



Improving Teacher Health and Well-Being: Mixed Methods Outcomes Evaluation of the Be Well Care Well Program

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Abstract

Early Care and Education (ECE) providers earn low wages, have limited access to employer sponsored health insurance, and are at higher risk for poor health (Lessard, 2020). Evidence shows that poor ECE teacher physical and mental health is associated with decreased ability to provide quality care for young children (Esquivel et al., 2016). One potential way to improve ECE teacher health is through workplace wellness interventions. Through longitudinal surveys and qualitative interviews with ECE providers, we found that, over the course of a year, ECE providers who participated in Be Well Care Well (BWCW), a 12-month wellness program designed specifically for ECE providers, improved significantly on measures of personal strength and resilience, worker stress, job satisfaction, motivation towards health, and engagement in physical activity, which was supported by interviews conducted by a subset of teachers. Providers' physical activity was specifically associated with the amount of time they reported engaging in components of the BWCW intervention. Compelling data was also gathered about the experience of children in the care of ECE providers who participated in BWCW. Findings show that after participating in BWCW, teachers' interactions with the children in their care proactively facilitate healthy social and emotional development. This provides initial evidence that BWCW is a promising approach for improving the lives of ECE providers and the quality of care they provide to young children.

Keywords Early care education · Well-being · Classroom climate

Introduction

The capacity of adults to provide nurturing early care and learning environments in which teachers consistently engage in responsive and sensitive interactions with children, shapes the foundation of children's health (Shonkoff et al., 2017). The role of early care and education (ECE) providers is essential to working families and requires tremendous responsibility and skill to support the healthy development

of young children yet wages, public regard, and workplace environments do not reflect the value of the work (Whitebook et al., 2014). These poor conditions contribute to high rates of stress, turnover and burnout among ECE teachers which impacts the quality of care they provide to children (Grant et al., 2019; Kwon et al., 2022; Schaack, et al., 2020). As maternal participation in the workforce has increased, so has the percentage of children receiving center-based care (Burgess et al., 2014), with 62% of children under age 5 enrolled in center-based ECE programs (Cui & Natzke, 2020). Growing enrollment in childcare programs further elevates the need to support the ECE workforce who have a tremendous impact on the well-being of young children in the United States. Central to supporting healthy growth and development, is the ability of ECE teachers to engage in sensitive, responsive interactions with children that promote a healthy social and emotional climate in the classroom (Casidy et al., 2017). The quality of the social and emotional climate created by adult caregivers influences all domains of a child's development including cognitive, social, emotional, physical, and behavioral development (Chazan-Cohen

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et al., 2017; Ritblatt et al., 2017; Skinner, 2018; Stone et al., 2023a, 2023b).

Research indicates that workplace characteristics and relationships with co-workers influence the quality of teacher interactions with young children (Castle, et al., 2016). ECE teachers report high levels of stress, with 96% describing their jobs as “extremely stressful” and 36% considering giving up teaching due to stress (Clipa & Boghean, 2015; Rancher & Moreland, 2023; Stone et al., 2023b). ECE teachers’ stress, mental health, personal resources, and access to support outside the workplace influence responsive care to young children (Manlove et al., 2008). Teachers with elevated levels of job stress and/or depressive symptoms report higher levels of disruptive behavior in children and are more likely to expel preschool children than those who reported no symptoms (Gilliam & Shahar, 2006; Lambert et al., 2006). Physical activity in ECE teachers is also significantly related to teacher well-being and teacher–child outcomes, as teachers involved in more physical activity display less negative job-related outcomes (e.g., absenteeism, turnover, burnout) and more positive interactions with children (Carson et al., 2010).

Impact of Classroom Environment on the Teacher and Child

A healthy social and emotional climate in a classroom provides immediate benefits to the teacher and child (Jennings & Greenberg, 2009; Kwon et al., 2021; Stone et al., 2023b). Teachers working in ECE settings with a positive social and emotional climate report feelings of fulfillment, success, and reduced burnout (Hall-Kenyon et al., 2014). Further, teachers who have low levels of stress and burnout are better able to provide responsive care and scaffold children’s developing cognitive, linguistic, social, and emotional skills (Trawick-Smith & Dziurgot, 2011), which have long-term benefits for developing children (Downer et al., 2010).

Increasing Well-Being Among ECE Providers

Be Well Care Well (BWCW) is a voluntary program that aims to reduce and buffer the effects of stress and hardship experienced by early childhood educators by improving their well-being. A secondary aim of the program is to positively impact the experiences of children cared for by ECE professions, which is based on research showing links between a teacher’s well-being and their capacity to provide sensitive care and to foster the healthy development of children (Esquivel et al., 2016). BWCW was developed and designed with input from a cross-sector of early childhood professionals representing early childhood education, psychology, public health, pediatrics, and research. While there is not a single definition of well-being, the Be Well Care Well

program considers early children educator well-being across the eight dimensions of wellness commonly recognized in the public health field which were adapted from Swarbrick’s (2006) concepts of well-being: physical, emotional/mental health, environmental, financial, occupational, social, intellectual, and spiritual.

The BWCW service model is delivered over one year and includes three core components: a Well-Being Committee at each participating site, a Well-Being Coach with specialized training and education in health and wellness, and the BWCW Well-Being Activities Guide. Each participating ECE provider group is assigned a BWCW Coach who serves as a guide for their well-being journey, motivating staff and supporting the Well-Being Committee in achieving well-being goals. The BWCW Coach also facilitates relationships with local businesses who can support well-being goals through offers such as discounted gym memberships.

