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Research Article

Burnout, Depression, Compassion Satisfaction and Compassion Fatigue in Early Intervention Providers

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Abstract

Introduction: Early intervention providers' mental health impacts the delivery of effective services to children and their families. While burnout, depression, compassion fatigue, and compassion satisfaction have been extensively studied in physicians, nurses, and other health providers, little is known about these phenomena in early intervention providers. **Methods:** This exploratory cross-sectional study examined demographic characteristics, job-related factors of depression, and correlates of burnout, depression, compassion fatigue, and compassion satisfaction. **Results:** Forty percent of the participants showed high levels of compassion satisfaction, and 60% scored high levels of compassion satisfaction. Forty-four percent of the participants had low levels of compassion fatigue, and 55% had medium levels. **Discussion:** Identification of preventive and supportive measures to decrease burnout and compassion fatigue and improve compassion satisfaction may improve early intervention providers' mental health and wellness, decrease turnover rates, and ultimately improve the quality of care provided to clients.

Keywords: Burnout; Compassion satisfaction; Depression; Compassion fatigue; Early intervention providers

Highlights

- Exploratory cross-sectional survey to determine current levels of burnout, depression, compassion satisfaction, and compassion fatigue in E.I. providers in the United States.
- Components leading to this burnout include the number of days worked per week and the number of hours worked.
- CE-CERT is an evidence-based model designed to reduce stress levels in the care of trauma survivors and may support early intervention providers.

Introduction

Over 50% of healthcare providers experience symptoms related to burnout, which is significantly higher than the general population [1,2]. One indication of burnout is high turnover. Researchers reported that professionals working in jobs requiring in-home visits tend to demonstrate a high turnover rate [3-5]. Additionally, professionals with high turnover are those who experience secondary traumatic stress or compassion fatigue when working with families with a history of significant trauma [6,7]. Gill and colleagues, and Lee and colleagues demonstrated high turnover rates in home visitors in early childhood education and prevention programs [4,5], while West et al. associated a high turnover rate due to burnout resulting from emotional exhaustion associated with feelings of hopelessness, anger, frustration, and difficulties in coping with or performing one's job effectively [8].

In paediatrics, providers in early intervention (E.I.) programs in the United States work in clients' homes as defined by Part C of the Individuals with Disabilities Education Act (IDEA) [9]. The Part C program outlines the services provided to young children who face various risk factors to their health or well-being, such as developmental delays and disabilities and their families [9]. E.I. practitioners focus on empowering and educating the family to be experts on their child and make decisions according to the child's needs and characteristics [10]. Due to the work environment the E.I. provides may be at risk for burnout and experiencing compassion fatigue due to the family's life and events [8].

Burnout is essential to investigate due to its link with physical health impairments including muscle pain, headache, insomnia, respiratory illnesses, and gastrointestinal disorders [11]. Although burnout may occur in any job, it is most notable in the healthcare/helping professions [12-14]. The World Health Organization in 2019 added burnout to the International Classification of Diseases, characterizing it as a "syndrome of three dimensions: feelings of energy depletion or exhaustion, increased mental distance from one's job or feelings of cynicism or negativism about one's job, and reduced professional efficacy" [15].

Burnout consists of three core aspects: emotional exhaustion, depersonalization, and feelings of reduced personal accomplishment. Burnout is a complex process, developing gradually, with symptoms ranging from almost none to severe [16]. As E.I. providers work in families' homes, they often take on the stress and concern of the families adding to the provider's emotional exhaustion.

Considering E.I. providers engage with families in their natural environment, they often encounter families experiencing multiple stressors like families dealing with children challenged by disabilities, mental health issues, substance abuse, and poverty [17]. Alitz, et al. documented that the delivery of evidence-based home visiting models facilitates positive outcomes among families and their children, however home visitors experienced increased stress when they were unable to meet clients' needs [3]. These home environments increase E.I. providers' risk of developing burnout and compassion fatigue due to the prolonged exposure of witnessing and empathizing with the experiences of children and their families [18].

Sorenson et al. associated compassion fatigue in providers with behavioral, physical, and emotional changes such as loss of empathy and objectivity, sadness and depression, anxiety, sleeplessness, nightmares, chronic lateness, substance abuse, sleep and eating disturbances, disinterest, helplessness, exhaustion, recurring unwanted thoughts, and avoidance [18]. Additional risk factors for the development of compassion fatigue include traumas and Adverse Childhood Experiences (ACEs), role ambiguity, inability to establish boundaries between work and personal life, and job demands [8,19]. Dauber et al. and Harden et al. reported home providers in Head Start and nursing demonstrated elevated levels of compassion fatigue that can compromise the quality-of-care families receive due to disruptions in relationships between the providers and families [20,21].

In addition to compassion fatigue, Begic et al. reported several other job-related factors to exacerbate the risk for burnout among home visitors [19]. These include low job satisfaction and pay levels, lack of organizational structure, supervisor and co-worker support, and lack of autonomy and flexibility, leading to unhealthy work environments. Compassion fatigue occurs due to prolonged exposure to witnessing and empathizing with the traumatic experiences of clients and their families [22].

Sacco & Copel determined those providers in helping professions also experience compassion satisfaction [23]. Compassion satisfaction occurs when the care provider feels a sense of connection with his/her patients and a sense of achievement in his/her work [24]. This satisfaction in helping children and their families is often why providers work in E.I. Burnett & Wahl

reported compassion satisfaction is inversely related to compassion fatigue and may effectively reduce provider burnout [25]. Ross et al. published findings indicating that home visitors reporting higher satisfaction levels are more likely to experience higher levels of compassion satisfaction and lower levels of burnout and compassion fatigue [22].

