Identifying Risk and Protective Factors of Burnout in the Field of Applied Behavior Analysis

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Abstract

According to numerous studies conducted by Maslach and Leiter, burnout is a multidimensional phenomenon characterized by varying degrees of emotional exhaustion, personal accomplishment, and depersonalization. While abundant literature has focused on burnout for teachers, nurses, and medical doctors, very few to date have focused on identification of risk and protective factors for the development of burnout in professionals and paraprofessionals working in the field of Applied Behavior Analysis (ABA). The participants were 21 females and 7 males between the ages of 21 years old and 46 years old with a mean age of 32.36 years old who completed research packets containing the Maslach Burnout Inventory - Health Services Survey (MBI-HSS), Personality Assessment Screener (PAS), Job Satisfaction Survey (JSS), demographic questionnaire, and consent form. The PAS scale of negative affect was positively correlated with both dimensions of depersonalization and exhaustion. Other PAS scales of health problems and alienation were positively correlated with exhaustion and negatively correlated with personal accomplishment. Thoughts of leaving one's job was found to be negatively correlated with pay satisfaction, supervision satisfaction, years of employment, and total job satisfaction. Participants who played sports showed lower ratings on the Exhaustion dimension. The number of hours participants worked, and job position were both positively correlated with the depersonalization and exhaustion dimensions of the MBI-HSS. The findings suggest that risk for burnout and attrition can be minimized by helpful employment practices (e.g., competitive payrates, supervisory support, fringe benefits, balanced caseload, promotion of healthy lifestyle). Clinical implications of this study include understanding predictors of burnout to reduce risk, increase staff retention, and improve quality of care for clients.

Keywords: Burnout; Applied behavior analysis; Job satisfaction; Health problems; Emotional exhaustion; Personal accomplishment; Depersonalization

Nature of the Study

Often used interchangeably with the term "stress," "burnout" is a term often thrown around in many occupational settings. According to Colligan and Higgins, there are five categories of stress that apply to workplace stress: Organizational structure and work climate, interpersonal relationships in the workplace, career development, role in organization, and unique job factors such as work hours, time worked or isolation and autonomy from others [1]. Stress from any of these categories can cause friction between the employee and the job demands when the employee lacks coping resources. Research has shown correlations between burnout and job turnover, work performance, and low staff morale [2]. Research also has shown a correlation between calling in sick or absenteeism and negative perception of one's employment organization and his or her inclination to leave the organization [3]. Additionally, burnout is also correlated with increased substance abuse, marital and family problems, and physical exhaustion [2].

Background

In the 1970s, Dr. Herbert Freudenberger and Dr. Christina Maslach concurrently coined the term "burnout" to specifically refer to a syndrome of emotional exhaustion, fatigue, and somatic complaints [4]. Maslach has long been a leading researcher of burnout, and identified fatigue,

insomnia, headaches, gastrointestinal disturbances, and immunity vulnerability as common manifestations and effects of burnout [4]. During the time Maslach was studying people's coping skills on the job in the 1970s, her consultation with an attorney alerted her that a phenomenon called "burnout" was frequently used by poverty lawyers to depict arousal and coping strategies [5]. Not long after that, the term became widely adopted by her colleagues and recognized by their patients. A term often used synonymously with burnout is "compassion fatigue." Since then, it has been a topic that inspired at least 50,000 research studies according to various academic databases such as EBSCO, ProQuest Central, and Google Scholar. By 1981, there were already approximately 300 published articles with references to burnout [6]. Scientific research requires that constructs and terms need to be clearly defined so that studies can be replicated. In that regard, in the beginning stages, Freudenberger is acknowledged with having noted burnout to be a syndrome of emotional depletion, loss of motivation, and mental exhaustion [5]. Others applied different descriptions and meanings to the term [7]. Pines and Aronson defined burnout as "a state of physical, emotional and mental exhaustion caused by long-term involvement in situations that are emotionally demanding," (p. 9). [8] With an underlying consensus of the common features of burnout, the theoretical framework from which early researchers studied burnout focused on three core dimensions of burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment.

A tool most widely used to study burnout and compassion fatigue is the Maslach Burnout Inventory (MBI) that was created by Christina Maslach [9]. Since the development of the MBI, many researchers define and describe burnout as a chronic issue that consists of the following three dimensions from the MBI: emotional exhaustion, depersonalization, and reduced personal accomplishment [4,10-12]. The specific dimension of emotional exhaustion is commonly defined as feeling exhausted and overextended by emotional demands of work [13]. Emotional exhaustion is often used synonymously and interchangeably with the term burnout and acts as a precursor to depersonalization. A person experiencing exhaustion tends to feel depleted of emotional energy when the emotional demands of their work far exceed their capacity to be responsive to the needs of their client [10,14]. Leiter and Maslach suggested the "major sources of this exhaustion are work overload and personal conflict at work (p. 416) [15]." People often resort to depersonalization as a coping response mechanism when all their emotional capacity has been depleted. This dimension of depersonalization refers to "an attempt to put distance between oneself and service recipients by actively ignoring the qualities that make the recipients of professional services unique and engaging people [10]. Thus, depersonalization is understood as being a defense mechanism of emotional detachment from one's own patients [10]. Leiter and Maslach proposed that the same detachment that was initially an emotional buffer for the person can lead to "dehumanization," of others (p. 416) [15].

