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Happiness in the Early Childhood Education Workforce: An Explanatory Sequential Mixed Method Study

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The early childhood education (ECE) workforce shapes the developmental outcomes of children during critical years of growth. Despite facing historically low wages and high demands, the ECE workforce is happier than the general population in the U.S., with happiness levels comparable to Iceland and other top-ranking countries. PERMA, a model that identifies five elements that contribute to flourishing (positive emotions, engagement, relationships, meaning, and accomplishment), can been used to promote well-being. This explanatory sequential mixed methods study aimed to investigate the work-related PERMA components that predict happiness levels in the early childhood (ECE) workforce. A hierarchical linear regression revealed that the PERMA components did significantly predict happiness in this sample of ECE staff, R^2 = .20, $F(10,244) = 5.96$, p <.001. Engagement, positive emotions, and meaning at work were found to significantly account for the variance in happiness, after controlling for the other variables in the model. Due to limitations in measurement, results around meaning should be interpreted with caution. Qualitative interviews provided further insight into perceptions of happiness among ECE staff, supporting the value of relationships and meaning in ECE settings. This is the first mixed methods study to assess predictors and perceptions of happiness in the ECE workforce and has important research and practice implications for supporting mental health in this critical population.

Keywords: Happiness, early childhood workforce, occupational health, PERMA model, well-being, positive psychology

Early childhood (ages 0-5) has been deemed a particularly critical period of development, shaping cognitive, interpersonal, and health outcomes across the lifespan (Navasaria et al., 2016). The early childcare and education (ECE) workforce is responsible for supporting the social-emotional and education needs of this critical age group (Cui & Natzke, 2021). ECE providers greatly influence the cognitive, social, and academic development of children, with impacts that extend into adulthood (Burchinal et al., 2009; Campbell et al., 2002). High quality childcare and healthy teacher-child interactions have the potential to improve child development and learning outcomes (Tilbe & Gai, 2022), potentially reducing social inequalities in academic performance later in life (Larin et al., 2015). In contrast to this paramount responsibility, the ECE workforce faces low wages and high demands (Farewell et al., 2022). These challenges are often amplified in Head Start centers, which are publicly funded early learning programs for low-income communities in the United States (U.S.; Vinovskis, 2008).

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The high demands and low resources of this profession contribute to disproportionate rates of mental health conditions in ECE providers. A scoping review found that ECE providers consistently score above the national average on depression and depressive symptom rates (Lessard et al., 2020). In fact, one study found that ECE providers have depression rates that are twice as high as the general population (Schaack et al., 2020). Moreover, more than half of ECE providers have high perceived stress (Tovar et al., 2016). The mental health of the ECE workforce has been investigated in recent years (Lessard et al., 2020), but the majority of studies focus on negative outcomes such as depression, burnout, and stress (Bates et al., 2024; Farewell et al., 2023; Ng et al., 2023; Schaack & Le, 2017; Stein et al., 2024). There are far fewer studies examining positive psychological outcomes such as mindfulness (Lessard et al., 2020). Recent work by Farewell et al. found that psychological capital, which includes the resources of hope, efficacy, resilience, and optimism, may mitigate the relationship between work-related stress and poor mental health in ECE providers (2024). Shifting to a strengths-based approach to support ECE providers may help reduce mental health issues, burnout, and turnover intent in this critical population (Farewell et al., 2024; Wilson et al., 2022).

The field of positive psychology, often called the science of happiness, seeks to understand what enables individuals and communities to thrive (Arslan & Wong, 2022; Seligman, 2000).

Happiness is characterized by positive emotions and life satisfaction (Seligman 2011) and is essential to assess and address to promote better relationships, work performance, and even health (Lyubomirsky et al., 2005). Happiness is associated with reduced mortality in observational studies (Steptoe, 2019) and risk of cardiovascular events (Rozanski et al., 2019). In the workplace specifically, promoting happiness and well-being can support employee retention (Raj. 2023). The World Happiness Report by Gallup explores the factors that contribute to well-being by measuring happiness levels in different populations (Gallup, 2024). Gallup uses well-being and happiness interchangeably, but there are important distinctions between the two terms (Khalil, 2018; Theobald et al., 2012).