The BWCW model prioritizes consideration for sustaining well-being within participating ECE programs from the very start of the partnership. To increase the likelihood that a focus on well-being will be maintained at the ECE program beyond their participation in BWCW, BWCW Coaches work with participants to build a culture of well-being by engaging all staff at a site participate, which is important to boost mutual support and improve well-being (Elo & Kyngas, 2008). With this in mind, BWCW services launch with the BWCW Coach facilitating an orientation meeting that all staff at the program are strongly encouraged to attend. This includes program leaders, teaching staff, bus drivers, custodians, cooks, and any other staff that may be a part of the program. During the orientation meeting the BWCW Coach provides an overview of the program, asks participants to complete a brief well-being interest survey, and identifies 2–3 volunteers to create a Well-Being Committee. Well-Being Committees typically include the program’s owner or director and two to three teachers. Following the orientation, the BWCW Coach begins meeting monthly with the Well-Being Committee with the first meeting focused on results from the interest survey to help identify appropriate well-being goals and activities for the program. To aid in this process, BWCW offers a Well-Being Activity Guide that includes a list of well-being activities spanning the eight dimensions of wellness.

Activities are organized into the following categories and cross-walked with the eight dimensions of wellness: administrative well-being goals, organizational culture, team building activities, physical activity and nutrition, relaxation and reflection, and sustainability. Each activity typically addresses multiple wellness domains. Social wellness is intentionally woven across all categories by including some element that encourages the development and strengthening of relationships among staff. The rationale for this design feature is based on well-established research showing the

profound impact relationships have on individual behavior change and health goals (Fitzsimons et al., 2015; Holt-Lunstad, 2021; Rothman et al., 2020), as well as improvements in well-being (Brunetto et al., 2013).

While the eight dimensions of wellness adopted by BWCW are useful in teasing out different elements of well-being for the purpose of prioritizing activities, discussion, and learning with BWCW participants, well-being activities rarely address a single dimension of well-being. Consider the following example of a well-being activity included in a team building activities category: Participate as an employee team in a community walk/run or other sporting event. This activity directly impacts social and physical wellness. For some individuals, a charity-based community walk/run event also has the potential to carry meaning and a sense of purpose that can impact spiritual well-being (Heintzmen, 2000). The overlapping impact of a single activity can have different wellness domains and the individualized impacts on each participant is the reason the Well-Being Activities Guide is organized according to activity categories rather than by wellness domains.

The Well-Being Committee at each site represents the staff at their ECE program and selects activities from the Well-Being Activities Guide that reflect the interests and priorities of their colleagues. The BWCW Coach and the Well-Being Committee meet monthly to review the activity goals the group is working on, identify challenges, brainstorm solutions, and decide on new well-being activities to tackle. The Well-Being Activity Guide lists 42 different well-being activities. Well-Being Committees are free to choose as many or as few activity goals as they choose. They are also welcome to identify well-being activities that are not included on the Well-Being Activities Guide. The BWCW Coach helps the group strategize prioritization of goals with considerations such as resources needed and capacity/interest of their colleagues. Together the BWCW Coach and the Well-Being Committee complete a well-being action guide that helps the team break their activity goals into actionable steps.

Between Well-Being Committee meetings, the Well-Being Committee members and the BWCW Coach work together to keep staff motivated to engage in the selected well-being activities. Motivation strategies differ by site. One site, for example, decided to engage in a step challenge and to keep the group engaged, the BWCW Coach and the Well-Being Committee hung a white board in the staff break room that was used to post friendly “smack talk” and words of encouragement.

To further support well-being, participating ECE programs are also offered well-being packages that include items such as a chair massage insert, upright collapsible exercise bike, and meal preparation supplies for break areas. These items not only support well-being activities

participating programs may have selected, they are also meant to convey a message to ECE professionals that they are appreciated and worthy of investment, impacting their occupational well-being (Vasquez et al., 2020). BWCW concludes with a celebration where participants gather with their BWCW Coach to reflect on accomplishments and develop a well-being sustainability plan with long-term well-being goals for the program.

Current Study Objectives

In 2018–2020, BWCW was implemented in two cohorts to 64 childcare centers in a southeastern state in the United States, during which 809 ECE providers participated in the program and research methods included surveys and interviews with a subset of participants. Cohort 1 was implemented 2018–2019 and included 34 childcare centers and 452 ECE providers. Cohort 2 was implemented 2019–2020 and included 30 childcare centers and 357 ECE providers. The study evaluated change in teacher well-being including personal strengths, work-related stress, job satisfaction, health and functioning, and motivation. The impact of BWCW on teacher behavior in the classroom was evaluated through observations of change in a measure of classroom social and emotional climate. The evaluation period was from pre- to 1-year post-BWCW program implementation. The research questions that guide the current study include whether engagement in the BWCW program by ECE teachers predicted improvement in personal strengths, work-related stress, job satisfaction, health and functioning, and motivation. The study also examines feedback from participants on the BWCW program via interviews.

Method

Participants and Procedure

Participants were ECE teachers from childcare centers throughout the state who were enrolled in BWCW through the childcare center. Be Well Care Well was offered to any child care center or family child care provider operating in three regions of a southeastern United States state where BWCW Coaches were hired to provide services. Information about BWCW was shared with ECE providers in these regions through direct community outreach, presentations at state and local conferences, and referrals from other professionals working in ECE programs to deliver technical assistance. Upon enrollment, each teacher completed a packet of questionnaires to assess personal strengths, worker stress, job satisfaction, and health and functioning. The same questionnaires were completed by each provider 1-year after initial implementation of BWCW. Assessments

were administered independently in a paper and pencil format and trained staff were available to read the measures to participants as needed. ECE teachers received a \$15 gift card for completing the survey. This analysis includes 669 teachers from 50 of the participating centers where all data was available (attrition rate = 17.3%); missing or incomplete data was not included. The attrition rate is primarily due to turnover of ECE providers within the centers.