Last, the third dimension of burnout is a feeling of reduced personal accomplishment. This third core dimension of burnout encompasses one's feelings of reduced or lack of personal accomplishments and inadequacy within the workplace. Leiter and Maslach further add to the proposed understanding of the literature by suggesting the reduction of personal accomplishment is "exacerbated by a lack of social support and of opportunities to develop professionally," (p. 416) [10]. Although the feeling of lack of personal accomplishment seems to appear sequentially to the other two dimensions, Maslach et al. have argued that it can appear to develop in parallel with the other two dimensions of burnout [10].

Based on Compassion Fatigue Theory, burnout is related to exhaustion due to excessive empathy for individuals who experience significant emotional and physical pain or distress [10]. It has been suggested that more empathic professionals and paraprofessionals in mental and medical fields tend to be at greater risk of burnout and compassion fatigue than other professions [10,16]. According to Tei and his colleagues, more than 70% of "medical professionals report symptoms of burnout that may lead to medical errors, substance abuse, and even suicide," (p.1) [10]. The quality of care provided by staff experiencing burnout has been suggested in research to deteriorate significantly [2]. An abundance of studies yield data regarding risk factors and intervention programs for occupational burnout in counseling, medical, and teaching professions [17]. In a study by Boujut and colleagues, teachers working with children with Autism Spectrum Disorder (ASD) reported more emotional exhaustion than those in the control group who do not work with students with ASD [18].

Problem statement

There is limited literature on burnout regarding behavioral health professions that have high turnover rates. [14] One such specialty profession is Applied Behavioral Analysis (ABA) [11,19]. In a report by Burning Glass, an analytics software company that analyzes career transitions and job market patterns, the "demand for behavior analyst positions more than doubled between 2012 (1,414 postings and 2014 (3,083 postings), with 85% falling into Health Care, Social Assistance, or Educational Services [20]. This high demand could be partly due to high turnover rates in the field of Applied Behavior Analysis (ABA). According to the literature review conducted by Morse et al., burnout was identified as the driving factor behind the problem of staff retention [11]. In a survey of staff training and performance management in the field of ABA, Reed and Henley found that supervisors who lack supervisory and support skills for their staff risk staff satisfaction declining and "higher rates of staff turnover," (p. 23) [19]. According to Blache et al., "Not having enough support from supervisors and co-workers particularly increases the possibility of having Burnout," (p.9) [21]. The lack of support from supervisors is a problem consistently with the lack Job Demands-Resources (JD-R) model of burnout, which hypothesizes that burnout results from high demand and minimal resources [7,11,16]. Behavior analysts' scope of work often requires high empathy and tolerance for others' hardships and difficulties as well as behavioral challenges. The emotional, physical, and psychological strains on top of occupational hazards

that are inherent in the behavioral health field have thus far been overlooked as a topic and is much in need of research. There has been insufficient research documenting effective evidence-based training, which Reed and Henley attribute to a third of their survey respondents stating they "were not prepared to successfully complete their job responsibilities," (2011, p.21) [19]. Blache et al. highlighted several personality traits that they deem to contribute to a higher probability of burnout: low self-esteem, competitiveness, high vulnerability, excessive need for control, and job attitudes.

Statement of the problem [21,22]

According to Lazarus, there are three types of stress: Acute, episodic, and chronic [23]. The chronic stress acquired from working in intense and often hazardous environments with challenging individuals suffering from psychological, social, and adaptive impairments can lead the professional to experience burnout [17]. Consequently, the professional experiences cynicism and negative attitudes toward the clients under the professional's care. The field of ABA provides the perfect medium for studying the contributing variables in burnout formulation. Credentialed behavior analysts and paraprofessionals within the field of ABA tend to find their self-worth in the progress their clients attain. Despite their best efforts and intentions, behavioral health providers do not always meet the goals they set for the clients' progress and therapeutic outcomes. In addition to actively avoiding their clients, health providers facing burnout can also experience fear, guilt, hopelessness, chronic exhaustion, anger, and a severely compromised immune system [21]. In a systematic review of prior research, it was found that burnout in healthcare professionals is often associated with high turnover intentions, medical errors, poor performance, and suboptimal care [24]. In prior studies, organizational commitment was determined to be the mediator between burnout and turnover [25].