Maslach, Jackson, and Leiter reported burnout symptoms seem more prevalent in the helping professions, such as physicians and teachers and linked burnout to emotional exhaustion [14]. Individuals experiencing emotional exhaustion feel over-extended and are unable to offer emotional support to others. Individuals with emotional exhaustion often transition to a cycle of depersonalization, or cynicism, referring to the negative and cynical attitudes toward work, leading to impersonal response toward recipients of one's care and a reduced sense of personal accomplishment [26-28]. Maslach defined a reduced sense of personal accomplishment as a negative view of oneself, mainly related to one's work [26]. As providers get to the very low point of a negative view of oneself at work, emotional exhaustion, burnout, and compassion fatigue can overwhelm the provider placing them at risk of leaving their work and placing the need to support these essential healthcare workers on administrators.

The burnout rate among those in the health care/helping professions is reported at medium to high levels, and the burnout risk in health care providers is higher than in the general working population [29]. Researchers investigated burnout, depression, compassion satisfaction, and compassion fatigue in healthcare fields, including physicians, nurses, and trauma therapists [8,18]. However, more evidence of burnout and compassion fatigue needs to be documented concerning home visitors. Krabn, et al. determined that E.I. workers were at risk of burnout; however, no existing studies documented current burnout trends, depression, compassion satisfaction, and compassion fatigue in E.I. providers [30]. Therefore, this study seeks to determine the current state of burnout, depression, compassion satisfaction, and compassion fatigue among E.I. providers.

Study Design

This study was an exploratory cross-sectional survey to determine current levels of burnout, depression, compassion satisfaction, and compassion fatigue in E.I. providers in the United States. Institutional review board approval from the University of Oklahoma Health Sciences was obtained.

Participants

Early Intervention providers in the United States. The inclusion criteria were E.I. providers working in their state's Part C program and completing the survey. Exclusion criteria include providers not explicitly working in their state's E.I. program.

Measures

Participants completed a demographic survey exploring their training, years of experience, and workloads.

Maslach Burnout Inventory – Human Services Survey (MBI-HSS)

The MBI-HSS is a self-administered, validated 22-question survey that assesses the three significant areas of burnout, used extensively in healthcare fields [31,32]. The questionnaire uses a 0 to 6 Likert-type scale to assess each burnout area. An elevated level of burnout in each area consists of a score of 27 or higher in the emotional exhaustion subscale, a score of 10 or higher in the depersonalization subscale, and a score of 33 or lower in the personal accomplishment subscale [14,33].

Reliability of the MBI-HSS using Cronbach's coefficient alpha resulted in reliability for the total scale as 0.87; 0.85 for emotional exhaustion, 0.80 for depersonalization, and 0.75 for personal accomplishment [34]. Pérez-Mármol and Brown demonstrated scalability, structural validity, and reliability of the MBI-HSS in conjunction with Rasch Measurement Model requirements [35].

Patient Health Questionnaire (PHQ-2)

The PHQ-2 is a depression screen with good construct and criterion validity, given that its discriminant validity was excellent for the PHQ-2 compared to the PHQ-9, a more extended survey [36]. The PHQ-2 is a valid tool to assess depression diagnosis, severity, and outcome [37]. Comprehensive assessment established the reliability, construct and criterion validity, and sensitivity to change of the PHQ-2 [38].

Professional Quality of Life Survey for Health Care Workers (ProQOL)

ProQOL is a 30-item measure to determine the negative and positive effects of helping others who experience suffering and trauma. ProQOL has subscales for burnout, compassion satisfaction, and compassion fatigue [24]. The measures Cronbach's alpha of 0.738, meaning the questionnaire demonstrates internal reliability and good construct validity. The ProQOL assesses three subscales: burnout, compassion satisfaction, and compassion fatigue. Cronbach's alpha revealed good internal reliability for the subscales: burnout α=0.805; compassion satisfaction α=0.909; and compassion fatigue α=0.797 [39-41]. Regarding validity, the ProQOL demonstrated excellent person- and item-fit characteristics and fulfilled the strict requirements of Rasch measurement models [42].

Procedures

We used snowball convenience sampling to gather participants through recruitment using survey distribution via Facebook groups,

E.I. listservs from the American Physical Therapy Association (APTA), the American Occupational Therapy Association (AOTA), the American Speech and Hearing Association (ASHA), and emails to E.I. leaders and providers across the nation. The invitations to participate included a link and Q.R. code to the survey. The survey included demographics and MBI-HSS, PHQ-2, and ProQOL. Participant completion of the electronic survey served as the participants' consent.

Data Analysis

MBI-HSS burnout, PHQ-2, and ProQOL were scored by summing all scores across subjects. Initially, there were n=244 responses to the survey, but some individuals had single items from each measure missing, so this effectively reduced the total sample size per outcome to MBI burnout (n=235), PHQ-2 (n=243), and ProQOL (n=233). No imputation was considered, and missingness was not assumed to be random.

Descriptive statistics were computed using E.I. provider discipline for each subscale scores from the MBI-HSS, including emotional exhaustion, depersonalization, personal accomplishment, and from the ProQOL including burnout, compassion satisfaction, and compassion fatigue. A backward selection process was used to arrive at the ProQOL final subscale scores to determine burnout, compassion satisfaction, and compassion fatigue. Normality was assessed for each subscale score among professions. None of the subscale scores were normally distributed among the professions. Nonparametric Kruskal Wallis tests were used to determine if each subscale score differed among the professions. Correlation analysis was conducted among all subscale scores using the entire sample to determine whether subscale scores for MBI-HSS correlated to subscale scores of the ProQOL. Each subscale score was tested for normality among the entire sample. Even among the sample, all subscale scores were not normally distributed. A Spearman correlation coefficient matrix was created for all six subscale scores to conduct correlation analysis.