Well-being, also called flourishing, is a holistic and multi-dimensional concept that includes affective feelings of happiness as one component (Seligman, 2011). Seligman (2011) defined subjective well-being as being comprised of five components positive emotion, engagement, relationships, meaning, and accomplishment (PERMA). Quantitative methods support that the multidimensional PERMA model appropriately captures subjective well-being (Goodman et al, 2018). PERMA can be described as the building blocks of well-being (Seligman, 2018); Addressing each building block contributes to a profound sense of flourishing (Compton & Hoffman, 2019; Keyes & Haidt, 2003; Seligman, 2002; Seligman, 2011). As it relates to the education workforce specifically, a study of employee well-being in schools found that each of the PERMA dimensions was significantly associated with physical health, life satisfaction, job satisfaction, and commitment to their organization (Kern et al., 2014). Fostering the PERMA dimensions in the workplace is a cost-effective and feasible approach to support a healthy environment and workforce (Goh et al., 2022).

Well-being in the ECE workforce is of growing interest given the numerous workplace stressors (Farewell et al., 2022), high attrition rates (Benevene & Fiorilli, 2015; McMullen et al., 2020) and health disparities (Lessard et al., 2020) this population faces. Fortunately, the role of an ECE provider can enhance each element of PERMA and possibly contribute to an overall sense of well-being. Regarding positive emptions, ECE providers typically experience joy working with young children despite the challenging working conditions and low wages (Little & Karaolis, 2024). As it relates to meaning, the ECE workforce is strongly driven by altruistic and intrinsic motivations (See et al., 2020; Whitebook et al., 2018). Most ECE providers feel a strong sense of purpose and fulfillment in the work that they do (Schaack & Lee et al., 2017), which likely also contributes to sense of accomplishment. Incorporating multidimensional well-being assessments like PERMA are beneficial to support policy and professional development to support employee well-being at work (Fisher, 2010; Kun et al., 2017).

Despite the need for well-being promotion in ECE settings, there is insufficient research on happiness in ECE providers in low-resourced locations such as Head Start centers in the United States (Benevene et al., 2019; Ebbeck et al., 2008). Related literature more commonly focuses on schoolteachers and employs quantitative approaches only (Benevene et al., 2019; Ebbeck et al., 2008; Mérida-López et al., 2022). For instance, a study of teachers in Spain found that emotional intelligence was positively associated with happiness, while perceived stress is negatively associated with happiness (Mérida-López et al., 2022). Another study in Italy found that happiness at work mediates the relationship between self-esteem and health (Benevene et al., 2019). There is a need for mixed methods approaches in ECE settings to understand the relationship between work-related factors and ECE workforce well-being. Specifically, an increased understanding of the relationship of job characteristics of U.S.-based ECE providers and happiness can improve staff well-being and enhance professional development trainings (Mérida-López et al., 2022). Investing in the well-being of ECE providers at work is critical, as it will have positive ripple effects on the success of the ECE center and the lives of the children in their care. To effectively support the well-being of the ECE workforce, it is critical that we consider not only how to mitigate mental health issues and stressors, but how to assess and promote flourishing in this workforce.

Research Aims

This explanatory sequential mixed methods study aims to fill the gap in strengths-based approaches to assessing and supporting the well-being of the ECE workforce by investigating the following research questions among a large sample of the ECE workforce in Colorado (n=334):

- How happy is the early childhood workforce, compared to the U.S. residents, in general, and compared to residents in other countries around the world?
- Controlling for demographic factors, what work-related PERMA dimensions predict happiness levels in the early childhood workforce?
- What are ECE providers' perceptions of work-related factors that may contribute to happiness in the ECE workforce?

It was hypothesized that this sample of the ECE workforce would not be as happy as U.S. residents and residents in other countries, given the high demands and low resources in their workplace. Given that PERMA model holistically comprises well-being, we predicted that all five PERMA dimensions significantly predict happiness in the ECE workforce.

Method

Participants

This study is a part of a 5-year randomized controlled hybrid type 2 effectiveness-implementation randomized control trial of the Well-being in ECEs in Low-resourced Locations (WELL) intervention delivered to five of the largest Head Start agencies in Colorado (Well-Being of the ECE Workforce in Low-Resourced Locations (WELL), 2025). The WELL intervention is a well-being promotion program tailored to the specific needs of ECE staff in these Head Start agencies, which serve young children (ages 0-5) from low-income communities and employ a large proportion of ECE staff. The five agencies were selected because the principal investigators have longstanding partnerships, and they are representative of Head Start teachers in Colorado more broadly. This study utilizes data from year 3 of the hybrid study.