Furthermore, ethical concerns need to be addressed. Burnout has historically demonstrated significant associations with verbal and physical violence directed at clients and "inhumane practices with clients, such as telephone crisis counsellors not answering the phone, hanging up on clients, and refusing to conference with families of runaways" (p. 289) [6]. According to the professional and ethical compliance code for behavior analysts, code 1.05(f), "Behavior analysts recognize that their personal problems and conflicts may interfere with their effectiveness" and must "refrain from providing services when their personal circumstances may compromise delivering services to the best of their abilities," (p.5) [26].

Purpose of the study

With the potential for such detrimental consequences that stretch beyond the immediate individual, it is surprising that limited research, if any, has focused on studying protective and remediating variables within this population of professionals. The study extends the current body of literature by examining more closely at relationships between personality type, variable work stressors, professional support, and self-care management to produce a measure with high predictive value for development

of burnout for people working in the field of ABA. Therefore, this study will focus on elucidating key factors (e.g., personality traits, contacts, resources, work demands, etc.) associated with behavior therapists' and analysts' susceptibility to burnout as well as remediating factors or buffers.

Hypotheses

To provide an in-depth and cohesive picture of the variables impacting burnout, the following hypotheses were examined.

Exhaustion

a)   Null Hypothesis 1: There is no correlation between the number of average hours worked per week and MBI exhaustion scale.

b)   Null Hypothesis 2: There is no significant correlation between playing sports as a hobby and the Exhaustion scale of the MBI.

c)   Null Hypothesis 3: No correlation exists between exhaustion and total job satisfaction ratings.

d)   Null Hypothesis 4: There is no correlation between thoughts of leaving a job and participant's rating on the Exhaustion dimension

e)   Hypothesis 5: There is no significant correlation between Health Problems and the MBI dimension of exhaustion.

f)   Hypothesis 6: Exhaustion score on the MBI cannot be predicted by one's rating on the alienation scale.

g)   Null Hypothesis 7: There is no correlation between negative affect and exhaustion.

Depersonalization

a)   Null Hypothesis 8: No correlation exists between number of hours worked weekly and participants' scores on the depersonalization dimension.

b)   Null Hypothesis 9: Participants' Depersonalization score can be predicted by their job position.

c)   Null Hypothesis 10: There is no correlation between negative affect and depersonalization.

Accomplishment

a)   Hypothesis 11: There is no correlation between accomplishment and alienation.

b)   Hypothesis 12: There is no significant correlation between one's sense of accomplishment and their perceived health problems.

c)   Null Hypothesis 13: Participants who work longer hours feel a greater sense of accomplishment.

Thoughts of leaving job

a)   Null Hypothesis 14: Pay satisfaction has no correlation with thoughts of leaving a job.

b) Null Hypothesis 15: Satisfaction with supervision experience is not correlated with thoughts of leaving a job.

c) Null Hypothesis 16: No statistical relationship exists between thoughts of leaving a job and the number of years a participant has been employed at their workplace.

d) Null Hypothesis 17: No correlation exists between total job satisfaction and thoughts of leaving job.

Methods

Participants

Potential participants were recruited from employees of behavioral health providers (Footprints Behavioral Interventions, Center for Autism and Related Disorders, Nyansa, Behavioral Health Works, McRory Pediatric Services, Albert Knapp & Associates). Office administrators for behavioral health providers were contacted by email with a request to distribute recruitment letters along with a recruitment letter and asked to distribute the letters to their staff by email, bulletin board, or in person. Interested participants were instructed by the recruitment letter to contact the researcher by e-mail with their name and mailing address or to obtain testing packages through their employer's office. Pre-numbered packets containing the consent form, demographics survey, the MBI, the 16 PF, and the job satisfaction survey were provided directly through their agency office or mailed to them with a pre-paid and pre-labeled return envelope to each interested participant. Participation in this study was limited to individuals employed in the field of ABA as a behavioral service provider and excluded office administrators. At the end of the data collection period, a total of 28 participants from two behavioral health agencies had returned completed packets to the researcher by mail. Of the 28 participants, there were 21 females and 7 males between the ages of 21 years old and 46 years old with a mean age of 32.36 years old.

Measures

The MBI-HSS is a 22-item survey designed to examine Maslach's three core dimensions of burnout and the extent of their severity. Participants are instructed to complete the survey by rating how often each item applies to them on a 6-point Likert scale. The 6-point scale ranged from 0 (Never) to 6 (Everyday) [2]. The MBI-HSS is appropriate for use with professionals and paraprofessional in settings such as group homes, hospitals, mental health centers, child and youth service organizations, and medical offices. The instrument was developed with participation by police officers, nurses, teachers, social workers, counselors, agency administrators, physicians, psychologists, psychiatrists, attorneys, and mental health workers amongst others. The MBI-HSS assesses depersonalization, emotional exhaustion, and personal accomplishment. When tested for internal reliability using Cronbach's coefficient alpha, the measure yielded 0.90 for Emotional Exhaustion, 0.71 for Personal Accomplishment, and 0.79 for Depersonalization. It is also reported to have a high test-retest reliability coefficient for each scale: 0.60 for Depersonalization, 0.82 for Emotional Exhaustion, and 0.80 for

Personal Accomplishment [10]. Permission to use the measure was obtained.