Results

Participants

Two hundred forty-four E.I. providers completed the survey from October 23, 2023, to December 31, 2023. The responses from participants included 16.6% Physical Therapists (PT), 12% Occupational Therapists (OT), 33.2% Speech-Language Pathologists (SLP), 5.8% Service Coordinators (SC), 18.7% Special Instructors/early interventionists/developmentalists (SI), and 13.7% vision specialists and nutritionists (Other). One participant identified themselves as an occupational therapist and a service coordinator. Since our number of service coordinators was small, we used the occupational therapist as the provider for this individual. Providers from 41 states responded that Montana, Wyoming, Vermont, West Virginia, Alaska, Arkansas, Hawaii, Mississippi, and New Hampshire were not represented. Nineteen percent of the E.I. providers had a fixed schedule, and 81% had a flexible schedule and covariate variables. The mean years working in their profession was 18.4 years (SD=11.5). The range of providers years in E.I. was 0-51 years, with the average working 35.6 hours per week and a range of 2-100 children on their caseload. Table 1 provides descriptive statistics, variables, frequency, and percentages for the participants.

Category	Frequency	Percentage			
Provider Type					
PT	40	16.6			
OT	29	12.0			
SLP	80	33.2			
SC	14	5.8			
SI	45	18.7			
Other	33	13.7			
US Census Region					
Northeast	77	32.5			
South	54	22.8			
Midwest	49	20.7			
West	57	24.1			
Schedule Type					
Fixed	46	19.0			

Flexible	196	81.0			
Continuous Covariate Variables	**n**	**Mean (SD)**	**Median**	**Min**	**Max**
Years in Profession	242	18.4 (11.5)	17.0	0.0	51.0
Years in Early Intervention	236	13.3 (9.7)	12.0	0.0	40.0
Number of Days Worked per Week	242	4.6 (0.8)	5.0	2.0	7.0
Number of Hours in a Typical Week	237	35.6 (11.6)	38.0	2.0	80.0
Number of Children in Workload	239	28.6 (17.3)	25.0	2.0	100.0

Table 1: Descriptive statistics of Categorical Variables, Frequency and Percentages.

There was no significance in the relationships between the MBI-HSS with years in profession, years in early intervention, provider discipline, regions, or whether the provider had a fixed or flexible schedule. There was no significant relationship to the PHQ-2 to the years in profession, years in early intervention, number of hours in a typical week, number of children in workload, provider discipline, regions, or whether the provider had a fixed or flexible schedule. The ProQOL showed no significance for years in profession, years in early intervention, number of days worked per week, number of hours in a typical week, number of children in workload, provider discipline, regions, or whether the provider had a fixed or flexible schedule. Table 2 provides the descriptive statistics for the outcome measures, including the total score data for the MBI-HSS, PDQ-2, and the ProQOL measures.

Continuous Outcome Variables	**n**	**Mean (SD)**	**Median**	**Min**	**Max**
MBI-HSS	235	66.0 (14.7)	66.0	30.0	104.0
PHQ-2	243	1.5 (1.6)	1.0	0.0	6.0
ProQOL	233	98.2 (8.5)	97.0	81.0	100.0

Table 2: Descriptive Statistics for Outcome Measures.

The MBI-HSS demonstrated significance with the number of days worked per week and number of hours in a typical week. Number of hours worked each week (R=0.27, p<0.0001) and the number of days worked (R=0.23, p=0.0003) were associated with MBI-HSS burnout score univariately. The only outcome with multiple variables associated with the outcomes was the MBI-HSS burnout score. On the PDQ-2, the number of hours worked each week (Spearman =0.18, p=0.0042) was the only variable associated with the measure. Provider type was the only variable associated with ProQOL (F=2.48, p=0.0330) measure in the univariate associations. Table 3 illustrates these relationships.

Outcome measure and covariates	**Pearson/Anova** **KW Chi-Square or Wilcoxin**	**P-value**
MBI-HSS		
Years in profession	Pearson = -0.08	$p = 0.1922$
Years in early intervention	Pearson = 0.09	$p = 0.1988$
Number of days worked per week	**Pearson = 0.23**	***p* = 0.0003**
Number of hours in a typical week	**Pearson = 0.27**	***p* = <0.0001**
Number of children in workload	**Pearson = 0.12**	***p* = 0.0710**
Provider discipline	Anova =1.58	$p = 0.1679$
Regions	Anova = 0.02	$p = 0.9971$
Fixed or flexible schedule	Anova = 1.89	$p = 0.1701$
PHQ-2		
Years in profession	Spearman = -0.012	$p = 0.8469$

Years in early intervention	Spearman = 0.05	$p = 0.4533$
Number of days worked per week	**Spearman = 0.18**	***p* = 0.0042**
Number of hours in a typical week	Spearman = 0.10	$p = 0.0979$
Number of children in workload	Spearman = -0.003	$p = 0.9644$
Provider discipline	KW Chi-Square = 8.8	$p = 0.1185$
Regions	KW Chi-Square = 1.45	$p = 0.6937$
Fixed or flexible schedule	Wilcoxon = 6031.5	$p = 0.2822$
ProQOL		
Years in profession	Pearson = 0.006	$p = 0.9298$
Years in early intervention	Pearson = 0.03	$p = 0.6102$
Number of days worked per week	Pearson = 0.05	$p = 0.4401$
Number of hours in a typical week	Pearson = 0.07	$p = 0.2783$
Number of children in workload	Pearson = 0.10	$p = 0.1510$
Provider discipline	**Anova = 2.48**	***p* = 0.0330**
Regions	Anova = 0.81	$p = 0.4882$
Fixed or flexible schedule	Anova = 2.20	$p = 0.1391$

Table 3: Covariant relationships to the outcome measures of MBI-HSS, PDQ-2 and ProQOL (Bold=**P>.05**).

