



Client Violence and Emotional Health Among Child Protection Services Workers

Melissa Radey¹ · Dina Wilke¹

Received: 12 March 2024 / Revised: 18 June 2024 / Accepted: 18 September 2024 /
Published online: 7 October 2024

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Abstract

This study examined how client violence, or violence from clients, contributes to emotional health over the first three years of employment among one group of susceptible workers: child protective services workers in child welfare. The study assessed the impact of three types of client violence (i.e., yelling, threats, and physical assault) and job characteristics (e.g., time pressure, supervisory support) on emotional health (i.e., stress, psychological distress, and personal burnout), using a sample of 1,117–1,122 newly hired workers over six waves of data collected at six-month intervals. Using multi-level mixed effects regression models, findings indicated that general stress and personal burnout were curvilinear, peaking about 18–24 months post baseline. Experiencing threats and yelling both increased stress and personal burnout, and all three forms of violence were associated with higher levels of psychological distress symptoms. Further, although emotional health trajectories changed over time, the effects of violence did not; violent experiences were equally detrimental to emotional health symptoms at each wave of data collection. Workplace characteristics such as time pressure exacerbated the relationship between client violence and emotional health, while supervisor support countered negative effects of physical violence. Findings suggest the importance of policies and protocols that emphasize reporting client violence for agency personnel, including supervisors, to provide appropriate emotional and tangible support.

Keywords Client violence · Stress · Burnout · Longitudinal · Supervisor support

Aggression and violence in the workplace are well-documented among workers in the healthcare and social assistance sector. Injuries from workers in this sector

✉ Melissa Radey
mradey@fsu.edu

¹ College of Social Work, Florida State University, 296 Champions Way, Tallahassee, FL 32303-2570, USA

accounted for 78% of workplace injuries causing days away from work in 2022, and these workers faced an almost four-fold increased risk of non-fatal injury from violence compared to all workers (Bureau of Labor Statistics, 2023). Workplace violence is detrimental to workers and service delivery alike. In addition to physical injury, it is associated with increased mental and emotional distress as well as worker turnover (Robson et al., 2014). The impacts extend beyond individuals to agencies in lost productivity and inferior service delivery (Lamothe et al., 2018).

Child protective services (CPS) workers are a vulnerable subset of healthcare and social assistance workers. They are responsible for investigating and providing services to families with alleged or verified child maltreatment. Client and service attributes heighten CPS worker susceptibility to violence (NIOSH, 1996; Radey et al., 2022a). Clients often have histories of violence, hostility, mental illness, and substance misuse. Services are typically non-voluntary and include home visits often conducted alone, during evening hours, in dangerous neighborhoods, and with threat of child removal. Although estimates vary depending on measurement (e.g., study time frame, type of violence), estimates suggest that almost all workers experience violence from clients, or client violence, in some form each year (Horejsi et al., 1994; Radey & Wilke, 2021).

Studies also document the high consequences of client violence for workers. Physical incidents commonly require medical attention (MacDonald & Sirotich, 2001) and time away from work (Snow, 1994). Verbal aggression and threats relate to heightened anxiety, depression, and fear (Nyberg et al., 2020; Radey et al., 2022b). The trajectories of violence and emotional consequences as early-career workers learn and adjust to their positions are less clear. This study aimed to contribute to understanding client violence and emotional health over time among a statewide sample of CPS workers.

Prevalence and Consequences of Client Violence

The prevalence of client violence among CPS workers is high and longstanding (Borquez et al., 2023). For example, one study of rural workers in one state ($n=166$) found that 97% of CPS workers reported clients screaming or cursing at them within the past year; 33% had been verbally threatened (e.g., physical injury, including death, lawsuit, being fired); and 11% had been shoved, hit, or punched by a client (Horejsi et al., 1994). In a more recent study using the Florida Study of Professionals for Safe Families (FSPSF), a statewide sample and the same data used in the present study, Radey and Wilke (2021) found similarly high rates among newly-hired workers during their first four months of working with clients: 75% experienced verbal abuse; 37% experienced threats; and 2% experienced physical violence. Qualitative studies endorse the high rate of client violence with many workers viewing client violence as “part of the job” (Lamothe et al., 2018; Radey et al., 2022a).

The consequences of client violence are also well-documented (Borquez et al., 2023), particularly among qualitative studies. In describing the effects of client violence, workers from CPS and adjacent fields (e.g., residential treatment) reported depression, anxiety, substance use, and emotional exhaustion (Kind et al., 2018;

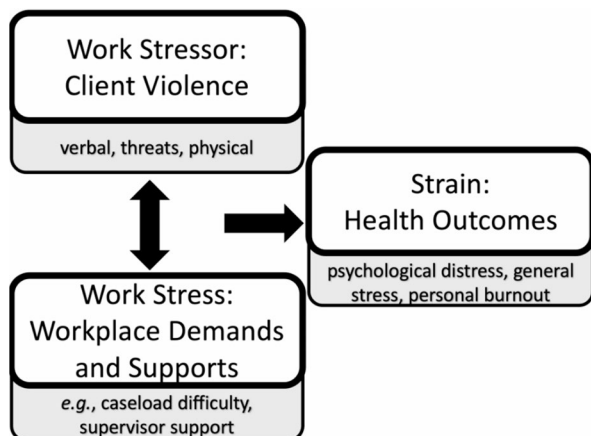
Lamothe et al., 2018; Radey et al., 2022b; Smith et al., 2021). An agency's response to client violence also seems important in predicting incident outcomes. Workers who felt supported by their agencies reported fewer negative emotional health consequences compared to their peers who did not perceive such support (Lamothe et al., 2021; Radey et al., 2022b). Limited quantitative studies also suggest the detriment of client violence. In one of few quantitative studies examining consequences of client violence among CPS workers exclusively ($n=273$), Horowitz (2006) found that verbal abuse or being in fear of clients related to distress symptoms including difficulty sleeping, difficulty concentrating, and feeling numb. In addition, Lamothe et al. (2021) found that violence and distress may operate in a cyclical process such that increased distress from violence increases workers' susceptibility to future violence. The potential for cumulative effects supports the need to consider violence and distress longitudinally.

Theoretical Model: Stress Process Model

The stress process model, also termed the stress, stressor, strain model, provides theoretical rationale for health consequences of client violence (Pratt & Barling, 1988; Schat & Kelloway, 2005). The model proposes that an adverse environmental event (i.e., stressor) combines with a worker's perception of and reaction to the event (i.e., stress) to affect functioning (i.e., strain). In an important application of the work stress process model, Barling (1996) identified the theoretical importance of client violence, a work stressor contributing to worker stress, and, subsequently, strain (i.e., compromised health) in the context of the work and organizational environment.