Quantitative Study Arm

Procedures

Data were collected between August 2023 and October 2023. The study consent and survey were administered through the University of Colorado, Anschutz's Research Electronic Data Capture (REDCap) (Harris et al., 2009). REDCap is a secure, electronic application designed to collect data for research studies. Electronic links were shared with staff at the five Head Start agencies. For consent, all staff received a personalized electronic link with an informed consent describing the purpose of the study, criteria for participation, risks and confidentiality protocol, potential benefits, and contact information for the investigators and the Colorado Multiple Institutional Review Board (COMIRB). After giving consent through an electronic signature, participants were directed to a 20-minute survey. Participants who did not complete the survey were sent up to three weekly reminders. Participants who completed the survey were sent a $20 electronic gift card incentive to compensate them for their time. All procedures were approved by the Colorado Multiple Institutional Review Board (IRB: 21-4662).

Instruments

The quantitative data for this study were collected as a part of the WELL staff survey, which is collected each year as the part of the 5-year randomized controlled hybrid type 2 trial. The survey is based on the NIOSH Worker Well-being Questionnaire (WellBQ), a holistic assessment of worker well-being across five domains: workplace physical environment and safety climate, workplace policies and culture, work evaluation and experience, health status, and the home, community, and society (Chari et al., 2021). In addition to the NIOSH WellBQ items, other validated tools were integrated to more thoroughly assess work-related factors that influence well-being, including social networks and burnout. The Lubben Social Network Scale (Lubben, 1988) was used to assess social networks and the Maslach Burnout Inventory (Maslach et al., 1997) was used to assess occupational burnout. All of the WELL staff survey items were comprehensively examined by the research team and aligned with the PERMA dimensions.

Once items were identified for each PERMA dimension, sum scores were created for each of the individual dimensions. Positive emotion was assessed using the four NIOSH WellBQ work-related positive affect items (a = .91). A matrix item was used that asked, "How often do you experience these feelings when you are working?" Feelings included, enthusiastic, energetic, content, and at ease. Participants were asked to rate their frequency of experiencing these feelings on a 1-7 scale. The three NIOSH WellBQ job engagement items were used to assess engagement (a = .79). Items included, "How often do you experience fatigue when you are working?" "My work inspires me," "I am immersed in my work," and "When I get up in the morning, I feel like going to work." Response options included "Never," Almost never," Rarely," "Sometimes," "Often," "Very often," and "Always." Relationships were assessed using the Lubben Social Network scale, a six-item tool to assess social engagement (Lubben, 1988) (a = .81). To assess meaning at work, the NIOSH WellBQ two items on meaningful work were included (a = .78): "The work I do is meaningful to me" and "The work I do serves a greater purpose." Response options included "Strongly disagree, Somewhat disagree, Somewhat agree, Strongly agree." Lastly, to assess accomplishment, the 8-item Personal Accomplishment (PA) scale from the Maslach Burnout Inventory was utilized (Maslach et al., 1997) (a = .82).

Additionally, happiness was assessed using Gallop's World Happiness Report's item (Gallup, 2024): "Imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"

Sociodemographic variables were measured at the end of the staff survey. These included gender (male, female, or non-binary), age (continuous), race (Black, Indigenous, and people of color (BIPOC)=1 or White =0), ethnicity (Hispanic =1 or non-Hispanic=0), sexual orientation (heterosexual/straight, lesbian, gay, bi-sexual, another sexual orientation not listed), marital status (married/living with partner or other), level of education (no college, some college, or college degree or higher), family income (<$20,000 to $200,000 or more), head of household status (yes or no), full-time work status (yes or no), job role (classroom staff or non-classroom staff), and job tenure (< 1 year, 1-5 years, 6-10 years, 10-20 years, or more than 20 years).

Data Analysis

Data were exported from REDCap into SPSS Version 28.0 for all quantitative analyses (Harris et al., 2009). Frequencies and descriptives were run for all variables of interest. Missing data ranged between 5.8-15.2%. A Little's MCAR test was conducted, and it was determined that data were missing completely at random, $\chi^2(613) = 658.90$, $p = .10$, so listwise deletion was utilized for all analyses.

To answer the research question, "How happy is the early childhood workforce, compared to the US residents, in general, and compared to residents in other countries around the world?" mean scores for happiness in the ECE workforce were compared to US residents and residents in other countries based on the World Happiness Report. The World Happiness Report uses the Cantril ladder with national representative samples from 2021-2023 (Gallup, 2024), and the rankings were compared with our ECE sample.