Demographic questionnaire: A demographic questionnaire was drafted by the lead researcher to collect relevant demographic data that may correlate with an individual's predisposition toward experiencing burnout (e.g., age, gender, years in the field of ABA, job position, etc.).

Job satisfaction survey: The job satisfaction survey is a 36-item instrument created by Paul Spector to assess the nine dimensions of job satisfaction: Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Conditions, Coworkers, Nature of Work, and Communication. When evaluated for reliability, the instrument has an internal consistency of 0.70 in a sample of 3,067 subjects. Permission to use letter is presented was obtained.

Personality assessment screener: The PAS is a shortened version of the Personality Assessment Inventory (PAI). It is a 22-item test that yields ten element scores representative of the ten distinctive problem domains evaluated by the Personality Assessment Inventory (PAI) [27]. The instrument is intended for use with individuals within the age range of 18 and 89 years old to predict the likelihood an individual would achieve a clinically elevated score greater than 70 in the following ten problem domains: Negative Affect (NA), Acting Out (AO), Health Problems (HP), Psychotic Features (PF), Social Withdrawal (SW), Hostile Control (HC), Suicidal Thinking (ST), Alienation (AN), Alcohol Problem (AP), and Anger Control (AC). The screener's construct validity was supported in a study using 492 veterans as their population [27]. Overall, it was found that the PAS was a reliable instrument with higher sensitivity and positive predictive power to the clinically significant subscales of the PAI [27]. Based on the study evaluating the internal consistency and predictive power of the PAS, all elements except for Hostile Control (0.29) yielded a high internal consistency coefficient greater than (0.60) [27]. Research by Creech and colleagues found as much 92% of patients with a PAS score higher than 15 achieved clinically significant profiles and 93% of those with clinically significant profiles scored higher than 15 on the PAS. For the purpose of the present study, the PAS was chosen due to its brevity and high predictive power of clinical elevation in the PAI [27].

Procedures

When prospective participants received their packet via postal service, they were presented with the Informed Consent form. The form instructed the participants to read all instructions and complete the consent form. The letter included within each packet then instructed the participants to fill out the Demographics Questionnaire, followed by the PAS, Job Satisfaction Survey and ending with the MBI. Participants were requested to return all items in the provided pre-paid envelope and mail it to the pre-labeled address to the researcher. Upon receipt of the returned packets, the lead researcher checked each packet to ensure an informed consent form was completed and placed it in a sealed

envelope prior to delivering it to the dissertation chair for storage. The lead researcher then scored the questionnaires and entered the raw data into SPSS to run a series of statistical analyses.

Result

The study sought to contribute to the current body of literature and further our understanding of burnout by analyzing and elucidating the possible correlations or predictive value personal and occupational factors. To examine relationships between the personality traits, burnout scale scores, and demographic factors, the SPSS statistics program was utilized. To examine the best combination of factors for predicting burnout, correlations, standard linear regression and hierarchical multiple regression analyses were used. First, results are given for null hypotheses 1 through 7 involving the Exhaustion dimension. Null Hypotheses 8-10 will be discussed in the section regarding Depersonalization. The third following section provides the results for the dimension called Accomplishment (Hypotheses 11-13). Last, results regarding one's thoughts or intention of leaving a job are presented (Hypotheses 14-17).

Exhaustion

Correlation coefficients were conducted using Pearson's r (Table 1). There is a positive correlation between the reported hours worked per week and the MBI Exhaustion score ($r=0.546$, $p=0.002$). Thus, null hypothesis 1 is rejected. In contrast,

Exhaustion was found to be negatively correlated with Playing Sports ($r=0.391$, $p=0.024$). As such, null hypothesis 2 is rejected. A statistically significant negative correlation was obtained between total satisfaction and the MBI Exhaustion score ($r=-0.482$, $p=0.006$). It was found that job satisfaction scores increased as exhaustion scores decreased. Thus, null hypothesis 3 is rejected. Additional examination of the exhaustion dimension using pearson correlation yielded a positive correlation between exhaustion and thoughts of leaving job ($r=0.358$, $p=0.036$) (see Table 2), which prompts a rejection of null hypothesis 4. Additionally, the MBI Exhaustion dimension was also found to have significant positive correlations with PAS scales of Health Problems ($r=0.541$, $p=0.002$), Alienation ($r=0.528$, $p=0.003$), and Negative Affect ($r=0.418$, $p=0.017$). Thus, null hypotheses 5, 6, and 7 are also rejected.