MBI-HSS Average Subscale Scores

The participants' average scores for each of the subscales for the MBI-HSS are in Figure 1. Frequency scores from a general population of 11,000+ people in the human services professions are included for comparison [43]. Higher emotional exhaustion and depersonalization contribute to burnout, while higher personal accomplishment reduces burnout. Our participants scored higher average emotional exhaustion than the general population. High emotional exhaustion is indicated by 46.38% of participants, and high depersonalization was scored by 16.6%, which would increase the burnout rate, compared to 20.85% of participants who scored high personal accomplishment.

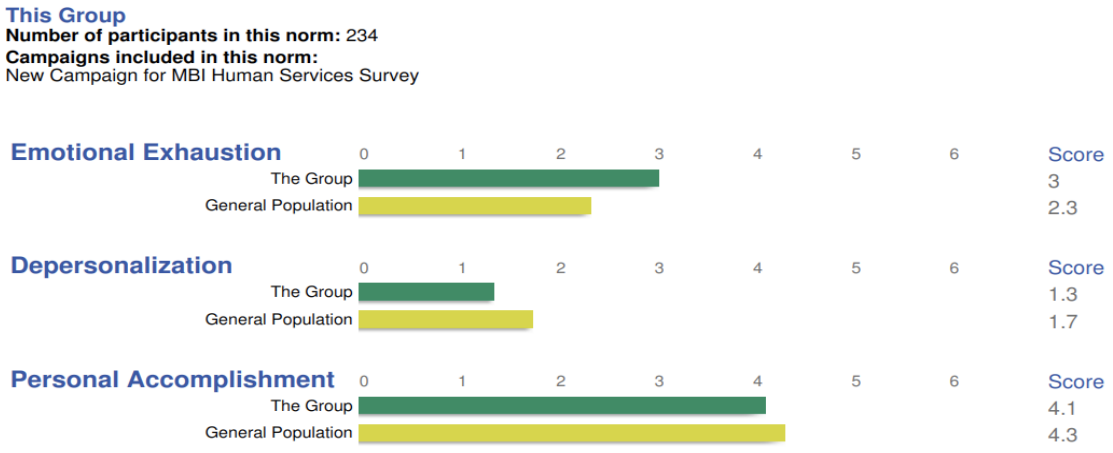

Figure 1: Average subscale scores on MBI-HSS compared to the general population.

MBI-HSS Profiles

Maslach and Leiter compiled profile analyses with the MBI-HSS scales to determine patterns in MBHSS scores [44]. Figure 2 illustrates the profiles based on cut-off scores of the MBI-HSS subscale scores. Using the subscales' scores, the profiles categorize exhaustion, cynicism, and efficacy and their relationship to one another. The profiles are engaged, ineffective, overextended, disengaged, and burnout. People with different burnout profiles have different workplace experiences. Twenty percent of participants were categorized by the MBI-HSS profiles as engaged, 29% were categorized as ineffective profile, 31% fell into the overextended profile, less than .02% were disengaged, and 14% were profiled as burnout. Depression was present in 19.9%, or 48 out of 241 early intervention providers. Table 4 contains subscales and descriptive statistics by MBI-HSS and participants' discipline.