Before the second research question was answered, Pearson correlations were conducted to assess the relationship between the PERMA dimensions. Then to answer the second research question, "Controlling for demographic factors, what work-related PERMA dimensions predict happiness levels in the early childhood workforce?", a hierarchical linear regression was run. The model examined the association between happiness and the PERMA dimensions (positive emotions, engagement, relationships, meaning, and accomplishment), controlling for and demographic factors (race, age, income, level of education, job role). Block 1 contained the demographic variables and Block 2 included the predictors of interest. Statistical assumptions and problems with multicollinearity were checked and met and unstandardized and standardized parameter estimates, standard errors, and p-values were calculated. Alpha was set at 0.05.

Qualitative Study Arm

Procedures

For the qualitative data, ECE staff who had participated in WELL were invited to participate in a semi-structured qualitative interview. A total of 11 ECE staff members participated in a 45-minute virtual interview. Interviews were conducted between June and August 2024 via video call with a research assistant trained in qualitative methods. After verbal agreement of consent, the interviews were recorded using Zoom. The research assistant asked questions to better understand the participant's experience with the WELL program. Based on the results from the Cantril ladder happiness item, participants were asked their perception about what contributes to happiness in ECE staff. Once completed, a $50 electronic gift card incentive was distributed to the participant within 3-weeks of completing the interview. All procedures were approved by the Colorado Multiple Institutional Review Board (IRB #:21-4662).

Data Analysis

To answer the question, "What are ECE provider's perceptions of work-related factors that may contribute to happiness in the ECE workforce?", a phenomenological approach was used. Two research assistants coded independently coded using both a data-driven, inductive approach and a deductive approach. The PERMA dimensions were used as baseline codes and a codebook was developed based on the positive psychology literature to guide the coding process (Compton & Hoffman, 2019; Keyes & Haidt, 2003; Seligman, 2000; Seligman, 2011; Seligman; 2018). The research assistants met with the principal investigators to review the codes and interpret how they would be applied to the ECE setting and the WELL program. The program facilitators also provided field experience to revise and support the coding and data analysis process. The research assistants coded one interview together to ensure appropriate inter-rater reliability based on consistency of coding.

NVivo 15 was used for data analysis. Thematic analysis with an iterative process was used to identify and interpret patterns in the data. Codes were compared for overlap and relationships between PERMA dimensions were examined. Given the explanatory sequential design, the aim of the analysis was to use the qualitative data to interpret the findings from the quantitative data. Frequencies of the codes were also calculated using the "queries" function in NVivo.

Results

Quantitative Study Arm

Table 1 displays demographic characteristics of the sample (n=334). Most of the sample was female (93.8%), which is representative of the ECE workforce (The Early Childhood Educator Workforce, 2024). The sample was predominantly White (77.8%), 7.4% was Black, 3.1% was American Indian, 1.2% was Asian, and 10.8% were more than one race or another race. About half the sample (51.3%) was Hispanic. Most of the sample were adults between 30 and 64 (77.9%) years old with an average age of 41.24 and about half were married or living with a partner (53.8%). Almost half of the sample had a college degree or higher (48.5%) and around one fifth would be considered lower income earners.

Table 1. Participant demographics (*n*=334) and measurement descriptives

		%
Gender		
	Male	5.8
	Female	93.8
	Non-binary	0.4
Race		
	White	77.8
	Black/African American	7.4
	American Indian	3.1
	Asian	1.2
	Another race	10.5
Ethnicity		
	Hispanic	51.3
	Non-Hispanic	48.7
Age		
	18-29	19.3
	30-44	38.8
	45-64	39.1
	65+	2.8
Education		
	No College	13.2
	Some College	38.2
	College Degree or higher	48.5
Household Income		
	<$20,000	4.5
	$20,000-$34,999	16.0
	$35,000-$49,999	22.9
	$50,000-$74,999	28.0
	$75,000-$99,999	10.8
	$100,000 to $149,999	12.0
	$150,000 to $200,000	2.7
	>$200,000	3.0
Role	Classroom staff	52.8
	Non-classroom staff	47.2
Marital status	Married or living with partner	53.8
	Not currently married	46.3

	Mean	*SD*	*Range*
Positive emotions (4 items)	21.18	4.58	24.00
Engagement (3 items)	17.30	3.13	18.00
Relationships (6 items)	12.58	5.56	28.00
Meaning (2 items)	7.51	0.97	6.00
Accomplishment (8 items)	30.13	9.18	48.00

To answer the first research question, how happy is the early childhood workforce, compared to the US residents, in general, and compared to residents in other countries around the world, a mean score on the Cantril ladder item was calculated. ECE staff reported an average happiness score of 7.52. Compared to the 2024 World Happiness Report data from 2021-2023, this places the sample well above the United States (M = 6.73), which is considered the 23rd happiest country. This sample of ECE staff would be considered in the top five country rankings, with life evaluation or happiness levels comparable to the third happiest country: Iceland (*M* = 7.53; Gallup, 2024), see Figure 1.