Qualitative, semi-structured interviews were conducted with 31 ECE teachers to obtain more detailed information about strengths and suggestions to improve the BWCW program. All ECE teachers enrolled in the overall project and who completed classroom observations were recruited for participation in the qualitative interviews via email and the first 30 teachers to contact the study team were scheduled for an interview. Two clinical psychologists conducted the semi-structured interviews via telephone, which lasted approximately 30 min each and participants were compensated \$35 for their time.

The University's Institutional Review Board (IRB) deemed the quantitative and qualitative data collection procedures as program evaluation and informed consent was not required prior to data collection. IRB approval was obtained prior to analyzing the data presented in this manuscript in a deidentified database.

Measures

Engagement in BWCW Engagement was measured by the number of hours that coaches spent interacting with the BWCW centers. Coaches logged the time that they spent facilitating activities, including activities surrounding culture of well-being (e.g., weekly notice or tip regarding nutrition or physical activity where families and staff can easily see), physical activity and nutrition (e.g., teachers participate in physical activity with children for 5–10 min at least 2× a day), relaxation and reflection (e.g., create calm space in the program or outside where teachers can relax during breaks), and team building activities (e.g., participate as an employee team in a community walk/run).

Participant Surveys: Personal strengths The Devareux Adult Resilience Survey (DARS; Mackrain, 2007), a 23-item self-report measure, assessed personal strengths and resilience across four subscales: relationships, internal beliefs, initiative, and self-control. The DARS has high internal consistency (Cronbach's alpha = 0.76; Fleming et al., 2013) and has demonstrated adequate internal consistency in the current study (Cronbach's alpha = 0.78).

Work-related stress The Child Welfare Worker Stress Inventory (WSI; Levy & Poertner, 2014), a 35-item self-report survey, assessed workplace stress. The inventory was

modified for the current study, so that items were more relevant to childcare workers (e.g., replaced “case-related documentation” with “required documentation”). The WSI has exhibited high reliability (Cronbach's alpha = 0.93; Levy & Poertner, 2014) and demonstrated good internal consistency in the current study (Cronbach's alpha = 0.94).

Job satisfaction The Early Childhood Job Satisfaction Survey (Jorde-Bloom, 1989), a 50-item self-report survey, assessed five areas of work satisfaction: co-worker relations, supervisor support, nature of the work itself, working conditions, and pay and promotion opportunities. Items included a 5-point Likert type from “strongly disagree” to “strongly agree.” The ECJS had strong reliability in two samples (Cronbach's alpha = 0.89 and 0.90; Jorde-Bloom, 1989). Internal consistency was shown across the different subscales with Cronbach's alpha values ranging from 0.63–0.86 (Jorde-Bloom, 1989) and showed strong internal consistency in the current study (Cronbach's alpha = 0.91).

Health and functioning The Lifestyle Questionnaire (Institut de recherches cliniques de Montreal, 2008) was used to measure health and functioning across four subscales: eating habits (24 items), physical activity (15 items), motivation and state of mind (27 items), and smoking (2 items). The physical activity and motivation and state of mind subscales were used in the current study. Internal consistency in the current study was strong (Cronbach's alpha = 0.93).

Social and Emotional Classroom Climate The Climate of Healthy Interactions for Learning and Development (CHILD; Gilliam & Reyes, 2016) is a comprehensive observational assessment of the social and emotional climate facilitated by teachers in ECE settings. The CHILD measure was chosen because the domains map onto many of the hypothesized outcomes related to the BWCW program, including social emotional skills, staff relationships, and child behaviors. Classroom observers participated in an 8-h training course prior to use of the measure, which covered background research, instructions for use, practice coding via videotapes of classrooms, feedback on practice coding, scoring, and reliability. Observers were required to meet a minimum criterion of 80% agreement with ratings by the measure developers on training tapes. Trained observers performed assessments in each classroom over a period of two hours. These two-hour assessments were divided into 4 blocks, with 20 min per block for observing and writing notes and 5–10 min for scoring. Ratings using the CHILD are on 28 items across 9 dimensions. Each item uses a 5-point scale from -2 to +2 with a midpoint of 0. The scale is anchored to: undermining children's social and emotional development (-2), baseline expectations (0), and promoting children's social and emotional development

(+ 2). The CHILD assesses elements of both pedagogy (e.g., teaching methods and practices) and affect (e.g., expression of emotion). The 9 dimensions are as follows: Transitions, Directions and Rules, Social-Emotional Learning, Staff Awareness, Staff Affect, Staff Cooperation, Staff-Child Interactions, Individualized and Developmentally Appropriate Pedagogy, and Child Behaviors. An overall score on the CHILD measure for each teacher was calculated by averaging scores across all items. Previous research examining the CHILD has demonstrated high internal reliability for the full scale and dimensions (Cronbach's alphas from 0.88 to 0.98) and high correlations with other measures of teacher effectiveness (Reyes & Gilliam, 2018). Internal consistency was high in the current study (Cronbach's $\alpha = 0.92$).

Qualitative Interviews The interviews consisted of 19 open ended questions to assess experience with the BWCW program, involvement in the program, favorite and most impactful components, suggestions and recommendations, impact on teacher well-being on teachers, impact of BWCW on children and families. The interview guide was developed by the authors and pilot tested with three ECE providers. Interviews were recorded and transcribed for use in qualitative analyses.

The first author (PhD-level clinical psychologist, female), who led the qualitative analyses, is considered an expert in qualitative data collection and analyses and has participated in over 16 grant mechanisms as the qualitative expert and published over 20 studies on qualitative methods and results. She did not have a prior relationship with the participants, but established rapport prior to conducting the interviews. Participants were provided with background of the interviewer and her 20 years of experience working in ECE settings and with ECE providers.