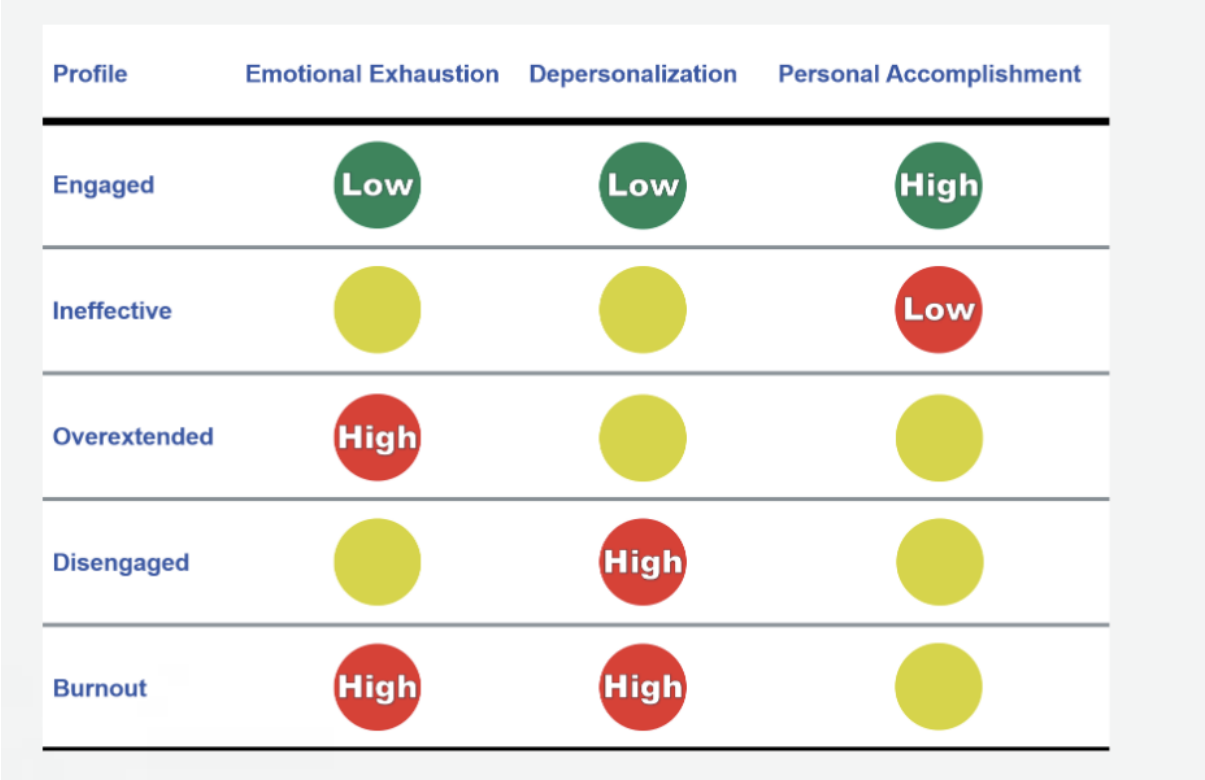

Figure 2: Profiles and the Impact of the MBI-HSS Subscale Scores.

MBI-HSS Depersonalization								
Type	**N Obs**	**N**	**N Missing**	**Mean**	**Std Dev**	**Median**	**Lower Quartile**	**Upper Quartile**
PT	40	40	0	6.3	4.9	6.0	2.0	9.0
OT	30	30	0	7.4	5.1	6.5	3.0	11.0
SP	80	80	0	6.6	5.8	5.0	2.0	10.0
SC	14	14	0	6.1	5.2	5.0	2.0	7.0
SI	45	45	0	7.7	6.5	5.0	2.0	14.0
Other	33	33	0	5.7	4.8	6.0	1.0	9.0
MBI-HSS Emotional Exhaustion								
PT	40	40	0	21.4	8.8	22.0	15.0	29.0

OT	30	30	0	24.7	10.1	24.0	19.0	31.0
SP	80	80	0	23.3	9.2	23.5	15.0	31.5
SC	14	14	0	23.2	10.3	26.0	14.0	33.0
SI	45	45	0	23.8	9.6	24.0	19.0	31.0
Other	33	33	0	20.9	10.0	22.0	13.0	30.0
MBI-HSS Personal Accomplishment								
PT	40	40	0	32.3	7.9	32.0	27.0	39.5
OT	30	30	0	33.8	6.7	33.5	30.0	39.0
SP	80	80	0	30.7	7.3	32.0	26.0	36.0
SC	14	14	0	33.3	9.8	34.5	28.0	41.0
SI	45	45	0	32.4	7.5	32.0	27.0	38.0
Other	33	33	0	32.3	7.8	32.0	27.0	37.0

Table 4: Subscales Descriptive Statistics by MBI-HSS and Professions.

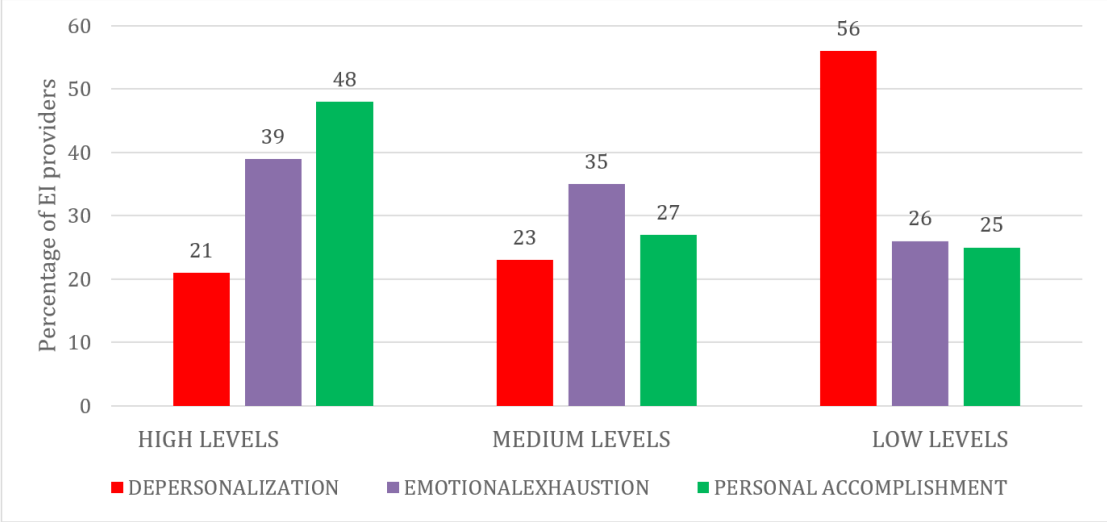

Figure 3: MBI-HSS Subscales of Depersonalization, Emotional exhaustion, and Personal accomplishment.

PHQ-2

On the PHQ-2 Depression scale, only the number of days worked per week indicated significance for this measure (p= 0.0042. Table 3). Our results did indicate that depression (Total PHQ2 equal to or greater than 3) was present in 19.9% or 48 out of 241 E.I. providers.