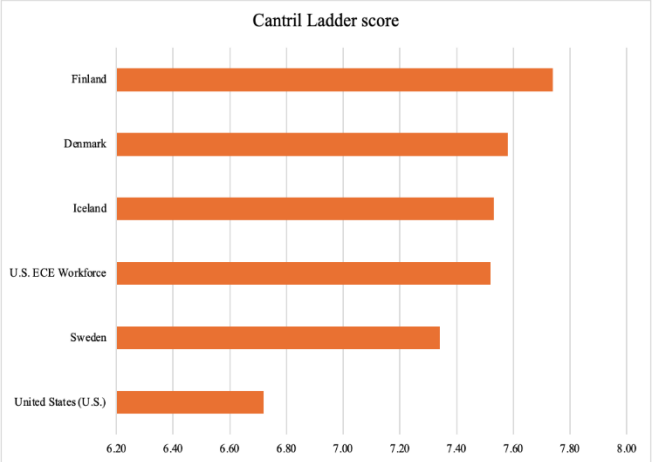

Figure 1. Life evaluation by country compared to the ECE workforce (Gallup, 2024)

Before the second research question was answered, the descriptives and correlations between the PERMA dimensions in the ECE workforce were explored (see Table 2). The PERMA dimensions all had positive associations with one another; however, the magnitude of the associations varied from smaller, insignificant associations (i.e., relationships and positive emotions (r=0.03; p=0.56), relationships and engagement (r=0.04; p=0.46)) to larger, significant associations (engagement and positive emotions (r=0.62; p<.01), accomplishment and positive emotions (r=0.42; p<.01)).

Table 2. Correlations between the PERMA dimensions and happiness.

	1.	2.	3.	4.	5.	6.
1.Positive emotions	1.0					
2. Engagement	.62**	1.0				
3. Relationships	.03	.04	1.0			
4. Meaning	.39**	.36**	.10	1.0		
5. Accomplishment	.42**	.40**	.22**	.25**	1.0	
6. Happiness	.33**	.36**	.03	.04	.24**	1.0

***Correlation is significant at the 0.01 level (2-tailed)*

To answer the second research question, controlling demographic factors, what work-related PERMA dimensions predict happiness levels in the early childhood workforce, a hierarchical linear regression model was conducted (Table 3). The demographic variables only predicted 6% of the variance in happiness; the PERMA variables predicted an additional 14% of happiness. As such, the final hierarchical linear regression model was significant (R^2 = 0.20, $F(10,244)$ = 5.96, p <.01), predicting a total of 20% of the variance in happiness. Positive emotions (B=0.08; p=0.03), engagement (B=0.13; p<.01), and meaning (B=-0.15; p=0.02) emerged as significant. Positive emotions and engagement were positive predictors of happiness, with higher reported positive emotions and engagement related to higher reported happiness. Due to the limited variability within the two-item construct, meaning was a significant, negative predictor of happiness. This unexpected direction is further addressed in the discussion. None of the demographic covariates were significant.

Table 3. PERMA predicting happiness in the ECE workforce

Final Model	*B*	St. Error	β	*t*	*p*-value
(Constant)	4.23	.91		4.63	<.001
Race	.40	.26	-.09	1.55	.12
Age	.01	.01	.09	1.56	.12
Income	.10	.08	.09	1.25	.21
Level of Education	-.30	.17	-.11	-1.70	.08
Job Role	-.06	.21	-.02	-.270	.79
Positive Emotions	.08	.04	.17	2.21	.03*
Engagement	.13	.04	.22	2.90	.004**
Relationships	-.01	.03	-.03	-.40	.69
Meaning	-.15	.06	-.15	-2.37	.02*
Accomplishment	.04	.02	.11	1.66	.10

**p<.05, **p<.01. Job Role: (non-classroom staff = 1; Classroom staff = 0); Race: (BIPOC = 1; White = 0).* Block 1 (Demographic Variables): R^2 = .06, p = <.001.