Analytic Approach

As part of the quantitative data analyses, descriptive analyses, bivariate correlations, and t-tests were conducted to examine outcomes on all study variables. In addition, multilevel modeling was conducted to estimate the associations between BWCW involvement and outcomes. The multilevel modeling approach allowed simultaneous estimation of variance associated with individual-level (within-teacher/classroom), childcare center-level (between-centers) and time-level (between-time points) factors based on the specification of fixed- and random-effect variables entered into the model (Raudenbush & Bryk, 2002). Including indicator variables for each individual classroom allowed for analyses to control for the center each teacher worked. To evaluate the relation between involvement in BWCW and outcomes, we tested a multilevel model with hours of engagement predicting teacher outcomes. All analyses were run in SPSS 27.0.

Qualitative interviews were audio-recorded and transcribed verbatim, removing all identifiers. Data analysis consisted of qualitative content analysis (Boyatzis, 1998), which was utilized to explore participants' unique perspectives via the identification of themes/patterns that naturally emerge from the data and the systematic classification of these themes (Elo & Kyngas, 2008). Specifically, a three-step inductive approach was utilized, in which each participant's interview responses (i.e., raw data) were carefully examined to develop a comprehensive codebook to capture all possible themes emerging from the data. The codebook was then used by two independent coders to code and analyze each participant's responses to the interview questions (Boyatzis, 1998). Coders were able to apply more than one code to participant responses if applicable. The interrater reliability for the double coded interviews was 94% and ranged from 89 to 96%. Inter-rater discrepancies were discussed and resolved by the two independent coders. Finally, themes were refined, merged, and/or subdivided into sub-themes via collaborative discussion in multiple in-person meetings until a comprehensive codebook was developed. NVivo 12 software was used for data management and analysis. Demographics and background variables were computed using SPSS, Version 27.0.

Results

Descriptive Analyses

The type of program the centers run varied across the sample (Table 1). Close to half of the centers were private independent (49.0%) and one quarter were faith-based (24.5%) (participants were able to choose more than one selection; See Table 1 for full results). The number of staff ($M = 14.49$, $SD = 10.06$) and number of children served ($M = 84.45$, $SD = 53.26$) varied across centers and the student to teacher ratio across the centers averaged 6.4 children to one teacher. Across the centers an average of 7.88 ($SD = 9.92$) activities were completed during the program and coaches spent an average of 17.19 ($SD = 6.36$) hours engaging with the centers.

The majority of ECE teachers were female (98.1%) and teacher age ranged from 18 to 81 years of age ($M = 38.85$, $SD = 14.02$). Within this group teachers reported their ethnicity as Black (50.1%), White (40.4%), Hispanic (2.3%), or Other (7.2%). Regarding education level, 18.2% of teachers reported that they had completed high school, 48.2% completed some college, and 32.9% had a bachelor's degree or higher. Teachers had an average of 11.64 years ($SD = 9.92$) of experience working in the childcare field (range = < 1 to 45 years), and an average of 4.67 years ($SD = 6.36$) working at their current childcare center (range = < 1 to 43 years).

Table 1 Center and teacher characteristics

Variable	Teachers <i>n</i> = 517*	
	<i>M</i> or %	<i>SD</i>
<i>Teacher Variables</i>		
Gender		
Female	98.1%	
Male	1.9%	
Race		
Black/African American	50.1%	
White	40.4%	
Hispanic	2.3%	
Other/More than one race	7.2%	
Education		
Some school	0.8%	
High school diploma or GED	18.2%	
Some college/technical school	48.2%	
College degree	25.5%	
Graduate work	7.4%	
Age	38.85	14.02
Years working in childcare field	11.64	9.92
Years at current childcare center	4.67	6.36
<i>Childcare Centers</i> <i>n</i> = 50		
<i>M</i> or %		
<i>Childcare center variables</i>		
Number of activities completed	7.88	9.92
Number of coach hours	17.19	6.36
Type of Program ^a		
Faith-based	24.5%	
Head Start	14.3%	
Nonprofit	10.2%	
Public	8.2%	
Private, chain	18.4%	
Private, independent	49.0%	
Number of children served	84.45	53.26
Number of staff	14.49	10.06
Student to teacher ratio	6.35	3.34

*Demographics were not captured in 22.7% of 669 teachers

^aItems were not mutually exclusive so percentages will not add to 100

Quantitative Results

Bivariate correlations (Table 2) and paired t-tests (Table 3) were run to look at the relationships across the study variables. Paired t-tests showed significant pre-to-post change in scores on all five main outcome measures: personal strengths, work-related stress, job satisfaction, health and functioning, and motivation.

Next, multilevel models were tested to evaluate change in teacher outcomes with teachers/classrooms nested in childcare centers and timepoint nested within subject. The

first series of models were run with time as a fixed-effect factor and results reflected the trends observed from the t-tests.

To investigate the impact of engagement in BWCW, hours of coach interaction (center-level variable) was added as a covariate. A two-way interaction term (time x coach hours) was included in the final series of models to see if number of coach hours were related to the change in scores over time. The physical activity outcome model was the only outcome that showed a significant interaction ($p < 0.05$) which suggests that increased teacher physical activity from pre- to post-BWCW is mediated by hours of coach engagement (See Table 4 for results on all five models).

Qualitative Results

Five overarching themes, each with their own sub-themes, were highlighted through interviews: (1) Reasons for joining BWCW; (2) Involvement in the program; (3) Favorite components/strengths of BWCW; (4) Overall impact of BWCW; (5) Barriers/Suggestions to improve BWCW. Each theme is described below with representative quotes provided throughout for illustrated purposes. See Table 3 for numbers and percentages among themes and sub-themes.