ProQOL Average Subscale Scores

The ProQOL showed no significant difference for participants' years in the profession, years in E.I., number of days worked per week, number of hours in a typical week, number of children in workload, provider discipline, regions, or whether the provider had a fixed or flexible schedule. Speech language pathologists (SLP) showed the lowest mean ProQOL scores. Special instructors, physical therapists and the other category of E.I. providers were not significantly different from speech language pathologists in ProQOL scores. Service coordinators were 5.8 (95% CI: 1.0, 10.6) points higher than speech language pathologists (t=2.36, p=0.0191). Occupational therapists were 5.3 (95% CI: 1.8, 8.9) points higher on the ProQOL than SLPs (t=2.93, p=0.0038). Table 5 indicates the ProQOL descriptive statistics by subscale and discipline.

ProQOL Burnout								
Type	**N Obs**	**N**	**N Missing**	**Mean**	**Std Dev**	**Median**	**Lower Quartile**	**Upper Quartile**
PT	40	40	0	27.5	3.9	28.0	24.5	30.5
OT	30	30	0	27.6	4.9	26.0	24.0	32.0
SP	80	80	0	27.0	6.0	27.0	22.0	30.5
SC	14	14	0	27.9	5.1	28.5	22.0	31.0
SI	45	45	0	27.8	4.6	28.0	25.0	30.0
Other	33	33	0	26.4	5.5	26.0	23.0	29.0
ProQOL Compassion Satisfaction								
PT	40	40	0	40.6	5.6	41.5	36.0	44.0
OT	30	30	0	40.7	5.9	42.0	36.0	45.0
SP	80	80	0	37.4	8.3	39.0	33.5	42.5
SC	14	14	0	41.9	5.9	43.0	39.0	46.0
SI	45	45	0	39.4	5.8	39.0	35.0	44.0
Other	33	33	0	40.5	5.1	41.0	37.0	44.0
ProQOL Compassion Satisfaction								
PT	40	40	0	22.6	4.9	23.0	18.5	26.0
OT	30	30	0	24.9	7.2	24.0	20.0	29.0
SP	80	80	0	22.9	6.9	23.0	19.0	27.5
SC	14	14	0	24.1	6.9	24.0	19.0	29.0
SI	45	45	0	23.9	6.2	23.0	20.0	29.0
Other	33	33	0	22.9	7.5	22.0	17.0	28.5

Table 5: ProQOL Descriptive Statistics by Subscales and Profession.

The results indicate medium burnout and medium compassion satisfaction scores for all E.I. providers based on cut-off scores according to the ProQOL manual [24]. The ProQOL measure determined that 83% of the providers showed medium levels of burnout, and 17% showed low levels of burnout. The providers in this study showed a medium-elevated level of compassion satisfaction. None of our providers scored a low level of compassion satisfaction. Forty percent of the providers showed high levels of compassion satisfaction, and 60% of our participants scored medium levels of compassion satisfaction. The ProQOL measure provided evidence that 44% of our participants had low levels of compassion fatigue, while 55% had medium levels of compassion fatigue, and less than 1% had high levels of compassion fatigue.

Correlation of MBI-HSS and ProQOL

Subscale scores among the same measure (i.e., subscale scores within the MBI or subscale scores within the ProQOL) were correlated. However, subscale scores across measures (i.e., MBI vs ProQOL) were not correlated (Figure 4).

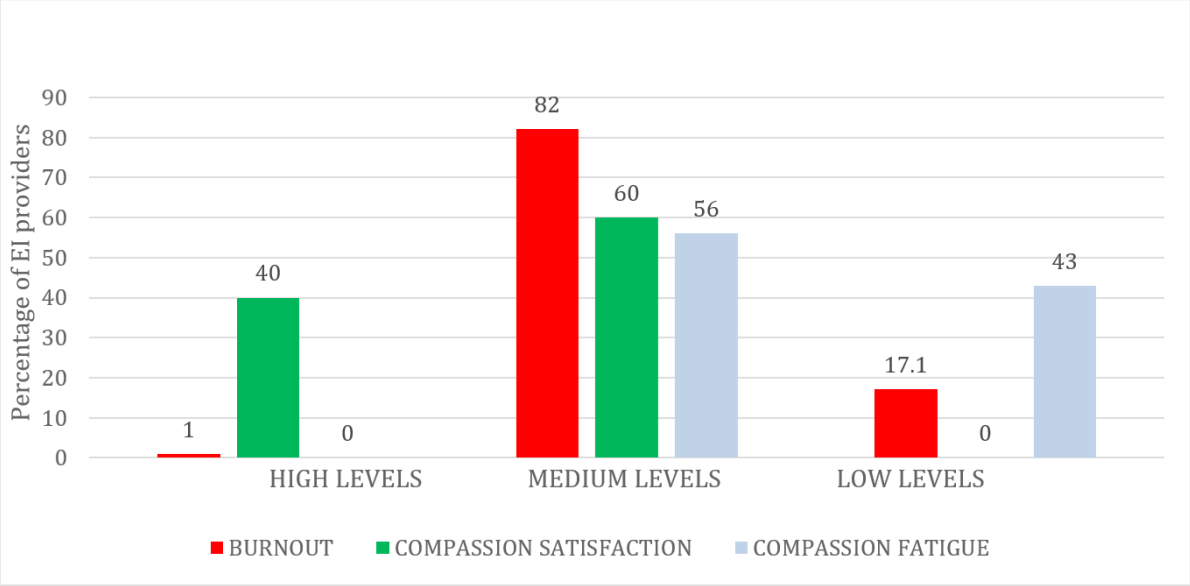

Figure 4: ProQOL Subscales of Compassion Satisfaction, Burnout and Compassion Fatigue.