Figure 1 applies the stress process model as this study's conceptual framework. Client violence coupled with workplace demands and resources synergistically contribute to emotional health. Scholars have long recognized the theoretical and empirical importance of job characteristics for worker wellbeing (Caplan et al., 1975; Karasek, 1979). Qualitative studies of CPS workers suggest violence and workplace attributes combine to influence worker health (Lamothe et al., 2018; Radey et al., 2022b). The present study builds on available evidence to consider how client vio-

Fig. 1 Conceptual framework.
Stress, stressor, strain



lence contributes to worker emotional health in the context of job demands and supports within a CPS work environment.

We also know little about how the prevalence of client violence in its various forms influence emotional health over job tenure. CPS workers face intense learning curves, understaffed agencies, and short job tenures (Radey & Schelbe, 2017) underscoring the need to understand longitudinal relationships among client violence, workplace attributes, and emotional health. A recent study using the FSPSF found that the percentage of workers being yelled at decreased from 80 to 64%; being threatened declined from 48 to 39%; and physical assaults remained relatively constant (4%) during workers first 3.5 years in the field (Radey et al., [in press](#)). What this decline means for worker emotional health is less clear particularly given that time in position heightens workers' susceptibility to cumulative violence exposure, and in turn, cumulative negative health effects. For example, in an examination of health-care workers exposed to client violence, the number of violent incidents reported in the prior year increased the level of distress following a new act of violence (Lamothe et al., 2021).

The high-risk environment and largely, cross-sectional research on client violence and health (Borquez et al., 2023; Nyberg et al., 2020) provide impetus to examine client violence trajectories and their emotional health consequences among CPS workers within a stress process framework. The following three research questions and literature-informed hypotheses guided the present study:

1. How do the various forms of client violence contribute to emotional health among CPS workers over the first three years in child welfare?

Hypothesis 1 Being yelled at, being threatened, and being physically assaulted all decrease emotional health outcomes.

2. If, and how, does the relationship between client violence and emotional health change over time?

Hypothesis 2 The effect of client violence on emotional health accumulates over time resulting in greater effects at later time points.

3. How do workplace characteristics contribute to the relationship between client violence and emotional health?

Hypothesis 3 Workplace demands and pressure increase workers' vulnerability to poor emotional health while workplace supports protect emotional health.

Methodology

Procedure and Sample

The present study uses data from the Florida Study of Professionals for Safe Families (FSPSF), a statewide, longitudinal cohort study of child welfare workers hired from September 2015 through December 2016 ($N=1,500$). FSPSF's central purpose was to examine turnover, retention, and wellbeing among frontline CPS workers. In-person recruitment occurred during pre-service training before workers had caseloads (baseline) with online follow-up surveys every six months for 3.5 years regardless of employment status. The initial response rate was high (84%) and ranged from 77 to 87% at each wave (Wilke & Radey, 2020). All study protocol was approved by the Institutional Review Board at the authors' university (Study# 28640) and all participants provided written informed consent.

We examined child welfare workers' emotional health from six months through 3 years (Waves 2–7), controlling for emotional health at baseline. Of respondents who provided at least one wave of post-baseline data ($n=1,421$) and were employed in child welfare at least once post-baseline ($n=1,188$), we excluded workers who did not carry a caseload at any wave due to their more limited potential exposure to client violence ($n=8$) and those with missing data on study variables at all waves ($n=58$). These restrictions resulted in a sample ranging from 1,117 to 1,122 workers and 3,459–3,509 observations depending on study outcome. If workers left child welfare or no longer carried a caseload at a given wave, they were excluded from the sample. Therefore, the sample declined over time largely due to departure from child welfare (see Table 1). Important, our multilevel modeling technique capitalizes on all available data (e.g., includes eligible workers at the times that they were eligible) and accommodates for early exits from the sample (Singer & Willett, 2003).

Typical of the profession, 87% of workers were women and relatively early in their work lives averaging 31 years old ($SD=9.1$) at baseline. Reflective of the state, respondents were a majority minority sample including 34% identifying as non-Hispanic Black, 16% as Hispanic, 45% as non-Hispanic White, and 4% as non-Hispanic and of another race. In terms of position at hire, 42% were child protective investigators who investigated allegations of child abuse and neglect, and the remaining workers were case managers who worked with families after maltreatment was substantiated. Changing positions in child welfare was common with workers relatively evenly divided among investigators, case managers, and other positions (e.g., adoptions, licensing) by Wave 7.

Table 1 Workers who stayed in child welfare and carried a caseload by wave

<i>n</i>	W1	W2	W3	W4	W5	W6	W7
Total	1500	1306	1277	1203	1177	1161	1170
In child welfare	1500	1100	859	668	577	497	466
In child welfare with caseload	1500	1073	816	628	511	425	373

Measures

Psychological Distress

The World Health Organization's Composite International Diagnostic Interview-Short Form (Kessler et al., 1998) was used to measure psychological distress. Respondents used a 5-point scale (0=not at all, 4=all the time) to indicate the amount of time spent feeling various symptoms in the last 30 days. Example items included how often respondents felt "nervous," "restless or fidgety," and "hopeless." Past studies indicated acceptable to high reliability ($\alpha=0.76\text{--}0.89$; Kessler et al., 2010).

General Stress

General stress was measured by the 4-item short form of Cohen et al.'s (1998) perceived stress scale. On a scale from never (0) to very often (4), respondents indicated how often in the last month they had felt: (a) unable to control the important things in your life, (b) confident about their ability to handle personal problems, (c) things were going your way, and (d) difficulties were piling up so high that you could not overcome them. Positively worded items were reverse coded such that higher scores indicated higher levels of stress. Past studies indicated adequate reliability ($\alpha=0.76$; Warttig et al., 2013).

Personal Burnout

The Copenhagen Burnout Inventory (CBI) was used to measure personal burnout (Kristensen et al., 2005). The inventory assesses client, work, and personal burnout using a 5-point scale (4=always, 0=never) to measure various indicators of burnout. A feature of the CBI is the ability to examine dimensions of burnout separately. We examined personal burnout designed to measure fatigue and exhaustion through a six-item subscale. Example items included: "how often do you feel tired?" and "How often do you think, 'I can't take it anymore.'" Per the author's instructions, we converted scores to a range of 0 to 100. Previous studies suggest the subscale's high reliability (e.g., $\alpha=0.87$; Kristensen et al., 2005).