Reasons for Participation in BWCW

All of the participants described their reasons for participating in BWCW, including wanting to live a healthier lifestyle for themselves or the children in their classroom or to improve teacher relationships. Some participants who discussed wanting to improve lifestyle stated, “*I just am always looking for an excuse to get like into a healthier lifestyle, so I felt like doing it as a group at my job was a pretty good way to start,*” “*Just in this career field there is a lot of burnout. And I thought it could teach us some ways to take care of ourselves a bit more so that we could take care of the children a lot better,*” and “*The whole concept of the program was something different than we’ve ever had and it was about the employees and not about the children, which was really interesting.*” A program administrator described, “*The teacher retention rate in the preschool world is pretty poor and we thought this would be a good way to reach out to our teachers to let them know that they’re cared about and their job is really important. And that they need to make sure that they keep taking care of themselves to stay happy and to keep the kids happy. Kind of a circle of life, if you will, in the preschool world.*” One participant describing her interest in improving teacher relationships stated, “*I joined for the camaraderie and interacting with other adults and realizing that I’m not by myself in this.*”

Table 2 Bivariate correlations among study variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Hours of coach interaction	--									
2. Number of children served	.302***	--								
3. Number of staff	.163***	.849***	--							
4. Years in childcare	.111*	0.07	0.062	--						
5. Years current center	0.017	0.071	0.049	.525***	--					
6. DARS pre-score	-0.001	-0.017	-0.056	-0.033	-0.047	--				
7. WSI pre-score	-0.006	0.044	0.069	0.014	0.064	-.234***	--			
8. ECJS pre-score	-0.067	0.002	-0.015	-0.046	-0.029	.335***	-.321**	--		
9. LQ-MOT pre-score	0.018	-0.006	-0.04	-0.012	-0.001	.374***	-.415**	.286***	--	
10. LQ-PA pre-score	0.028	-0.074	-0.068	-0.012	-0.071	.251***	-.094*	.114**	.416***	--
11. CHILD pre-score	-0.123	-0.091	-0.027	-0.034	-0.026	-0.004	0.106	-0.130	-0.088	-0.162

* $p < .05$; ** $p < .01$; *** $p < .001$ **Table 3** Change in scores

	Pre-BWCW		Post-BWCW		Paired t-test
	Mean	SD	Mean	SD	<i>t</i>
DARS	38.63	4.78	40.51	4.15	6.794***
WSI	31.34	16.44	27.52	18.29	-2.896**
ECJS	180.54	25.29	186.08	25.39	3.604***
LQ-PA	34.92	6.70	36.92	6.83	4.566***
LQ-MOT	84.09	11.61	88.5*4	9.59	7.318***
CHILD	0.43	0.42	0.62	0.48	2.417*

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

Perceived Involvement in the Program

All participants were asked to describe the activities that they were involved or participated in as part of BWCW, including the needs assessment, physical activity components, stress and well-being/mental health activities, financial health components, and nutritional activities. The purpose of this theme is to highlight the participants' perceived involvement in the program. Most of the participants noted that they were involved in the initial needs assessment, making comments such as, "She [the coach] came to the center and told us about the program and had us fill out kind of a pre-survey, I guess you'd say – kind of where we thought we stood within our career field, if there was anything we

needed help with specifically, that kind of thing. She came to the center."

The majority of participants discussed that they were involved in the activities related to physical activity, including step challenges, exercising together as a group, or other exercise related activities as part of BWCW. In discussing the step challenges, teachers discussed, "The walking challenge, we did that. Like, we actually had where it was a competition, almost like *The Biggest Loser*, and the nursery won," and "Every other month we do a step challenge. With the step challenge, we have first, second, and third place prizes. The first place, whomever gets the most steps, they get \$100. Second place, they get \$75, and third place, they get \$50." Another teacher mentioned, "I really like the walks that we did. It was nice to get together outside of work, and just be us, and casual, and of course, walking for a cause was great."

Most of the participants reported that they were involved in activities for stress management and well-being/mental health, including motivation and relaxation activities. Specifically, one participant stated, "We talked a lot about stress management and we did the relaxation package," while another participant noted, "We had a motivation board. Parents, staff members, other people write on the board and they can shout out a staff member if they see that they're doing something good. They can put it on the board." In addition, several teachers discussed their involvement in the

Table 4 Multilevel models predicting outcomes using hours of coach interaction. Outcome ~ Timepoint + Coach Hours + Timepoint*Coach Hours

	DARS		WSI		ECJS		LQ-PA		LQ-MOT		CHILD	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Time	1.86***	.38	-4.91**	1.67	8.01***	2.21	.94	.61	5.13***	.89	.251 [†]	.132
Coach Hrs	.009	.01	.01	.06	-.13	.10	.06**	.02	.01	.03	-.003	.004
Time x Coach Hrs	.008	.01	.01	.06	-.01	.08	-.05*	.02	-.01	.03	-.008	.006

[†] $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

nutritional activities, stating, “*They did one on food about what’s good to eat and what’s not really healthy to eat. I really liked that.*” Another teacher described, “*We did a water challenge as well. You guys come there and give it to us every time, and we got our Be Well Care Well water bottles, so we had a challenge for the first week to at least drink one bottle full and then the second week we’ve got to drink two bottlefuls per day while at work. We got to hydrate.*”

Finally, several teachers reported that they were involved in the financial activities related to BWCW. One participant stated, “*I really liked the parts where it helped us with our financial goals. It told us a lot about financial goals, that was great. Because I’m older, so I know a lot of that but when I was young, I didn’t know and nobody told me.*” Another teacher reported, “*And so, now we have somebody telling us things about how to get started financially to grow and be able to retire. I liked that they gave us a list for people who needed second chance banking.*”