Discussion

This study aimed to explore the current state of burnout, depression, compassion satisfaction, and compassion fatigue among E.I. providers. The results indicate many E.I. providers identified with traits of burnout or had traits that lead to burnout and almost twenty percent of the participants were depressed. Compassion satisfaction, which acts in a protective nature to decrease burnout, was rated as medium or high for everyone in the study, while compassion fatigue, which can exacerbate burnout, was rated as low or medium by study participants. While our two primary measures of burnout did not correlate, the results became more similar when accounting for burnout risk factors on the MBI-HSS summary (Figure 5).

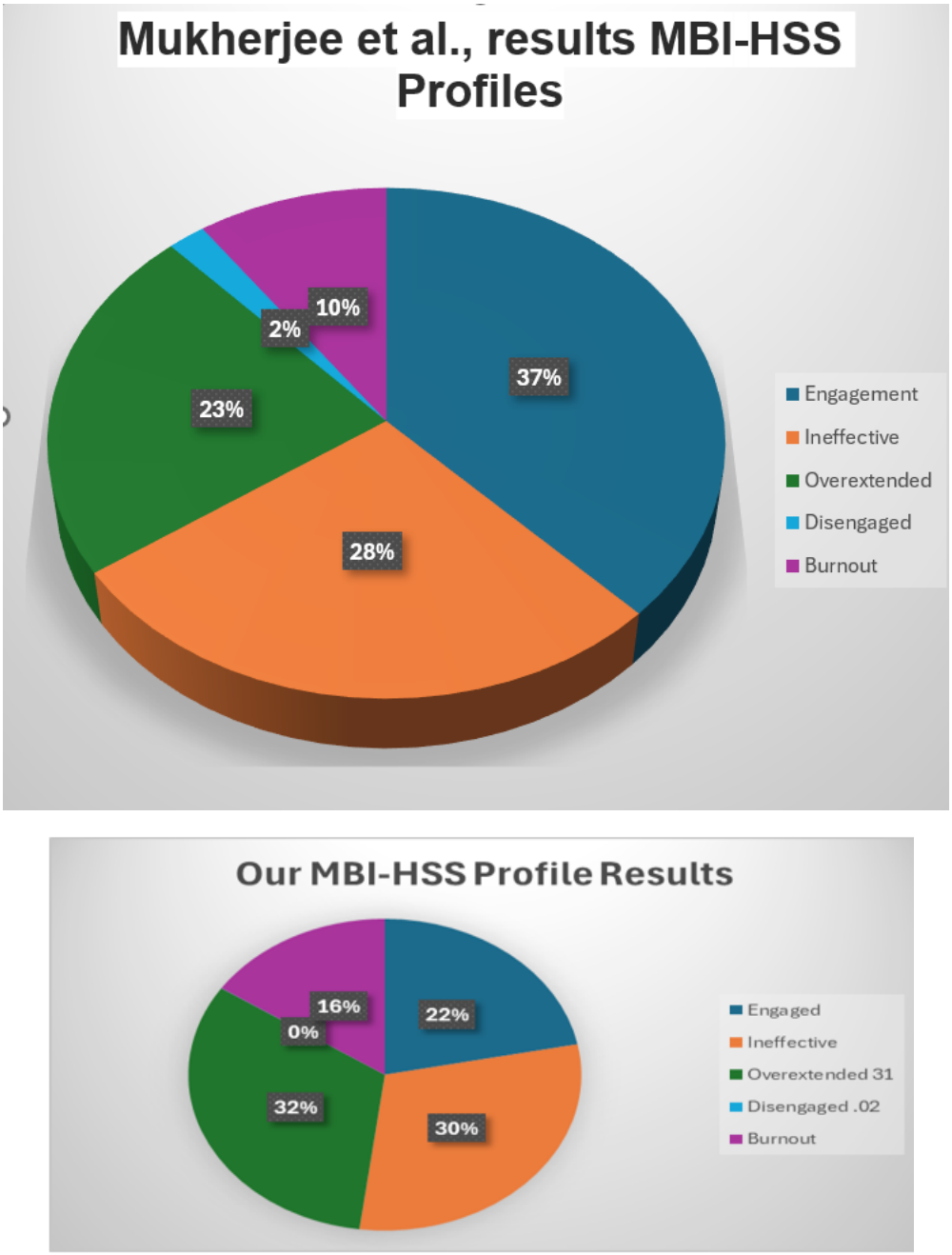

Figure 5: Comparison of current study data to Mukherjee et al. results.

The E.I. provider profiles on the MBI-HSS profiles were similar to Mukherjee et al. [45], recent investigation of health care workers in underserved areas during COVID-19. Mukherjee et al. study included 655 primarily Caucasian women health care providers, aged 50 years and younger, who worked in inpatient wards, emergency departments, or intensive care units. Even though the work environments were different, the need for compassion and caring are similar between the two studies [45].

Like other health professions [12-14], E.I. providers demonstrate burnout in their current work environments. This study identified components leading to this burnout to include the number of days worked per week and the number of hours worked. Specifically, burnout scores on the MBI-HSS increased by 0.35 points for each one unit increase in hours worked per week. Other traits leading to burnout identified on the MBI-HSS include almost half of the participants reporting emotional exhaustion, and one third reporting being over extended. Additionally, on the ProQOL, 83% of the participants scored at the level of medium or high burnout when considering their quality of life. This is comparable to burnout results in nurses and physicians in multiple studies across a variety of settings [46-48]. When compared to the results of home visitors in the State of New York, the E.I. providers in our study scored higher for burnout and compassion fatigue and lower for compassion satisfaction [22]. Some state and evidence-based models have developed and implemented strategies to support home visitor training, skill acquisition, and professional development [8]. Our findings suggest that there is a need for additional organizational support that bolsters the well-being of E.I. providers.