Table 1: Average hours vs. Exhaustion correlations, **. Correlation is significant at the 0.01 level (1-tailed).

		Avg Hours	Exhaustion
Avg Hours	Pearson Correlation	1	.546**
	Sig. (1-tailed)		.002
	N	28	26
Exhaustion	Pearson Correlation	.546**	1
	Sig. (1-tailed)	.002	
	N	26	26

Table 2: Correlations between MBI and thought of leaving job.

		Thought of Leaving Job	Exhaustion	Accomplishment	Depersonalization
Pearson Correlation	thought of leaving job	1	0.358	-0.09	0.323
	Exhaustion	0.358	1	-0.468	0.748
	Accomplishment	-0.09	-0.468	1	-0.447
	Depersonalization	0.323	0.748	-0.447	1
Sig. (1-tailed)	thought of leaving job	.	0.036	0.331	0.054
	Exhaustion	0.036	.	0.008	0
	Accomplishment	0.331	0.008	.	0.011
	Depersonalization	0.054	0	0.011	.
N	thought of leaving job	26	26	26	26
	Exhaustion	26	26	26	26
	Accomplishment	26	26	26	26
	Depersonalization	26	26	26	26

Regarding the variables of friends, Alienation (AN), communication, Supervision, Fringe Benefits, Promotion, Pay, and total satisfaction as predictors for Exhaustion, an analysis of variance (ANOVA) was conducted to yield the regression model for Exhaustion (see Table 3). The regression model was significant ($F_{(8,16)}=3.847$, $p=0.011$, $R_2=0.811$). The regression equation is Y 0.713x 0.965, indicating that exhaustion is increased by 0.713 for every point in AN scale. A hierarchical (stepwise) regression analysis was conducted to determine if Exhaustion is predicted by age,

gender, average hours worked, job position (rank), Negative Affect (NA), Alienation (AN), Health Problems (HP), Social Withdrawal (SW), Acting Out (AO), Alcohol Problems (AP), Anger Control (AC), Playing Sports, Promotion, fringe benefits, supervision, contingent rewards, communication, coworkers, perceived support, years in field, or years at the company. The best model only included Negative Affect (NA) and Promotion as predictors ($F_{(2,22)}=20.107$, $p<0.0001$, $R_2=0.646$)(see Table 4). The regression equation obtained was $Y=0.613(NA)-0.102(Promotion)+2.139$ (see Table 5). In summary,

the Exhaustion dimension of the MBI was found to be positively correlated with hours worked per week, thoughts of leaving job, Health Problems, Alienation, and Negative Affect. In contrast, it was found to be negatively correlated with job satisfaction and how often a participant plays sports.

Table 3: Exhaustion ANOVA[a].

a. Dependent variable: Exhaustion

b. Predictors: (Constant), friends, AN, communication, Supervision, Fringe Benefits, Promotion, Pay, Total Satisfaction.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	21.641	8	2.705	3.847	.011[b]
	Residual	11.251	16	0.703		
	Total	32.892	24			

Table 5: Regression analysis coefficients[a].

a. Dependent variable: Exhaustion

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.383	.441		.868	.394
	NA	.633	.135	.698	4.679	.000
2	(Constant)	2.139	.673		3.18	.004
	NA	0.613	.115	.676	5.322	.000
	Promotion	-.102	.033	-.399	-3.142	.005

Table 4: Exhaustion hierarchical regression model.

a. Dependent variable: Exhaustion

b. Predictors: (Constant), NA

c. Predictors: (Constant), NA, Promotion.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.04	1	16.04	21.892	.000[b]
	Residual	16.852	23	.733		
	Total	32.892	24			
2	Regression	21.261	2	10.63	20.107	.000[c]
	Residual	11.631	22	.529		
	Total	32.892	24			

Depersonalization

Additional analyses using the Pearson Correlation also revealed a positive correlation between average hours worked per week and Depersonalization (r=0.475, p=0.007), thus we can reject Hypothesis 8. The Depersonalization dimension of the MBI was found to have a significant positive correlation with job position using Spearman's rho method of correlation analysis (rs=0.341, p=0.044). As such, null hypothesis 9 can be rejected. There is a significant positive correlation between Depersonalization and Negative Affect (r=0.418, p=0.017), thus the null can also be rejected. A hierarchical (stepwise) regression analysis was conducted to determine if Depersonalization is predicted by age, gender, average hours worked, job position (rank), Negative Affect (NA), Alienation (AN), Health Problems (HP), Social Withdrawal (SW), Acting Out (AO), Alcohol Problems (AP), Anger Control (AC), Playing Sports, Promotion, fringe benefits, supervision, contingent rewards, communication, coworkers, perceived support, years in field, or years at the company. The best model only included AC and Average Hours Worked as predictors ($F_{(2,22)}$=6.157, p=0.008, R^2=0.359). The regression equation obtained was Y=0.268 (AC)+0.200 (Average Hours)-0.892. Overall, Depersonalization was determined to be positively correlated with job position, average hours worked per week, and Negative Affect.