Client Violence

The Workplace Violence Scale (McPhaul et al., 2010) uses a 9-item dichotomous index to measure client violence. Respondents indicated (i.e., yes/no) if the following behaviors from a client occurred in the past six months: (a) yelled at, shouted at, or sworn at, (b) threatened by a client without physical contact, (c) threatened with property damage or theft, (d) threatened with a weapon, (e) personal or workplace property damage, (f) physical assault without physical injury, (g) physical assault with mild soreness or minor injury, (h) physical assault with pain, but no emergency room or physician visit, or (i) physical assault requiring emergency room or physician visit. Using workers' subjective judgements of client violence is common and empirically supported (Parveen et al., 2023). We grouped the categories into three

types: (1) being yelling at (i.e., [a]) (2) being threatened (i.e., [b-d]), and (3) physical assault (i.e., [e-i]). Workers commonly experienced multiple forms of violence and were coded ‘1’ for each type of violence that they experienced at each wave, 0 otherwise.

Job Attributes

To measure *caseload characteristics*, we used caseload size and difficulty. At each wave, workers indicated their current number of cases. We top-coded caseload size at 36 reflecting three times the recommended caseload size (Child Welfare League of America, 1995). Respondents then specified the number of their current cases that they found to be particularly difficult which was utilized to calculate a percentage of difficult cases.

Workers completed a five-item scale to assess *time pressure* noting their level of agreement with each item (strongly disagree to strongly agree; Butler Institute for Families, 2011). Example items included: “I am too busy at work” and “I don’t have enough time to do my job effectively” and higher scores indicated high levels of time pressure. Initial validation analyses with child welfare workers suggested the scale’s very high reliability ($\alpha=0.95$) and validity (Potter et al., 2016).

We used items from Parker’s Organizational Climate scale to measure *role overload* and *organizational support* (Parker et al., 2003). Respondents stated their level of agreement on a 48-item instrument. The 4-item role overload subscale included items such as “I have more work than I could ever get done” and “the amount of work that I have to do keeps me from doing a good job.” Example items from the 12-item organization support scale are: “This organization really cares about my well-being” and “Decisions about my job are made in a fair manner.” Higher scores indicated higher levels of role overload and organizational support. A study among healthcare workers indicated reliability for both subscales (i.e., role demands: $\alpha=0.79$ and organizational support: $\alpha=0.86$; Gagnon et al., 2009).

The Caplan’s Social Support Index (Caplan et al., 1975) was used to measure *social support*. Respondents indicated their level of agreement on five items on a 4-point Likert scale (0=not at all to 3=very much) for two sources: supervisor and co-workers. For example, workers indicated how “easy it is” to talk with each source and support availability when “things get tough at work.” Higher scores indicated higher levels of support. The scale showed high levels of reliability when considering workplace social support ($\alpha=0.73-0.83$; Caplan et al., 1975).

The present study controlled for demographic characteristics previously associated with client violence and emotional health (e.g., Horowitz, 2006; Radey & Wilke, 2021). For age and gender, we calculated worker’s age in years from their birthdate, and respondents indicated their gender. For race and ethnicity, workers indicated if they were of Hispanic/Latino ethnicity and selected their race from US Census definitions. Race/ethnicity was distinguished by 4 categories: Hispanic, non-Hispanic Black, non-Hispanic White, and non-Hispanic of another race. We also controlled for family social support using Caplan’s family/friends sub-scale. Models controlled for psychological distress at baseline. We included only baseline psychological distress in all models because stress and burnout were collected beginning in wave 2. To fur-

ther control for baseline health, we included self-reported overall physical health in which respondents rated their health on a 5-point scale (excellent to poor).

Data Analysis Plan

The analysis employed descriptive statistics and multi-level mixed effects regression models. The descriptive statistics considered correlations among types of emotional health, types of client violence, and various workplace attributes. The mixed effects regression models (Singer & Willett, 2003), including fixed- and random-effects, built upon the descriptive analysis to consider trajectories of emotional health over time and the contributions of client violence and workplace attributes to the trajectories. The models included workers with complete data at any time point and accounted for early sample departures (e.g., workers exiting child welfare).

In longitudinal mixed effects models, data are arranged in a person-year format, and individuals contribute a record for each wave of data. Workers contributed up to 6 waves of data to measure change over time (i.e., Waves 2–7). Models incorporated variant survey response times by measuring time as the number of months since baseline. Mixed effects models measure change on two levels. Level 1 examined within-worker change (e.g., how much does emotional health change over time?). Level 2 examined each worker's unique change trajectory considering workplace attributes (e.g., how do client violence and job attributes influence changes in emotional health across individuals?). The level 2 model considered each worker's change in the various dimensions of emotional health (e.g., psychological distress, general stress, personal burnout), the contribution of violence and workplace attributes to change, and the interrelationships among violence and workplace attributes (Singer & Willett, 2003). We tested if and how the effect of time (e.g., linear, quadratic, cubic) improved model fit for each dependent variable through log-likelihood tests. In each model, we included polynomial terms at both levels 1 (i.e., fixed effect) and 2 (i.e., variance components) to allow the curvature parameter to vary across time as well as individuals, a key feature of multi-level models (Singer & Willett, 2003). We included time in the form of the best-fitting models (Singer & Willett, 2003; Sommet & Morselli, 2017).

Variable selection for the final models consisted of several steps. We followed several steps to account for the non-independence of workplace attributes (e.g., experiencing high caseloads are associated with role overload): (1) examined models including each workplace attribute separately, testing its relationship to each outcome, (2) interacted each attribute with time, testing if its contribution changed over worker tenure, and (3) interacted each attribute with each form of violence, testing potential synergistic effects. In instances when a workplace attribute interacted with two forms of violence (e.g., threats and physical violence), we tested 3-way interactions. Model fit improvement was based on model statistics (i.e., the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and deviance). Tests indicated that the effect of no work attribute changed over worker tenure (e.g., no attribute-time interaction was significant or improved model fit). The presented models represent the best fitting models, including significant violence-work attribute interactions.

Results

Descriptive Results

Figure 2 displays the mean levels of psychological distress, general stress, and personal burnout from six months after baseline when workers were in training to 36 months of employment. Although distress was variable over time, both stress and personal burnout followed a similar pattern. Both increased initially and then decreased over time (at 18 months for personal burnout and at 24 months for stress). Despite the declines, using the midpoint of the scale as an indicator of burnout (e.g., Leake et al., 2017), most workers across all waves (55–63%) experienced personal burnout. Stress levels were also higher than among a national adult sample (Cohen & Williamson, 1988).

Table 2 provides descriptive statistics and correlational analyses for emotional health, client violence, and workplace attributes, six months after workers completed baseline surveys. Most workers had been yelled at by a client despite their relative short exposure to casework. Over one-third reported threats from clients and some (2.5%, $n=39$) experienced physical violence. Cronbach's alpha scores were at least acceptable at Wave 2, all exceeding .75, and analyses of reliabilities at each wave indicated acceptable reliability throughout data collection ($\alpha>0.72$). Correlational analyses indicated a high degree of overlap among study variables. Dependent variables were correlated with each other ($r=.60$ – 0.66) and positively correlated with client violence, with stronger relations with yelling or threats ($r=.11$ – 0.33) than physical violence ($r=.03$ – 0.09). Other workplace attributes also correlated with one another such that workers experienced high caseloads, difficult cases, and time pressure together, and various types of workplace supports (i.e., organizational, supervisor, coworker) together.