Qualitative Study Arm

The thematic analysis revealed that the PERMA dimensions at work did impact happiness levels in ECE staff. ECE teachers and staff perceived their role contributed to happiness through experiences of positive emotions, engagement, co-worker relationships and relationships with children, meaning, and accomplishment. Regarding positive emotions, even though there are challenges, ECE teachers experience joy and warmth from interacting with the children in their care. One participant described, "Happiness is moments in a day. Like little snapshots." As it relates to engagement, the demanding nature of the role keeps ECE providers engaged and present during their workday. Relationships were discussed frequently, with most ECE providers feeling a sense of community at their center and connections with the children and families they work with. In contrast to the negative direction observed in the quantitative data, meaning was positively related to happiness in the qualitative data. ECE providers feel a sense of meaning and fulfillment in their work knowing that they are making a difference in the lives of children. For example, one provider said, "I think most of us in this field have a true calling for it and a passion for it, and I think that is fulfilling. I know it feels like what I'm doing makes a difference and makes it impact more than just, beyond my classroom. And I think that's what a lot of us enjoy about our job, and I think in some other fields people just go for the paycheck and the monotony. They just deal with and I don't feel like they're really making a big difference." Similarly, accomplishment contributed to happiness through the reward experienced from watching children learn and grow. As one provider described, "I think so because to me watching children learn and grow is like the greatest thing in the world, you know, when they're like, Oh, I figured it out myself, it's, it's to me that's why I want to be here all the time. It it is probably the hardest job, but in so many ways it's the most rewarding."

Table 4 displays the codes, definitions, and illustrative quotes for each of the PERMA dimensions. Of the PERMA dimensions, positive emotions and relationships were most prominent in the data (Figure 2). All PERMA dimensions were positively related to a sense of happiness in the ECE workforce. However, meaning and

Table 4. Qualitative codes and quotes.

	Definition*	Quote
Positive Emotions	Regularly experiencing positive emotions/sensations; positive effect	Well, you get to sing and play and dance with kids all day! For the I think so that helps with the one, if you're in the classroom, you get to put away your worries because you're busy. And those kids, they make you laugh, they make you cry.
Engagement	State of flow; Time stands still, and one loses one's sense of self and concentrates intensely on the present	I mean, they enrich our life so much. So that's where I say, you know, why we are happier? Because you see things through the eyes of a child. You're working with children all the time. So your perspective is different. It's not so humdrum or serious as other professions. When you're seeing the world the way that it is, we're still seeing things through the eyes of children.
Relationships	Strong ties to colleagues leading to a sense of belonging	I also can't speak for other programs, but I do think that we do a good job of creating community here and support like you know, I know we were just talking about what the opposite looks like, you know, burnout and coworkers not supporting each other. However, I do think that we are there for each other.
Meaning	Serving something one believes is bigger than the self	I just feel like when you spend all day with children who love you and are happy to see you that it creates I think, meaning to your life sometimes that, you know, if you're just going to a nine to five kind of job that you might not get, so.
Accomplishment	Leading a productive life; sense of personal achievement	I think just spending time and seeing kids grow and watching their success um is definitely rewarding so.