Accomplishment

There was a significant negative correlation between Accomplishment and Alienation (r=-0.510, p=0.004); thus, null hypothesis 11 was rejected. Accomplishment was also found to have a significant negative correlation with Health Problems (r=-0.685, p<0.0001) (Table 6), which resulted in the rejection of null hypothesis 12. There was no significant correlation between average hours worked weekly and one's sense of personal accomplishment (rp=-0.188, n.s.); thus, null hypothesis 13 cannot be rejected. A hierarchical (stepwise) regression analysis was conducted to determine if Personal Accomplishment is predicted by age, gender, average hours worked, job position (rank), Negative Affect (NA), Alienation (AN), Health Problems (HP), Social Withdrawal (SW), Acting Out (AO), Alcohol Problems (AP), Anger Control (AC), Playing Sports, Promotion, fringe benefits, supervision, contingent rewards, communication, coworkers, perceived support, years in field, or years at the company. The best model only included Health Problems (HP) as a predictor ($F_{(1,23)}$=17.577, p<0.0001, R^2=0.433) (Table 7). The regression equation obtained was Y=-0.475 (HP)+6.185. In contrast to exhaustion, personal accomplishment has a negative correlation with Alienation and Health Problems.

Table 6: Model summary.

a.   Predictors: (Constant), HP.

Model	R
1	.658ᵃ

Table 7: Accomplishment ANOVAᵃ.

a. Dependent variable: Accomplishment

b. Predictors: (Constant), HP.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.610	1	3.61	17.577	.000b
	Residual	4.724	23	.205		
	Total	8.334	24			

Thoughts of leaving job

There is a significant negative Pearson correlation between pay and thought of leaving job (r_p=-0.656, p<0.0001) (Table 8). Negative correlation between satisfaction of supervision and thought of leaving job (r_s=-0.339, p=0.049). A negative correlation between years spent at a company and thoughts of leaving job (r_p=-0.409, p=0.15) was also found (Table 9). The results also yielded a negative correlation between total satisfaction and thought of leaving job (r_p=-0.559, p=0.001, one sided). Based on these results, null hypotheses 14-17 are rejected. A hierarchical (stepwise) regression analysis was conducted to determine if thought of leaving job is predicted by age, gender, average hours worked, job position (rank), Negative Affect (NA), Alienation (AN), Health Problems (HP), Social Withdrawal (SW), Acting Out (AO), Aggression Problems (AP), Alcohol Control (AC), Playing Sports, Promotion, fringe benefits, supervision, contingent rewards, communication, coworkers, exhaustion, depersonalization, perceived support, years in field, or years at the company. The best model only included Pay and Fringe benefits as predictors ($F_{(2,22)}$=12.515, p<0.0001, R^2=0.532). The regression equation is Y=-0.069 (Pay) -0.041 (Fringe Benefits)+2.381. Based on the data obtained, the thought of leaving one's job is negatively correlated with pay satisfaction, supervision satisfaction, years employed at the company, and total satisfaction.

Table 8: Correlations between pay and thought of leaving job, **. Correlation is significant at the 0.01 level (1-tailed).

		Thought of Leaving Job	Pay
Thought of Leaving Job	Pearson Correlation	1	-.656**
	Sig. (1-tailed)		.000
	N	28	25
Pay	Pearson Correlation	-.656**	1
	Sig. (1-tailed)	.000	
	N	25	25

Table 9: Thought of Leaving Job vs. Years at Company, *. Correlation is significant at the 0.05 level (1-tailed).

		Years @ Company	Thought of Leaving Job
Years @ Company	Pearson Correlation	1	-.409*
	Sig. (1-tailed)		.015
	N	28	28
Thought of Leaving Job	Pearson Correlation	-.409*	1
	Sig. (1-tailed)	.015	
	N	28	28

Discussion

The purpose of this study was to elucidate personal and environmental factors that may be driving forces for the development of burnout of behavioral health specialists. The primary goal was to evaluate data obtained from behavioral health providers of ABA treatment and potentially identify risk factors for these professionals developing burnout at clinically significant levels as measured by the MBI. There exists a high rate of turnover in the field of ABA, which not only negatively affects the behavioral therapists' health and well-being, but also significantly impedes the progress of those who rely on their services. Identifying relevant characteristic potential traits of individuals who wish to enter the field of ABA can help employers screen candidates whose data suggest high risk of burnout in an effort to minimize turnover rates and training costs. In addition, such data could help guide those who are considering working in the ABA field. Specifically, behavioral health providers can utilize burnout risk as a screening tool and the MBI to periodically help professionals assess their risks for burnout and for employers to provide adequate support and resources to those with higher risk factors in an effort to alleviate or avoid the development of burnout symptoms (Gibson, Grey, & Hastings 2009).