Regression Results

We conducted two preliminary steps in analyzing linear mixed effects regression models: (1) compared empty models with no substantive predictors to confirm suf-

Fig. 2 Outcomes over time

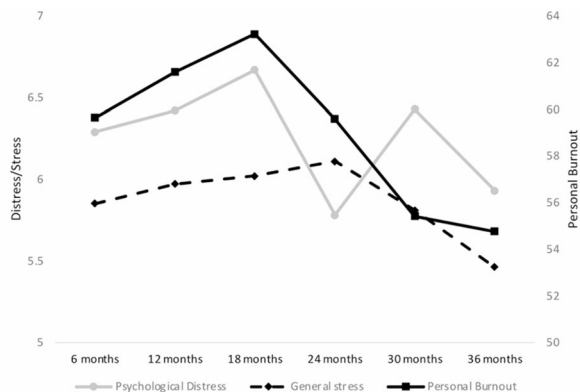


Table 2 Means, standard deviations, and intercorrelations of variables at Wave 2

	M	SD	α	1	2	3	4	5	6	7	8	9	10	11	12
1. Psychological distress (0–24)	6.3	5.4	0.89	1.00											
2. General stress (0–16)	5.9	3.4	0.76	0.66	1.00										
3. Personal burnout	59.7	21.5	0.88	0.60	0.61	1.00									
4. Yelled at	76.1	--		0.12	0.12	0.13	1.00								
5. Threatened	36.3	--		0.15	0.11	0.16	0.33	1.00							
6. Physically assaulted	2.5	--		0.09	0.02	0.03	0.05	0.12	1.00						
7. Caseload size (0–36)	14.6	7.0		0.03	0.07	0.13	0.05	0.09	0.03	1.00					
8. % difficult cases	27.3	19.2		0.19	0.15	0.23	0.05	0.09	0.04	-0.11	1.00				
9. Time pressure (0–15)	11.2	3.5	0.88	0.29	0.33	0.48	0.15	0.13	0.03	0.27	0.22	1.00			
10. Role overload (0–16)	10.7	3.8	0.87	0.39	0.43	0.56	0.17	0.17	0.00	0.23	0.20	0.67	1.00		
11. Organizational support	27.2	9.4	0.93	-0.30	-0.31	-0.38	-0.11	-0.17	-0.03	-0.11	-0.11	-0.33	-0.45	1.00	
12. Supervisor social support (0–15)	9.5	4.3	0.92	-0.23	-0.24	-0.26	-0.06	-0.09	-0.03	-0.05	-0.06	-0.20	-0.26	0.59	1.00
13. Coworker social support	10.2	3.6	0.88	-0.15	-0.15	-0.15	-0.06	-0.07	-0.04	-0.06	-0.03	-0.13	-0.13	0.40	0.48

Note All correlations > 0.03 are significant at the $p < 0.05$ level

ficient variation between workers to support the appropriateness for mixed effects models, and (2) tested the contribution of time to the model. Tests indicated that psychological distress followed a linear pattern while stress and burnout were curvilinear. The log-likelihood ratio test of 81.8 in adding a linear time component for distress to a model with no predictors exceeded the 0.05 critical value of a χ^2 distribution, $d.f.(3)$. Likewise, adding quadratic terms for stress and burnout significantly improved model fits with ratio tests of 39.4 and 177.8, respectively, also far exceeding the critical value, $d.f.(4)$. Therefore, models treated distress linearly, and stress and burnout quadratically.

Table 3 presents the mixed effects linear regression models of psychological distress, stress, and burnout. Examining psychological distress first, the interclass correlation coefficient in the unconditional growth model suggests that nearly 70% of the variation is attributable to the individual with the reminder (31%) attributable to external conditions. The within-worker constant of 0.01 did not reach, statistical significance suggesting that psychological distress did not change systematically over time. However, the non-significant estimate of within-worker change masks important between-worker differences in change trajectories. The violence and full models present these differences. In the violence model, we examined the contribution of client violence net of demographic and individual controls. Experiencing violence increased psychological distress scores by 0.51 points for being yelled at, 0.81 points for being threatened, and 1.18 points for physical assault. The full model added relevant work attributes and interactions to the violence model. In addition to time pressure and role overload associated with increases in psychological distress, two interactions were statistically significant and contributed to the best fitting model. Experiencing physical contact and high levels of time pressure were particularly detrimental to psychological distress (see Fig. 3). In addition, Fig. 4 displays the three-way interaction among physical violence, threats, and supervisory support. For workers who experienced threats without physical violence, supervisory support had little impact on psychological distress. For workers who experienced both forms of violence, however, supervisory support was critical. Workers with high support ($=+1$ standard deviation) experienced less psychological distress post-incidents while workers with low support ($= -1$ standard deviation) experienced more psychological distress contributing to a 3-point differential on the 20-point scale.

Following the same format as psychological distress, the middle columns of Table 3 present results for general stress. The interclass correlation coefficient suggests that 61% of the variation of stress is due to individual differences with the remainder due to external circumstances. The significant linear (0.07) and quadratic (-0.001) constants suggest that stress increased early in job tenure followed by a decrease (Fig. 2). Adding violence to the model and controlling for demographic and individual characteristics indicated that being yelled at or threatened increased stress scores by 0.47 and 0.30 points, respectively. In the full model, work attributes, namely time pressure, role demands, and supervisory support, contributed to stress levels. Aspects of violence also interacted with work attributes. Specifically, being threatened and experiencing high levels of time pressure contributed to particularly high levels of stress. The relationship mirrors the pattern of relationships among physical violence, time pressure, and psychological distress (Fig. 3). A significant interaction between

Table 3 Mixed effects logistic regression models of mental health symptoms: Florida study of Professionals for safe families Waves 2–7