**Based on Kun et al., 2016*

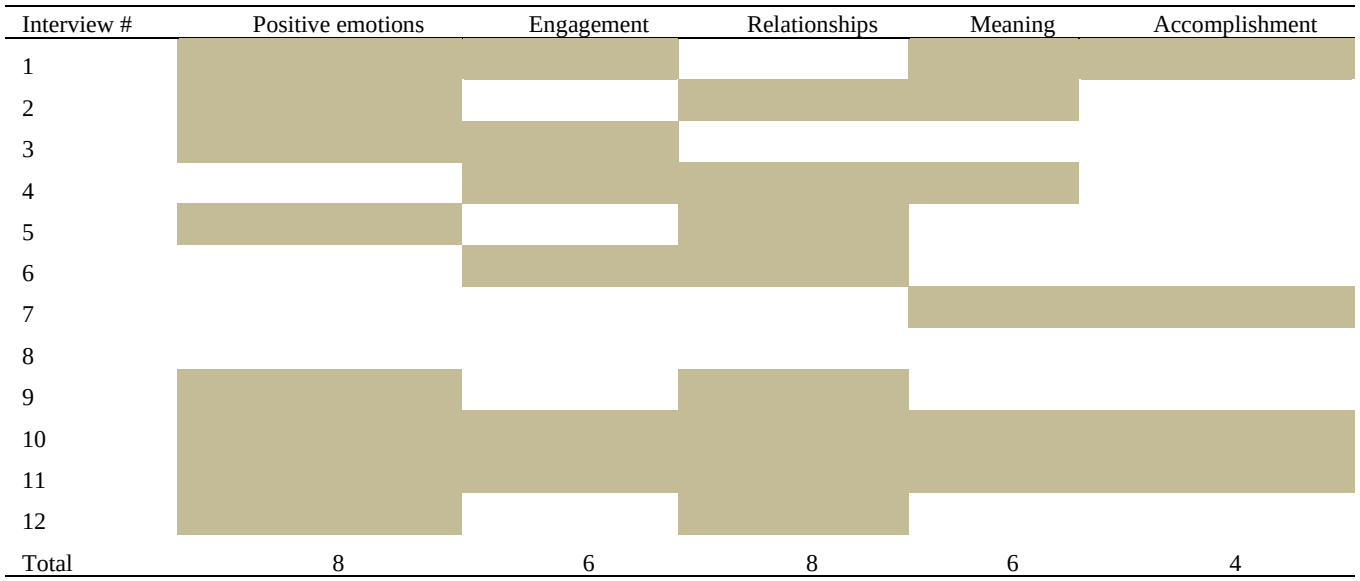

Figure 2. Qualitative matrix of PERMA dimensions across interviews

sense of accomplishment were the least influential in explaining happiness within this sample.

Mixed Methods Results

This explanatory sequential design utilized a mixed methods analysis to compare and contrast the quantitative and qualitative findings. Following the initial quantitative analysis and subsequent qualitative analysis, the results were merged to assess concordance and discordance between the data. There was concordance between the quantitative finding that happiness levels in ECE staff were higher than the general population in the U.S. and qualitative perceptions of happiness among ECE providers. The qualitative data explained how ECE staff could have higher than expected happiness levels despite the high job demands and low resources in their profession. One provider said, "I am a little bit surprised yet I'm not because even though I may be experiencing some challenges around my own finances, and however if I have support in my work, and I love going to my work every day, I'm gonna figure out some other ways to do the other pieces of the puzzle."

The data triangulation process was also beneficial to put the quantitative regression results in context using the qualitative interview data. For instance, relationships and accomplishment did not significantly predict happiness in the model. However, the qualitative results highlighted each PERMA construct as a possible predictor of happiness. That said, accomplishment was less salient than the other dimensions. This alignment between the quantitative and qualitative data supports that accomplishment was not a significant predictor of happiness in this sample. The quantitative data also found that meaning was a negative predictor of happiness,

Data triangulation	Emotions	Engagement	Relationships	Meaning	Accomplishment
Qualitative data	+	+	+	+	+
Quantitative data	+**	+**	+	-**	+
Interpretation	Strong alignment	Strong alignment	Concordance on directionality Discordance on sig. level	Discordance on directionality Concordance on sig. level	Concordance on directionality Concordance on sig. level

(+) Positive directionality (higher PERMA; higher happiness)
(-) Negative directionality (lower PERMA; lower happiness)
** significant at the 0.01 level (two-tailed) in the quantitative data

Highly prevalent in qualitative data
Moderately prevalent in qualitative data
Less prevalent in qualitative data

Figure 3. Joint display of quantitative and qualitative data triangulation.

with lower levels of meaning predicting higher levels of happiness. In contrast, in the qualitative data, the direction of the relationship between meaning and happiness was as expected, with sense of meaning contributing to enhanced happiness levels. Full data triangulation and interpretation can be seen in Figure 3.

Discussion

The results revealed that this sample of ECE staff were happier than the average American, with happiness levels comparable to the third happiest country (Gallup, 2024). While this was surprising given the high demands and low resources this workforce faces, the results were supported by qualitative data. The hierarchical linear regression model investigated the factors that predicted happiness and found that engagement and positive emotions at work were found to be significant predictors of happiness in the ECE workforce. This was an expected result, as positive work engagement has been found to be related to happiness in other industries (Gulyani & Sharma, 2018; Khurana et al., 2023; Tugade & Arcinas, 2023). While relationships did not emerge as significant in the model, the subsequent qualitative analysis supported the value of relationships in promoting happiness in ECE staff. The interview data revealed that fostering positive social support in ECE centers can have a powerful impact on happiness. This is further supported by the literature, with positive relationships with colleagues being related to lower burnout and turnover intent in ECE staff (Schaack et al., 2017). Close coworker relationships in ECEs can protect against the demanding work environment and mitigate burnout (Rentzou, 2012; Schaack et al., 2020). Moreover, social connection has been shown to support self-efficacy, health, and job satisfaction in teachers globally (Bjorklund et al., 2020; Tabancalı, 2016). The existing evidence and qualitative analysis support that promoting coworker support in ECE settings may be an effective strategy to reduce stress and support healthy teacher-child interactions (Jeon et al., 2018).