Favorite Components/Strengths of the BWCW Program

Participants were asked about their favorite components and perceived strengths of the program. The majority of interviewees described that their favorite part of the BWCW program was the increased physical activity that resulted from involvement in the program, including increased physical health and nutrition techniques, walk challenges or walking together as a group, and involving families and children in physical activity. Specifically, one teacher stated,

I’m voluptuous and exercise is important, but I don’t always fit it in because I’m a working single parent. When I get off of work and I get home and deal with these two children after I’ve been at work with my kids that I’ve been with sometimes it’s like time to where we’re going to watch a movie and we’re going to lie down and we’re going to do homework or whatever it is that needs to be done and then we’re going to bed. So, getting that extra 30-minute walk in at work for the challenge, I really enjoyed that.

Another participant reported, “*I really like the physical, getting our staff up and moving. That was the main thing. The more that those became active our kids became active. They had to see that we were gonna implement it.*”

Several participants discussed that their favorite component of the BWCW program was working together as a team and support from co-workers. Specifically, one participant mentioned her favorite part as, “*Just getting together with my other co-workers to do the group challenges,*” while another participant stated, “*I would say, just us pulling together as a team and trying to get healthy together.*” Another teacher reported, “*It also provided for us an opportunity to build our relationship with one another. Because a lot of the*

meetings encourage team building. Like I said, the first one was that we took a survey, but it provided us an opportunity to share things during that meeting that you wouldn’t have. I mean, you didn’t even think you’re connecting on a day-to-day basis, everybody is in the classroom and your day has begun. But those meetings provided us an environment to learn about one another and to help encourage one another in different areas.”

Overall Impact of BWCW

Participants were asked about the overall impact of the BWCW program. Responses to overall impact included positive changes in children within the classroom, personal physical health, personal mental health and stress, positive coworker relationships and interactions, financial health, self-care, positive changes in the center, support from leadership, support from parents, and increased energy in the teacher/feeling rejuvenated. Almost all of the interviewees mentioned that the overall impact of BWCW was positive changes in the children, as one participant stated, “*I get my kids up and moving. I get them up and moving and doing fitness. I’m like ‘come on, let’s get our morning workout in.’ And then we practice breathing. We read the ABC yoga book to the kids, so then we’re doing yoga poses. So, we’re creating more fitness in the classroom and outside the classroom.*” Another participant mentioned, “*We always take a moment to like breathe with the kids. Like we’ll all lay down and turn off the lights and turn on some calm music. And so that just gives everyone a minute to kind of chill out. And then we’ve been talking more about our feelings and everything with the kids.*”

Most of the interviewees discussed personal physical health, personal mental health and/or stress as the most impactful parts of BWCW. Regarding personal physical health, one participant reported,

It’s helping all around between the health and the fitness because one lady, she used to drink a lot of Pepsi here. But now she’s stopped and limiting herself because she has this big gallon of water and she’s trying to get her water in. Drinking water, I mean, you do have more energy because instead of me just drinking a whole bunch of soda, I’m drinking a whole bunch of water or I’m putting fruits inside of my water.”

Another participant stated, “*So, they’re taking physical activity very seriously and they’re looking into ideas on how to be physically active in the classroom, and normally it’s during the morning wakeup and then in the afternoon.*” Regarding impact of personal mental health and stress, some participants stated, “*So, all of this [relaxation] stuff is set up in the teacher’s lounge. Once I was able to relax, I was able to regroup and then get my day started and keep going*”

and “*I think the biggest thing is just the difference in stress level. I feel like I’m not as stressed so I’m – I don’t wanna say I don’t have more time for the kids because it’s the same amount of time. I think the quality of time I spend with the kids is better just because I’m not so stressed.*”

Most of the interviewees described that the BWCW program had the largest impact on positive coworker relationships and interactions. Specifically, one participant mentioned, “*We talk more. We’re all energetic around here – pumping each other up. So, lots of positive attitudes,*” while another participant described, “*We learned team building. Like how to work together better as a team. It made us learn to better communicate with each other and it helped some people respect their director.*” Many of the participants also discussed financial health and self-care as being the largest impact of BWCW. Regarding financial health, one participant described, “*I thought it was great that they made available free tax preparation, information that they could find out for their taxes, and get help with certain things. So, the financial help was spot on. It helped people to understand how to fix their credit and what not to do. Those were good trainings.*” When discussing self-care, one participant mentioned,

I think that the book that they gave us from the speaker that we watched the video about – really, I guess, what I took away from that I think what really hit home the most was you hear people say all the time, ‘If you don’t take care of you, then you can’t take care of anybody else’ but the way she broke it down was not as overwhelming as it seems.”

Another participant stated, “*It was basically just really small things you can do – how to take care of you – different ideas you can do, whether it’s something as small as taking a five-minute break and saying ‘Okay, I need to de-stress my brain for five-minutes or it can be something as big as ‘Hey, I need to get away and I’m gonna take a day off and go.’ It’s hard to put it into words but it was just kind of her coaching you that’s okay to need that time, it’s okay to need that break.*”

Throughout the interviews, over half of participants discussed that involvement in BWCW had an overall positive impact on the center. Specifically, one participant described, “*We implemented the walking challenges. That wasn’t just something that we stopped once the program ended. We keep doing that. Oh and we also have one staff member that likes to do monthly potlucks where we get together and we bring different dishes, recipes, and things like that, and we share with each other. So many things at the center have changed.*” Throughout the interviews, several teachers reported that the biggest impact from participation in the BWCW program was the increased support from leadership. One teacher noted, “*Even if our director wasn’t knowledgeable about*

something, maybe one of us other ladies, or the room leads, or somebody was. So, kind of as a whole we have become kind of, I feel like, a little bit closer as a team between us and leadership as a whole,” and another teacher described, “*I love my boss anyway, but it made me feel like she was thinking more of me and not just me as a teacher in there, but me as me. You know, wanting to help me relieve some of my stress at home so I don’t bring it to work.*”