	Psychological Distress (Linear)			General Stress (Quadratic)			Personal Burnout (Quadratic)		
	Growth	Violence ^a	Full	Growth	Violence	Full	Growth	Violence	Full
Fixed effects									
Between-worker constant (initial status)	6.26*** 5.88–6.63	9.44*** 7.97–10.91	4.31*** 2.78–5.83	5.47*** 5.10–5.83	8.69*** 7.71–9.67	4.99*** 3.99–5.99	55.22*** 52.92–57.51	62.56*** 56.10–69.03	30.81*** 24.54–37.07
Types of Violence									
Yelling		0.51** 0.16–0.86	0.08 –0.25–0.42		0.47*** 0.23–0.70	0.16 –0.06–0.36		4.97*** 3.50–6.45	–1.22 –4.05–1.61
Threats		0.81*** 0.50–1.10	0.94** 0.32–1.57		0.30** 0.09–0.50	–0.54* –1.09–0.00		3.29*** 2.04–4.55	1.70** 0.61–2.79
Physical contact		1.18** 0.47–1.89	–3.03 –7.30–1.22		0.34 –0.14–0.82	1.20** 0.27–2.12		–0.47 –3.37–2.42	–1.06 –3.58–1.46
Work Attributes									
% of difficult cases									0.04** 0.02–0.07
Time pressure (0–15)_			0.11*** 0.06–0.15			0.06*** 0.01–0.10			1.28*** 1.12–1.45
Physical contact X Time pressure			0.27** 0.07–0.46						
Threat X Time pressure						0.06* 0.01–0.10			
Role demands (0–16)			0.15*** 0.13–0.18			0.12*** 0.10–0.13			0.75*** 0.66–0.83
Supervisory social support (0–15)			–0.05* –0.09–0.00			–0.04** –0.06– –0.01			–0.44*** –0.68–0.19
Yelling X Supervisory support									0.34* 0.08–0.61

Table 3 (continued)

	Psychological Distress (Linear)			General Stress (Quadratic)			Personal Burnout (Quadratic)		
	Growth	Violence ^a	Full	Growth	Violence	Full	Growth	Violence	Full
Threat X Supervisory support			–0.04						
			–0.10–0.02						
Physical contact X Supervisory support			0.12			–0.11 [*]			
			–0.20–0.44			–0.21–0.02			
Physical contact X Threat X Supervisor support			–0.40 [*]						
			–0.76–0.04						
Time (monthly) (linear)	0.01	–0.00	0.01	0.07 ^{**}	0.04 [*]	0.04 [*]	0.77 ^{***}	0.63 ^{***}	0.60 ^{***}
	–0.00–0.03	–0.01–0.01	–0.00–0.02	0.03–0.10	0.01–0.08	0.00–0.08	0.54–1.00	0.40–0.86	0.40–0.79
Time (monthly) (quadratic)				–0.001 ^{**}	–0.001 ^{**}	–0.001 [*]	–0.02 ^{***}	–0.02 ^{***}	–0.01 ^{***}
				–0.002–	–0.002–0.000	–0.002–0.000	–0.02–0.01	–0.02–0.01	–0.02–
				0.001					0.01
Random effects: Variance components									
Within-person									
Initial status (@ 6 months post-hire)	0.02	0.01	0.01	5.11 ^{***}	4.39 ^{***}	4.39 ^{***}	164.61 ^{***}	162.45 ^{***}	129.30 ^{***}
Linear term	23.76 ^{***}	13.57 ^{***}	10.54 ^{***}	8.01 ^{***}	5.09 ^{***}	5.16 ^{***}	485.37 ^{***}	371.97 ^{***}	203.65 ^{***}
variance									
covariance with initial status	10.47	10.47	9.45	0.03	0.02	0.03	1.75	1.71	0.65
Quadratic term	–0.33	–0.24	–0.19	–0.21	–0.12	–0.28	–20.57	–17.80	–7.86
variance									
covariance with initial status				0.000	0.000	0.001	0.001	0.001	0.000
Model statistics				0.003	0.002	0.005	0.31	0.27	0.12
Interclass correlation coefficient	0.69	0.56	0.53	0.61	0.46	0.54	0.75	0.70	0.61
Log-likelihood ratio test compared to empty model (χ^2)	81.83, $p=0.00$			39.14, $p=0.00$			177.80, $p=0.00$		
Deviance	20450.5	19884.2	19403.3	17463.6	17046.8	16452.6	29764.6	29449.1	28390.0
AIC	20462.5	19918.2	19453.3	17483.6	17088.8	16504.6	29784.6	29491.1	28442.0

Table 3 (continued)

	Psychological Distress (Linear)		General Stress (Quadratic)		Personal Burnout (Quadratic)	
	Growth	Violence ^a	Growth	Violence	Growth	Violence
BIC	20499.5	20022.9	17545.3	17218.2	29846.1	29620.2
<i>n</i>	1122 workers, 3509 observations		1122 workers, 3509 observations		1117 workers, 3459 observations	

* $p < .05$, ** $p < .01$, *** $p < .001$

^a All violence and full models control for demographic and individual characteristics including: age, race/ethnicity, gender, psychological distress (baseline), self-rated physical health (baseline), and family social support levels

Fig. 3 Psychological distress and physical violence by amount of time Pressure

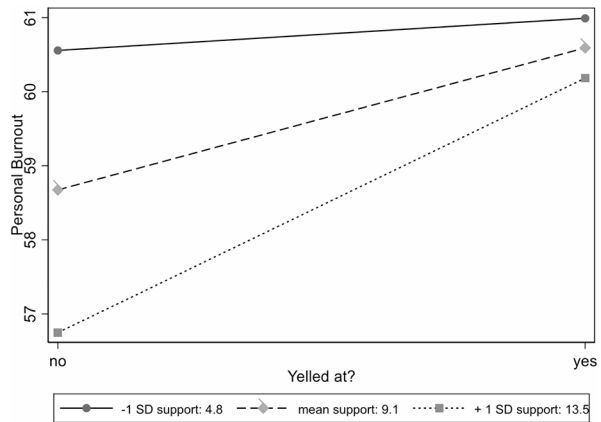
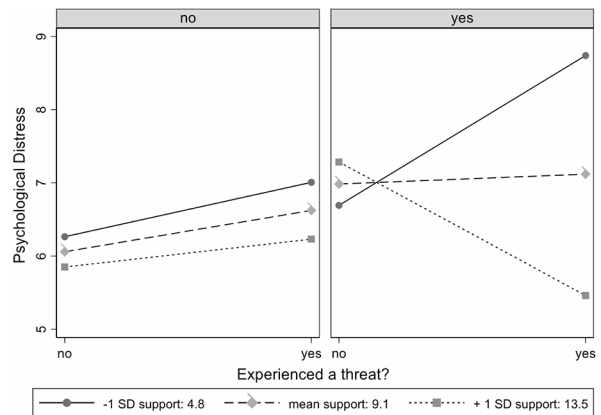


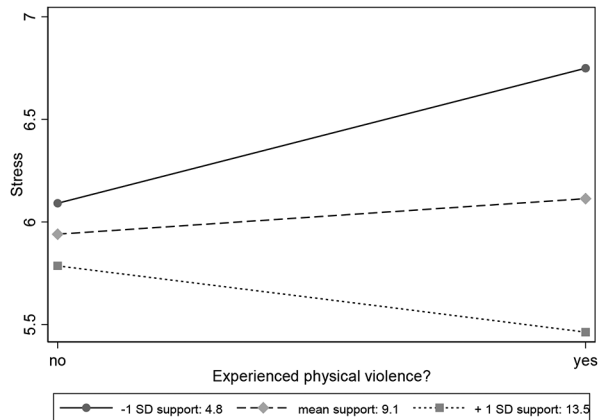
Fig. 4 Psychological distress, physical violence, and threats by amount of supervisor support



physical violence and supervisory support suggests that high levels of supervisory support counterbalance the effects of physical violence on stress. Of those who experienced physical violence, stress increased for those with little supervisory support while decreasing slightly for those with high levels of support (Fig. 5).