Interpretation of findings

There were several significant relationships found regarding risk factors for burnout. Among those findings were the significant relationships between alienation and all three dimensions of burnout. The detailed results will be discussed in sections that follow. Although this study yielded many significant results, particularly for the Exhaustion dimension, there are still notable limitations to this study, and those will be discussed in a later section. The results revealed significant relationships between the three dimensions of burnout and personal as well as occupational factors. The number of average work hours was not significantly correlated with Personal Accomplishment. Rather, it was found to be positively correlated with both Exhaustion and Depersonalization, which is consistent with Leiter and Maslach's suggestion that work overload and is a source of exhaustion [15]. This finding is also consistent with that of Bria, et al., who also found a positive

correlation between the number of shifts or working hours and depersonalization and emotional exhaustion [24]. Additionally, the data obtained revealed that Average hours worked is positively correlated with participants' job position. That is, the higher their occupational status, the more hours they reported to be working. By virtue of association, risk for burnout is also positively correlated with job position. While one would expect personal accomplishment to be positively correlated with the number of hours worked, it is not too surprising that this correlation does not exist for clinical supervisors. Although supervisors may work longer hours managing large caseloads, their number of direct 1:1 service time may be limited. As such, they would be less likely to take personal credit for progress made by their clients.

Scores in PAS problem domains of Health Problems, Alienation, Negative Affect are positively associated with Exhaustion. While Alienation is closely linked to all three dimensions of burnout, Negative Affect is positively correlated with only Depersonalization and Exhaustion. These findings are consistent with prior research by in that she identified insomnia, headaches, gastrointestinal disturbances, and poor immunity to be some of the common effects of burnout [4]. The health problems domain was found to be significantly correlated with Exhaustion and Personal Accomplishment. Negative affect and satisfaction with promotion are statistically significant predictors of Exhaustion. However, Depersonalization can be predicted by a regression model using Anger Control and Average Hours worked. It does not appear too surprising for health problems to be associated with Exhaustion. It makes sense that those who work longer hours would have less time to socialize with other, and thus feel more detached from others.

Based on the findings of this study, burnout is significantly correlated with both personality features and workplace factors. Health Problems, Alienation, Anger Control, and Negative Affect are four notable problem domains from the PAS that were found to be closely correlated with the dimensions of the MBI. Workplace factors such as job position, number of hours worked per week, supervisory support, pay satisfaction, and overall job satisfaction seem to be significant risk factors if not carefully and consistently monitored. In this regard, findings by Blache, et al. that the likelihood of burnout increases with poor supervisory support appear to be supported [21]. The combined results suggest that extended work hours with poor supervisory support combined with negative affect, health problems, and poor anger management may put those who provide ABA service at risk for burnout.

Potential protective factors for burnout: The present study found no significant correlations between Exhaustion and going to the gym nor hanging out with friends. Depending on the type and intensity of participants' exercises at the gym, which may or may not result in physical exhaustion, the results suggest some inconsistency with Maslach and Jackson's finding that burnout is correlated with physical exhaustion [2]. Interestingly, in this study, Exhaustion is negatively correlated with frequency of playing sports. While all these activities involve exercise and/or

expenditure of energy, the integration of expending energy and social interactions in sports activities may contribute to the positive effects of sports. Thus, the issue isn't expending energy beyond the work environment, the protective factor appears to be specifically related to the social interaction aspect of playing sports. Future studies will want to examine more specifically whether particular kinds of exercise/sports are different in providing protection from burnout. Since higher Job Satisfaction is associated with lower Exhaustion scores, lifestyle variables that lead to less exhaustion appear to be protective from burnout because of the positive effect on job satisfaction.

Attrition: According to Reed and Henley, lack of supervisory support can lower staff satisfaction and lead to higher staff turnover rate [19]. Their assertion is supported by the current finding that shows a negative correlation between thoughts of leaving job and supervision satisfaction. Exhaustion and decreased supervision satisfaction are both significantly correlated with thoughts of leaving one's job, which seem to be consistent with Blache et al.'s position that minimal or lack of supervisory support from supervisors increases the likelihood of burnout [21]. In addition to supervision satisfaction, the data obtained from this study also show thoughts of leaving job to be negatively correlated with pay satisfaction and length of employment. Simply put, higher pay is associated with less thoughts about leaving the job - an intuitive result that should not be surprising, but important to empirically document [21]. Furthermore, the data obtained suggests thoughts of quitting job are significantly linked to satisfaction with promotion, satisfaction with fringe benefits, contingent rewards, satisfaction with coworkers, and communication in the workplace. Simply put, tangible rewards can improve employees' satisfaction and commitment to the employing agency.