Barzilay et al. investigated the impact of COVID-19, investigated depression before and after the pandemic [49]. Their results indicated that 29% of Americans indicate a diagnosis of depression during their lifetime, while 17.8% currently have depression and these results were consistent with other studies [49-51]. The researchers also presented findings to determine the difference in burnout and depression since the COVID-19 pandemic. The results indicate a 54.8% increase in burnout and 166.7% increase in depression compared to results prior to the pandemic [51]. These increases in burnout and depression impact the results of our study and the impact of the pandemic on EI providers.

In this study over half of the participants had medium levels of compassion fatigue. Researchers previously identified that elevated levels of compassion fatigue can lead to burnout, which can in turn disrupt relationships between providers and families and compromise the quality of care [20,21]. Ray et al. identified comparable results in frontline mental health care professionals, notably that low levels of compassion satisfaction and higher levels compassion fatigue were highly predictive of burnout [52]. In addition to compassion fatigue, several other job-related factors exacerbate the risk of burnout among home visitors. These include low job satisfaction, lack of organizational, supervisor, and co-worker support, low pay, lack of autonomy and flexibility, and unhealthy work environments [19]. This study did not examine other contributing factors to burnout, but additional investigation is warranted.

One strategy to mitigate compassion fatigue is by promoting compassion satisfaction. For home visitors who experience compassion satisfaction, Sacco and Copel [23] reported the providers feel a sense of contentment, success, and fulfilment in offering services to clients and Burnett [25] and Ross [22] determined that compassion satisfaction is inversely related to compassion fatigue and may be an effective mechanism for reducing burnout. Our findings showed the participants had medium and high levels of compassion satisfaction and medium to low levels of compassion fatigue. Our results were like those of Ross [22] who identified moderate levels of compassion fatigue and elevated levels of compassion satisfaction in prior research on home visitors and the public.

Our findings support the presence of burnout, depression, compassion satisfaction, and compassion fatigue in E.I. providers. A preventative approach to burnout for these providers is essential. The MBI tool offers strategies for easing burnout, and the administration of the tool 'Areas of Work Life Survey' includes suggestions for changing aspects of the work environment that might contribute to burnout [53]. Changing personal behaviours, managing exercise and sleep habits, and adding coping strategies such as yoga and meditation have been shown to help individuals develop resilience against burnout, but they do not address the areas of work that are causing the stress [54,55].

Components for Enhancing Clinician Experience and Reducing Trauma (CE-CERT) is one program that has successfully prevented burnout in multiple disciplines, including physicians, trauma therapists, mental health professionals, and individuals in the helping professions [56-60]. CE-CERT is an evidence-based model designed to reduce stress levels in the care of trauma survivors and may support early intervention providers. CE-CERT offers strategies for management of burnout and compassion fatigue including collaboration, mitigation, definition of consciousness, depression reduction and parasympathetic restoration. One unique component is CE-CERT's use of strategies incorporated on the job during the workday as opposed to many self-care programs that are completed after a workday. CE-CERT includes a professional certification and has demonstrated success reducing factors that lead to burnout [56,58]. Early intervention programs should consider implementing CE-CERT or similar programs to support providers working directly with children and families and build a healthier workforce.

Limitations

Our study had several limitations. First, the nature of our study limited causal conclusions or the ability to report on how these measures changed over time; the ProQOL outcome measure focuses on aspects related to one's role in work and may not capture the additional factors that contribute to stress for healthcare workers. Another limitation is our data was collected

entirely through self-report measures and is subject to the limitations of this type of methodology (e.g., social desirability). Research that does not rely solely on self-report measures further the understanding of the complex relationships between empathy, self-compassion, and vocational quality of life. Our data is from early intervention professionals from different fields, allowing for a broader understanding of the relationships among burnout in professions working with children and families. Therefore, the generalizability of our findings is broader than one profession within early intervention. The prevalence of compassion satisfaction, compassion fatigue, and burnout were measured at a single point in time, and an individual's assessment of his or her perceptions may change over time due to individual work-related conditions [24]. Due to the small sample size, we could not examine more complex statistical models than those presented here. Future research examining our study questions is needed with larger, more diverse samples.

Conclusion

Overall, this study's results revealed moderate levels of compassion fatigue and burnout and moderate levels of compassion satisfaction among this group of E.I. providers. These results indicate that compassion fatigue and burnout are issues affecting E.I. providers. Despite the elevated risk of compassion fatigue and burnout, compassion satisfaction may be vital in mitigating the risk. We need to learn more about the relationship between compassion fatigue, burnout, and compassion satisfaction and the strategies to prevent and support E.I. workers.

Conflict of Interest

The authors have no conflict of interest to acknowledge.

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Ethical Guidelines

Hereby, I, Alissa McMullen consciously assure that for the manuscript /insert title/ the following is fulfilled

1. This material is the authors' own original work, which has not been previously published elsewhere.

2. The paper is not currently being considered for publication elsewhere.

3. The paper reflects the authors' own research and analysis in a truthful and complete manner.

4. The paper properly credits the meaningful contributions of co-authors and co-researchers.

5. The results are appropriately placed in the context of prior and existing research.

6. All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference.

7. All authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

8. The violation of the Ethical Statement rules may result in severe consequences.

I agree with the above statements and declare that this submission follows the policies of University of Oklahoma HSC and received IRB approval as outlined in the Guide for Authors and in the Ethical Statement.

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