For the third series of models, the rightmost columns of Table 3 display results for personal burnout. The interclass coefficient indicates that 75% of personal burnout symptoms were explained by individual characteristics leaving 25% to external conditions. Similar to stress, the significant linear (0.77) and quadratic (-0.02) constants suggest that burnout increases rather rapidly in the early months of job tenure followed by a small decrease in symptoms beginning after 18 months in child welfare (Fig. 2 illustrates this inflection). In the violence model, being yelled at related to a near 5-point increase in personal burnout scores whereas being threatened increased burnout by 3.3 points. Similar to the models of psychological distress and stress, higher amounts of time pressure and role demands were associated with an increase in personal burnout. Supervisory social support related to a decrease in personal burnout. In addition, although the percentage of cases workers deemed difficult was not related to distress or stress, perceiving a higher percentage was significantly

Fig. 5 Stress and physical violence by amount of supervisory support



associated with increased symptoms of personal burnout. Being yelled at interacted with supervisory support: although supervisory support was related to lower levels of personal burnout among those who did not experience client yelling, it did little for those who did. Put simply, being yelled at by clients negated the protective capacity of supervisory social support.

Discussion

In the current study, we examined emotional health trajectories among a statewide sample of CPS workers from six months to three years post training. These results add to the literature by extending earlier cross-sectional findings to trajectories over time and doing so with a recently-hired cohort of workers. Drawing from descriptive statistics and multilevel mixed effects models, this study makes three main contributions regarding client violence and emotional health over early job tenure. First, while psychological distress was more variable over time, general stress and personal burnout were curvilinear peaking about 18–24 months after workers' initial job training and declining thereafter. Although previous studies have suggested stability in emotional health symptoms over time (e.g., Shirom, 2005 for burnout), these studies are largely based on workers with considerable time with their employers (Halbesleben & Buckley, 2004). The initial declines in emotional health support prior studies that find sharp declines in emotional health early in employment tenures (Wilke et al., 2020) and that CPS workers often face reality shocks when learning their positions (Radey & Schelbe, 2017). This research extends those findings suggesting that after about 18-months, workers' emotional health improves through three years on the job.

Second, client violence is associated with lower levels of emotional health. Specifically, experiencing threats and yelling were both associated stress and personal burnout, and all three forms of violence, including physical, were associated with psychological distress symptoms. Findings are consistent with the stress process model, cross-sectional studies of CPS workers (Horowitz, 2006; Radey et al., *in press*), and the larger amount of evidence among workers in similar fields, such as nursing (Nyberg et al., 2020). For example, Eggli and colleague's (2022) found that

stressful encounters with clients (such as those including violence) contributed to workers managing negative emotions and, later, disengaging from their work. In terms of the timing, although emotional health trajectories change over time, we found no evidence that the effects of violence do. Being yelled at, for example, was equally detrimental to emotional health symptoms at each wave of data collection. In supplemental analyses, cumulative measures of violence (i.e., sum variables indicating the number of prior waves a worker experienced the type of violence) were less associated with outcomes than the presented non-cumulative measures, further supporting the non-cumulative effects of violence on emotional health. This seemingly contradicts earlier qualitative studies examining health effects of violence (e.g., Lamothe et al., 2021; Littlechild et al., 2016) and evidence that repeated exposure to events compound to decrease health (e.g., Holmes & Rahe, 1967). However, other evidence also suggests that a single event can maximize workers' risk for health consequence (Wethington et al., 1995) leaving little space for cumulative effects over time. The relatively high levels of emotional symptoms among the sample suggest that workers may already be maxed out on emotional health consequences from their jobs (Wilke et al., 2020).

Third, workplace characteristics conditioned the relationships between client violence and emotional health. These results reflect the first known study among a cohort of CPS workers, a particularly vulnerable group of workers, and extend earlier cross-sectional findings to trajectories over time. The combination of time pressure and physical violence particularly related to increases in psychological distress symptoms as did experiencing the combination of threats and physical violence. These findings suggest multiplicative effects of work stressors in which experiencing client violence in the midst of heightened work pressures exacerbate emotional stress responses. This study provided a first opportunity to consider interactive effects of violence and work characteristics. Supporting the work stress process model, results suggest a potential breaking point (e.g., Frese & Okonek, 1984) for workers who experience client violence coupled with work demands (e.g., time pressure). Also, multiplicative effects between physical violence and supervisory support provide further evidence that supervisors serve as critical resources to prevent violence's ill effects (Radey et al., 2022b).

Study Strengths and Limitations

The consideration of study strengths and limitations is important when interpreting findings and drawing conclusions. First, the study considered three forms of client violence (i.e., yelling, threats, and physical assaults), yet the measures of client violence were crude. Study data did not provide the frequency, timing, sequencing, or severity of client violence. The six-month data collection interval means that the reported violence could have occurred any time, any number of times, in any sequence, and at any severity in the previous six months. The details of client violence undoubtedly contribute to emotional health effects (Radey et al., 2022b). Second, workers provided their perceptions for both independent and dependent variables introducing the concern of common method variance (Campbell & Fiske, 1959). Although much evidence supports the importance of perceptions of client violence and health (e.g.,

Kessler et al., 1999; MacDonald & Sirotich, 2001), this study did not measure the actual occurrence of violence or use objective measures of emotional health symptoms (e.g., diagnostic criteria classification for distress). Third, although study findings regarding the trajectories of client violence and emotional health may apply to workers outside of CPS, this study was exclusive to them, and caution is warranted for generalization beyond CPS workers in the single state.