Clinical implications

The statistically significant links between the three burnout dimensions, average hours worked, supervision satisfaction, workplace communication, satisfaction with coworkers, promotion, and contingent rewards add to the current body of literature supporting the Job Demands-Resources model of burnout, which hypothesizes that burnout results from high demand and low resources [7,16,22]. Teachers working in a school setting with children who have an ASD diagnosis reported more emotional exhaustion than those who do not work with this population [18]. In comparison to teachers who work in the same setting with their coworkers, Registered Behavior Technicians (RBTs) who typically deliver direct ABA services to children with ASD in the field (e.g., client homes) rarely experience face-to-face contact with other coworkers aside from the occasional supervision by their supervisor. As reported by Colligan and Higgins, work settings characterized by autonomy and isolation can significantly increase workplace stress. Furthermore, lack of sufficient supervisory support and effective means of communication for intensive-care cases can compound the risk for developing burnout. With the risk factors in mind, it is essential for coworkers to increase communication with each other either for collaboration or team building exercises [1].

Recommendations

Based on the current findings, the thoughts of leaving job can increase along with escalations in the Depersonalization and Exhaustion dimensions when employees are demanded to work more hours, or when they do not feel like they are receiving adequate supervisory support. While employees' personal activities and personality traits are beyond the control of the employer, ABA and related behavioral health agencies can work toward minimizing staff turnover by offering tangibles such as better contingent rewards, fringe benefits, communication pathways, peer-to-peer support, and improving staff morale through physical team-building exercises. Although there is no direct correlation between going to the gym and the dimension of burnout, investing in a gym membership for employees can promote healthier lifestyles that in turn can minimize risks of burnout. Additionally, ABA service providers can benefit from employer-funded mental health counseling sessions to learn stress management, self-care, and coping strategies. Although this study's findings did suggest that supervisors working long hours are at higher risk of burnout, it also found that employees' intention of leaving the company is moderated by their length of employment. Thus, investing in employees' professional development and fostering their growth from a registered behavior technician to board certified behavior analyst with opportunities for promotion can lead to greater staff satisfaction and retention. In the long run, increased staff retention can lead to better treatment outcomes for clients.

Limitations and Directions for Future Research

The results obtained in this study might be skewed toward individuals who may be experiencing fewer symptoms of burnout or who are not as significantly impaired as those who might not have participated in this study. Individuals who may be experiencing significant impairment in occupational functioning may feel cynical toward the research project or simply feel too physically, mentally, and emotionally exhausted to choose to participate in the study. However, the data might be skewed in the opposite direction such that those at risk for developing burnout or who are already on that path might have found the study appealing and thus be over represented in the sample, and motivated to score high on burnout items as a way of communicating their current level of distress. However, whether the study has under representation of those already experiencing burnout or those who are not already in that state, the factors found here to be related to burnout risks and protective factors for those providing ABA services are likely to be the relevant factors. Also, the fact that different dimensions of burnout were found to operate differentially also suggests that these are relevant differential risk factors for burnout. Therefore, future research will want to assess additional factors and utilize alternate scales assessing the five main personality traits. The sample size was largely dependent on convenience, word-of-mouth, time, and intrinsic motivation to complete the questionnaire packets. The actual number of participants was far below an ideal sample size. Based on feedback from some participants, there were some individuals who did not participate in the study due to fear of being identified by their handwriting. Thus, future research will want to especially ensure participants of their anonymity.

Conclusion

The present study contributes significant results to the current body of literature by addressing several key issues in the field of ABA (e.g., risk and protective factors of burnout, staff turnover, and professional self-care). The findings show significant correlations between the burnout dimensions and multiple problem domains of the Personality Assessment Screener (Negative Affect, Alienation, and Health Problems). ABA professionals and paraprofessionals are found to be at high risk of burnout when they experience isolation, minimal supervisory support, excessive work hours, dissatisfaction with their pay, fringe benefits, contingent rewards, and promotion opportunities. The results also suggest that participation in sports activities is related to lower exhaustion scores. The many significant relationships found in this study of risk factors for burnout of ABA practitioners point to the need for greater understanding of these issues. More extensive research can be conducted to guide professionals in the field of ABA toward a more sustainable profession grounded in self-care to reduce attrition and burnout. The findings from this study will guide the researcher's development of a Burnout Risk and Suitability Scale for ABA providers as clearly better, more relevant instruments will help in providing improved services for these individuals as they confront the stresses inherent in their efforts to help those they serve.

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