Throughout the interviews, several teachers described that the largest impact of BWCW included increased support from parents of children in their classrooms. For example, one participant reported that “*parents said it was very motivating what we were doing.*” Finally, many of the participants described that participation in the BWCW program gave them increased energy or made them feel rejuvenated as a teacher. One participant stated,

It’s given me more energy. Instead of me just quitting and wanna go to another job, I know that I can just take a moment, go into the break room, and just relax and regroup. So, for here, it obviously sort of helps us with our turnover rate.”

Another teacher said, “*Well, it gave me a little more confidence. And having someone else to bounce ideas off of, to talk to about things that stress me out with parents or – that was good for me.*”

Barriers/Suggestions to Improve BWCW

Interviewees provided several suggestions to improve BWCW. These included adding more expert involvement, meeting more frequently, making activities available online, and less change in program management. Regarding more expert involvement, one participant stated, “*I think it needs to be more hands-on. If it’s gonna be like we did it, I think it needs to be where a nutritionist is actually brought in, or somebody to really teach how to find the right foods, to do the right exercises, to get people motivated.*” Another participant reported, “*Personally, as a center, I wish we would have done, not more walks, but I know we talked about having a yoga instructor come in, and stuff like that, and do it at the school. I wish we would have done more of that. That could have been nice going forward.*” One participant that wanted to meet more frequently stated, “*I kinda wish there were more group meetings just to keep us, like, accountable,*” and another described, “*People need to be brought in more to be like ‘these are the things you need to eat. This is what you need to look at,’ because a lot of people don’t know how to read labels.*”

Several interviewees mentioned that they would have liked some of the activities to be available online. Specifically, one participant described, “*Yeah, you know what would be really, really great? Is if you could put it online*

and we could just go along and hit a button. That would be awesome because then I could use it more often.” Another teacher stated, “I would think it would be great if the participants would have an option maybe to Skype in, or just like conference call, that type of thing, or do a chat. Something like that, that would give them a different option if they can’t stay at the end of the day for one of the meetings or the workshop.” Finally, a few interviewees mentioned the importance of having less change in program management, by stating, “I know it’s hard and I totally get it, like I said, but just consistency of a coach, I guess would be a little more helpful to kind of – it would have been nice to go from beginning of the year to the end of the year with the same coach to see your progress in that way.”

Discussion

ECE teachers earn lower wages, have limited access to health insurance, and are at higher risk for poor health (Lesnard et al., 2020), which is made more concerning by evidence that poor ECE teacher physical and mental health is associated with decreased ability to provide quality care for young children (Esquivel, et al., 2016). One potentially helpful way to improve ECE teacher health is through workplace wellness interventions.

This study investigated the impact of BWCW, implemented with a large group of ECE teachers and administrators working in various types of ECE programs. In addition to measuring impact of BWCW on ECE provider well-being outcomes, we also investigated the association between teacher participation and observed quality of social and emotional interactions in classrooms. We found that, over the course of a year, teachers who participated in BWCW improved significantly on measures of personal strength and resilience, worker stress, job satisfaction, motivation towards health, and engagement in physical activity. These positive impacts are particularly notable given that previous ECE teacher well-being interventions have shown no impact on physical activity (Neshteruk et al., 2021) or nutrition behavior (Chuang et al., 2020).

Consistent with the literature, scores on the observational measure of classroom social and emotional climate improved over the course of the intervention. The degree of improvement was specifically related to the amount of time that teachers reported engaging in BWCW. This further supports the assertion that change was due to BWCW participation.

Overall, qualitative findings showed that teachers were overwhelmingly pleased with the BWCW program and had very few suggestions for improvement. Teachers reported that the most impactful components of the BWCW program included positive change in children within the classroom,

personal physical health, personal mental health and stress, and positive coworker relationships and interactions. Teachers reported impacts on physical health, mental health, and stress that were consistent with quantitative findings, which demonstrated improvement in these constructs through participation in the program. However, improved scores on the CHILD and teachers’ descriptions of positive changes in children within the classroom was a pleasant surprise, as these constructs were not directly targeted through the BWCW activities. This finding shows that focusing directly on teacher well-being can have an overall impact on the children in the classroom as reported by the teachers themselves and demonstrated by the improved CHILD scores.

Given qualitative findings showing that teachers were impacted by positive interactions with co-workers and support from leadership, as well as quantitative findings showing improvement in teacher satisfaction with leadership, a potential element of the program that led to significant improvements may have been the emphasis on creating a workplace culture of well-being supported by administrative policies promoting staff well-being. This connection is supported by the work environment supports literature, which includes supportive leadership as a core component of ECE workplaces. The Supportive Environmental Quality Underlying Adult Learning (SEQUAL) survey, for example, defines program leadership as the ways supervisors and other leaders, “interact with teaching staff to support their teaching practice, professional growth and well-being” (Whitebook et al., 2016). By participating in BWCW, leadership at ECE centers communicated to their staff that they valued and encouraged activities that were wellness promoting. This is highlighted by a statement from a teacher during the interviews, which was also discussed by other teachers, “...it made me feel like she [the director] was thinking more of me, and not just me as a teacher in there, but me as me.” Establishing a healthy culture in the workplace, where individuals spend a good portion of their days, is a key component of successful programs in the broader literature on workplace wellness (Goetzel, et al., 2014). Creating a workplace culture of well-being may have been particularly important for participants in this study who were predominantly in positions with low levels of compensation, benefits, and other workplace supports. Barriers to wellness activity (e.g., high perceived cost, less access to facilities and spaces, and low social support) are more prevalent among populations of lower socioeconomic status (Pampel et al., 2010). Particularly among women of lower socioeconomic status, household and caregiving responsibilities are another frequently reported barrier (Hoebeke, 2008). Thus, the culture of wellness created by BWCW may have been particularly important for increasing the perception that wellness activities are feasible, supported by others, and inclusive. Moreover, it seems that BWCW may have improved the working

conditions of the teachers in the program by improving the overall level of support of their well-being that they perceived from program leadership.