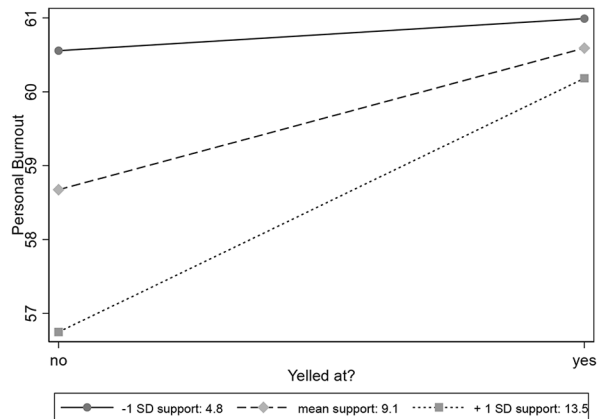
Implications

The Department of Health and Human Services prioritizes protecting workers from client violence (Capacity Building Center for States, 2017). Study results buttress increasing evidence about the harmful impact of client violence on workers' emotional health (Radey et al., *in press*; Lamothe et al., 2018; Nyberg et al., 2020), and reinforces the importance of agency efforts to address violence both before and after events occur. Agency transparency regarding worker susceptibility to client violence coupled with training to avoid and de-escalate potentially violent situations can support and prepare workers to respond to difficult clients and hostile interactions (Radey et al., 2022).

Yet, preparation and de-escalation will not eliminate client violence. Findings suggest that supportive supervision buffered the impact of physical violence on emotional health outcomes. However, the same was not true for yelling and threats. It may be that a physical altercation is unusual enough that workers seek out supervisors in response. Threats and yelling alternatively may not reach a threshold of reporting as they are often considered “part of the job” (Radey et al., 2022a). Given supervisory support's role in reducing emotional health impacts of physical violence, agencies may benefit from considering organizational protocols that make all forms of client violence visible and worthy of recognition and support. The majority of workplace violence is unreported (McGuire et al., 2021) preventing supervisors from providing supportive responses. Yet, the present study's finding that supervisory support can buffer the impact of client violence on workers' emotional health calls for agencies to provide a clear definition of what constitutes client violence, consistently implement a reporting protocol, and encourage supportive agency responses to such events. Clear agency procedures can maximize supervisors' abilities to reduce the harm of client violence on affected workers.

The present study's findings also suggest that while poor emotional health symptoms increased from six through 18–24 months regardless of violence, workplace pressures exacerbated the relationship between client violence and emotional health. Likewise, a recent survival analysis of CPS workers identified the 12–18 month period as the time of workers' highest vulnerability to turnover (Radey et al., *in press*). This time in early job tenure is also a period that workers are less experienced in responding to a hostile client. Perhaps concerted agency focus on providing additional support to early-career workers can avoid synergistic emotional health declines due to client violence and work demands, and potentially reduce turnover. The benefits of decreasing workplace pressures to promote worker emotional health extend beyond the 12–18 month period when emotional health begins to improve. Examples of strategies to target supports to early career workers during the high

Fig. 6 Personal burnout and client yelling by amount of supervisory support



demand, high stress times include mentoring from experienced workers, logistical support to meet documentation deadlines, and agency infrastructure that supports the emotional health needs of workers (e.g., employee assistance programs and time off from work if needed after violent incident) (See Fig. 6).

Author contributions Radey contributed to the idea of the manuscript, literature review, methodology, analyses, discussion, and general editing. Wilke contributed to the idea of the manuscript, the discussion, and general editing.

Funding This work was supported by the National Institute of Occupational Safety and Health under GrantR03OH012395-01-00 and The Florida Institute for Child Welfare.

Data availability The data are publicly available through the National Data Archive on Child Abuse and Neglect (<https://www.ndacan.acf.hhs.gov/datasets/dataset-details.cfm?ID=283>).

Declarations

Ethical approval This study was performed in line with the principles of Florida State University. Approval was granted by the Institutional Review Board of Florida State University (July 6, 2015/ Study # 28640)."

Informed consent Informed consent was obtained from all individual participants included in the study.

Competing interests We declare that we have no known Competing interest.

References

- Barling, J. (1996). The prediction, experience, and consequences of workplace violence. In G. VandenBos, & E. Q. Bulatao (Eds.), *Violence on the job: Identifying risks and developing solutions* (pp. 29–49). American Psychological Association.
- Bórquez, D., Calderón-Orellana, M., Correa, I., A., & Varas González, G. (2023). Client violence towards childcare workers: A systematic literature review. *Health & Social Care in the Community*, 1, Article ID 5556520.
- Bureau of Labor Statistics (2023). *Employer-Reported Workplace Injuries and Illnesses, 2021–2022*. Retrieved from <https://www.bls.gov/news.release/osh.nr0.htm>

- Butler Institute. (2011). *Time pressure. Unpublished measure*. University of Denver.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological bulletin*, 56(2), 81.
- Capacity Building Center for States (2017). The child welfare worker safety guide. Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services. <https://capacity.childwelfare.gov/states/resources/child-welfare-worker-safety-guide>
- Caplan, R. D., Cobb, S., French, J. R., Harrison, R. V., & Pinneau, S. R. (1975). *Job demands and worker health: Main effects and occupational differences [Monograph]*. US Department of Health, Education, and Welfare.
- Child Welfare League of America. (1995). *Standards of excellence for family foster care services: Revised edition*. Author.
- Cohen, S., & Williamson, G. (1998). Perceived stress in a probability sample of the US. In S. Spacapan, & S. Oskamp (Eds.), *The Social Psychology of Health*. Sage.
- Eggli, A., Pereira, D., & Elfering, A. (2022). An analysis of social stressors with clients, emotional labor strategies, and disengagement: A diary study on social work. *Scandinavian Journal of Work and Organizational Psychology*, 7(10), 1–13. <https://doi.org/10.16993/sjwop.154>
- Frese, M., & Okonek, K. (1984). Reasons to leave shiftwork and psychological and psychosomatic complaints of former shiftworkers. *Journal of Applied Psychology*, 69(3), 509.
- Gagnon, S., Paquet, M., Courcy, F., & Parker, C. (2009). Measurement and management of work climate: Cross-validation of the CRISO Psychological Climate Questionnaire. *Healthcare Management Forum*, 22(1), 57–65.
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30, 859–879. <https://doi.org/10.1016/j.jm.2004.06.004>
- Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research*, 11, 213–218.
- Horejsi, C., Garthwait, C., & Rolando, J. (1994). A survey of threats and violence directed against child protection workers in a rural state. *Child Welfare*, 73(2), 173–179.
- Horowitz, M. J. (2006). Work-related trauma effects in child protection workers. *Journal of Social Service Research*, 32(3), 1–18.
- Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285–308.
- Kessler, R. C., Andrews, G., Mroczek, D., Ustun, B., & Wittchen, H. U. (1998). The World Health Organization composite international diagnostic interview short-form (CIDI-SF). *International journal of methods in psychiatric research*, 7(4), 171–185.
- Kessler, R., Mickelson, K., & Williams, D. (1999). The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*, 40(3), 208–230. <https://doi.org/10.2307/2676349>
- Kessler, R. C., Green, J. G., Gruber, M. J., Sampson, N. A., Bromet, E., Cuitan, M., & Zaslavsky, A. M. (2010). Screening for serious mental illness in the general population with the K6 screening scale: Results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*, 19(S1), 4–22.
- Kind, N., Eckert, A., Steinlin, C., Fegert, J. M., & Schmid, M. (2018). Verbal and physical client aggression—A longitudinal analysis of professional caregivers' psychophysiological stress response and burnout. *Psychoneuroendocrinology*, 94, 11–16.
- Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*, 19(3), 192–207.
- Lamothe, J., Couvrette, A., Lebrun, G., Yale-Soulière, G., Roy, C., Guay, S., & Geoffrion, S. (2018). Violence against child protection workers: A study of workers' experiences, attributions, and coping strategies. *Child Abuse & Neglect*, 81, 308–321.
- Lamothe, J., Geoffrion, S., Couvrette, A., & Guay, S. (2021). Supervisor support and emotional labor in the context of client aggression. *Children and Youth Services Review*, 127, 106105.
- Leake, R., Rienks, S., & Obermann, A. (2017). A deeper look at burnout in the child welfare workforce. *Human Service Organizations: Management Leadership & Governance*, 41(5), 492–502.
- Littlechild, B., Hunt, S., Goddard, C., Cooper, J., Raynes, B., & Wild, J. (2016). The effects of violence and aggression from parents on child protection workers' personal, family, and professional lives. *Sage open*, 6(1), 2158244015624951.
- MacDonald, G., & Sirotych, F. (2001). Reporting client violence. *Social Work*, 46, 107–114.

