% of women are now considered workaholics, and given that these numbers are drastically increasing each year, the health and well-being of all workers is at an alarming likelihood of being harmed by stress, strained relationships or, in serious situations, workplace violence [28].

These findings suggest: 1. hiring managers should attempt *not* to hire individuals who have exhibited workaholic tendencies in order to keep aggressive behavior out of the workplace; and 2. if individuals who are currently employed have been exhibiting workaholic tendencies, managers should be even more motivated to implement an intervention to mitigate it. This is critical as they not only have to worry about the consequences workaholism has on the individual workaholic, but also the additional effects that aggressive behavior has on both coworkers and the company itself.

Furthermore, employers should consider gender-sensitive approaches to better manage perfectionistic attitudes and diminish workaholic tendencies. This can be achieved by enhancing access to different support systems. For instance, organizations could establish mentorship programs or increase availability to mental health resources. These counseling programs can help employees learn mindfulness and relaxation techniques, while also supporting their mental health beyond the workplace. Such resources could be tailored for women employees, as they were shown to be more influenced by levels of perfectionism and workaholism.

Additionally, organizations should consider promoting a healthy work-life balance and a psychologically-safe work environment by setting clear work boundaries and implementing leadership training. For example, supervisors can enforce reasonable work hours to help normalize levels of work-life balance. Leadership training can help managers identify and address negative work

behaviors, thereby potentially minimizing the impact of high levels of aggression, perfectionism, and workaholism.

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