Improvements in teachers' physical activity stand out in the evaluation of BWCW. Of the self-reported findings, physical activity was the only one to show positive correlation with the time participants engaged in BWCW. The physical activity measure assessed the frequency of participation in a range of exercise behaviors (e.g., walking or biking for transportation, taking the stairs) as well as attitudes and coping skills that promote exercise behavior (e.g., feeling motivated to exercise, enjoying exercise). Thus, improvements in physical activity may have been reflective of improved attitudes and confidence towards exercise that resulted from BWCW. In turn, these improvements may have generalized to physical activity in the participant's day-to-day lives. This was discussed by several teachers throughout the interviews and is reflected by the majority of teachers stating that physical health was the main strength of the program and that the largest overall impact was the increase in personal physical activity and health. Physical activity was mentioned and discussed the most across interviews.

Consistent with research showing a connection between teacher wellness and caregiving ability, participation and time spent engaged in BWCW were associated with improvements on the live observational measure of classroom social and emotional climate (Esquivel, et al., 2016; Stone et al., 2023b). This is the first study that has evaluated the impact of an ECE workplace wellness intervention on ECE teacher-child interactions. Engaging with children in a sensitive and responsive manner is challenging work that requires capabilities in emotional awareness, self-regulation, and empathy (Jennings & Greenberg, 2009). When adults are taxed by poor personal physical and mental health, drawing on these types of capabilities is much more difficult (Lesaux et al., 2015). This study provides initial evidence that programs such as BWCW can improve teacher well-being and thereby improve teachers' ability to deliver sensitive and responsive care. To further highlight this important finding, teachers who completed the interviews stated that the positive changes seen in children within the classrooms was the most impactful component of the BWCW program: 1 in 10 teachers discussed this as the most impactful part of BWCW.

Limitations and Future Directions

There are important limitations to this study. A major limitation is lack of a control or comparison group. We were unable to assess whether improvements were due to participation in BWCW or other unrelated factors. We were only able to use data from participants who completed assessments, and therefore we do not know if participants who dropped

out of the intervention differed from those who remained enrolled. Another limitation was the reliance on self-report measures of wellness among ECE teachers. While using an observational measure of classroom social and emotional climate, as well as qualitative interviews, was a strength, observational data and interviews were only collected for a subsample of teachers and classrooms. Finally, we did not collect data on the number of meetings offered in each setting. Future studies should more closely track number of meetings offered to determine percentage of meetings conducted.

Despite limitations, this study provides evidence that BWCW is a promising approach that may improve teacher well-being and improve the classroom social and emotional climate. Continued evaluation of BWCW is needed. In these future evaluations, it is important to use a control or comparison group. Because well-being is such a broad reaching construct, there are many options for active control conditions that would eliminate the need to exclude some participants in a controlled evaluation from receiving a well-being intervention. For instance, a future evaluation could compare the BWCW intervention to a simpler intervention focused on diet or physical activity. Another important consideration for future evaluations will be the inclusion of more objective measures of physical health and stress. Previous research on workplace wellness interventions in ECE settings has demonstrated the feasibility of using body mass index, weight, and activity tracking (Linnan, et al., 2020), as well as collecting cortisol to measure levels of stress of ECE teachers (Badanes et al., 2012). Given promising findings showing improvements on the CHILD assessment, it may be helpful to include assessments of young child outcomes that previous research has shown are connected to teacher well-being, such as children's observed classroom physical activity levels or dietary intake during mealtimes.

Summary and Conclusions for Practice

This manuscript provides results of a mixed methods evaluation of a well-being intervention for ECE providers targeting administrative support of well-being goals, organizational culture, team building activities, physical activity and nutrition, relaxation and reflection, and sustainability. Positive findings included improvements in personal strength and resilience, worker stress, job satisfaction, motivation towards health, and physical activity, which were supported by information provided in qualitative interviews. This provides initial evidence that BWCW is a promising approach for improving the lives of ECE providers. There are many difficult and systemic problems that negatively impact the well-being of this population, including low public investment in the care and education of children before kindergarten leading to a poorly compensated workforce with limited access

to healthcare (Phillips et al., 2016). Workplace well-being interventions cannot solve these systemic problems. However, they are a cost-effective way of addressing modifiable health behaviors and mitigating issues for workers associated with poor health such as reductions in productivity, retention, and job satisfaction (Lessard, et al., 2020).

We believe that one particularly successful part of BWCW was its focus on creating a culture of wellness. This was especially important given that the women who participated may often be excluded from mainstream wellness culture. We encourage ECE centers to show teachers that participation in well-being activities is supported and valued. Ideally, this type of support would be incorporated with other efforts to address the work environment in ECE centers, especially compensation, benefits, and job demand as any effort to promote wellness would be much more likely to be successful in conjunction with these types of concrete supports. A final important point is evidence of the link between teacher well-being and provision of nurturing social-emotional care for young children. For those concerned about how stress and poor health impact ECE teacher's ability to care for young children, this study provides support for a program capable of reducing the impact of these problems.

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