- McGuire, S. S., Mullan, A. F., & Clements, C. M. (2021). Unheard victims: multidisciplinary incidence and reporting of violence in an emergency department. *Western Journal of Emergency Medicine*, 22(3), 702–709.
- McPhaul, K. M., Lipsomb, J., & Johnson, J. (2010). Assessing risk for violence on home health visits. *Home Healthcare Nurse*, 28, 278–289.
- National Institute for Occupational Safety and Health (NIOSH) (1996). Violence in the workplace: Risk factors and prevention strategies, *Current Intelligence Bulletin*, 57, Publication No. 96–100.
- Nyberg, A., Kecklund, G., Hanson, L. M., & Rajaleid, K. (2020). Workplace violence and health in human service industries: A systematic review of prospective and longitudinal studies. *Occupational and Environmental Medicine*. <https://doi.org/10.1136/oemed-2020-106450>
- Parker, C., Baltes, B. B., Young, S. A., Huff, J. W., Altmann, R. A., Lacost, H. A., & Roberts J. E. (2003). Relationships between psychological climate perceptions and work outcomes. a meta-analytic review *Journal of Organizational Behavior*, 24, 389–416.
- Parveen, S., Birkeland Nielsen, M., Reme, S., & Finne, L. B. (2023). Exposure to client-perpetrated violence in the child welfare service: Prevalence and outcomes using two different measurement methods. *Journal of Interpersonal Violence*, 38(7–8), 5963–5992.
- Potter, C. C., Leake, R., Longworth-Reed, L., Altschul, I., & Rienks, S. (2016). Measuring organizational health in child welfare agencies. *Children and Youth Services Review*, 61, 31–39.
- Pratt, L. I., & Barling, J. (1988). Differentiating between daily events, acute and chronic stressors: A framework and its implications. In J. J. Hurrell (Ed.), *Occupational stress: Issues and developments in research* (pp. 41–53). Taylor & Francis.
- Raydey, M., & Schelbe, L. (2017). From classroom to caseload: Transition experiences of frontline child welfare workers. *Child Welfare*, 95, 71–89.
- Raydey, M., & Wilke, D. J. (2021). Client-perpetrated violence among frontline child welfare workers. *Journal of Interpersonal Violence*, 36, NP6260–NP6280.
- Raydey, M., Langenderfer-Magruder, L., & Schelbe, L. (2022a). Business as Usual: Child protective services workers' perceptions and experiences of and responses to client-perpetrated violence. *Journal of Interpersonal Violence*, 37(3–4), NP2101–NP2125.
- Raydey, M., Langenderfer-Magruder, L., & Wilke, D. J. (2022b). Understanding the effects of client violence on the health of child protection services workers. *Journal of the Society for Social Work and Research*, 13(3), 533–555.
- Raydey, M., Wilke, D. J., Stanley, L. H., & Sabuncu, B. C. (2023). Independent and combined effects of workplace harassment among child welfare workers. *Journal of Aggression Maltreatment & Trauma*, 32(11), 1568–1588.
- Raydey, M., Wilke, D., Zhang, Y., & Randolph, K. (in press). Timing and predictors of frontline worker departures from child welfare: A survival analysis. *Journal of Society for Social Work Reserch*.
- Robson, A., Cossar, J., & Quayle, E. (2014). The impact of work-related violence towards social workers in children and family services. *British Journal of Social Work*, 44, 924–936.
- Schat, A. C., & Kelloway, E. K. (2005). Workplace aggression. In J. Barling, E. K. Kelloway, & M. R. Frone (Eds.), *Handbook of work stress* (pp. 189–218). SAGE.
- Shirom, A. (2005). Reflections on the study of burnout. *Work and Stress*, 19, 263–270. <https://doi.org/10.1080/02678370500376649>
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford University Press.
- Smith, Y., Colletta, L., & Bender, A. E. (2021). Client violence against youth care workers: Findings of an exploratory study of workforce issues in residential treatment. *Journal of Interpersonal Violence*, 36(5–6), 1983–2007.
- Snow, K. (1994). Aggression: Just part of the job? The psychological impact of aggression on child and youth workers. *Journal of Child & Youth Care*, 9(4), 11–29.
- Sommet, N., & Morselli, D. (2017). Keep calm and learn multilevel logistic modeling: A simplified three-step procedure using Stata, R, Mplus, and SPSS. *International Review of Social Psychology*, 30, 203–218.
- Warttig, S. L., Forshaw, M. J., South, J., & White, A. K. (2013). New, normative, english-sample data for the short form perceived stress scale (PSS-4). *Journal of Health Psychology*, 18(12), 1617–1628.
- Wethington, E., Brown, G. W., & Kessler, R. C. (1995). Interview measurement of stressful life events. In S. Cohen, R. C. Kessler, & L. Gordon (Eds.), *Measuring stress: A guide for health and social scientists* (pp. 59–79). Oxford University Press.

- Wilke, D. J., & Radey, M. (2020). *Florida study of professionals for safe families: Final report*. Florida Institute for Child Welfare.
- Wilke, D. J., Randolph, K., & Olson, C. (2020). Examining occupational stress in early-career child welfare workers. *Journal of Workplace Behavioral Health*, 35, 158–174. <https://doi.org/10.1080/15555240.2020.1807354>

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