While meaning was significant in the model, the direction was not as expected. Higher happiness was associated with lower sense of meaning. This is likely due to the unstable measurement and the lack of variance in the data. Meaning was comprised of only two items from the NIOSH WellBQ and had very little variability, hindering our ability to accurately capture the meaning dimension. This finding contradicts the literature, which supports that meaning is a motivating factor in the ECE workforce (See et al., 2020; Whitebook et al., 2018). Given that the ECE workforce feels a strong sense of purpose in their work (Schaack & Lee et al., 2017), we would expect meaning to be associated with happiness. Continued work integrating strengths-based approaches with diverse samples of ECE providers should be done to understand the relationship between meaning and well-being in the ECE workforce. Evidence supports that comprehensive measures of happiness, such as the PERMA model, present a promising strategy to measure and promote happiness in the workplace (Fisher, 2010). However, more work is needed to establish best practices to assess employee happiness using PERMA (Jimenez et al., 2021), which was evident in this study. Future research in the ECE workforce may also consider integrating additional theories and frameworks to address the potential gaps in PERMA. For instance, the self-determination theory focuses on three psychological needs for well-being: 1) autonomy, feeling control of one's life, 2) competence, feeling effective, and 3) relatedness, feeling connected (Deci & Ryan, 1989). Self-determination theory and other strengths-based approaches may be useful in comprehensively assessing and addressing ECE workers' motivations and subsequent work-related well-being (Manganelli et al., 2018).

Strengths-based approaches to support quality of life are of growing interest, given their demonstrated ability to enhance well-being, self-efficacy, work engagement, and stress management (Linley, 2024). As it relates to burnout, strengths-based interventions pose a valuable method for organizations to leverage for occupational health (Bakker & van Woerkom, 2018). Despite the evidence supporting strengths-based approaches, there is limited

literature on happiness in the ECE workforce (Lessard et al., 2020). Teachers' happiness has been associated with positive teacher-child interaction and lower levels of burnout (Kim & Kim, 2020). Happiness has also been found to mediate the relationship between self-esteem and health (Benevene et al., 2019), supporting the value of bolstering teacher happiness to support overall well-being. Furthermore, it is well established that happy employees are more motivated, resilient to work-challenges, and productive (Bakker & Oerlemans, 2011; Lyubomirsky et al., 2005). Given the high rates of burnout and mental health challenges in ECE providers in the U.S. (Lessard et al., 2020) and the relationship between burnout and turnover (Schaack et al., 2020) in ECEs, ECE centers should consider implementing professional development and benefits programs to bolster happiness in ECE providers.

Limitations

This study has several limitations to consider when interpreting the findings. First, a convenience sample of ECE providers in a western state of the U.S. was used, which may not be representative of the ECE workforce nationally. It is also not reflective of ECE populations globally. This limits the generalizability of the results. Additionally, the survey instrument used in this study was not originally developed or validated to specifically assess the components of the PERMA model. As such, there may be issues with the accuracy of our measurement of these constructs. For instance, the two items to assess meaning within the survey demonstrated a lack of variability, which may have limited our ability to accurately capture the breadth of this construct. Moreover, the data were collected using self-report measures and are subject to social desirability biases. While the limitations in this study are critical to consider, the mixed methods approach helps to mitigate these issues by integrating qualitative data to provide supplemental insights.

Conclusions

This novel mixed methods study found that work-related engagement and positive emotions greatly influenced happiness in this sample of ECE providers in the U.S. Engagement and positive emotions were particularly critical to happiness levels in this sample of ECE providers, supporting existing literature that emphasized the importance of positive emotions and engagement for promoting teacher job satisfaction and retention and preventing burnout (Bakker & Oerlemans, 2016; Dreer, 2024). The integration of qualitative data highlighted the value of social connections at work, aligning with existing evidence that enhancing organizational and coworker support presents a promising strategy for improving employee engagement and subsequent well-being (Joo & Lee, 2017). The findings have practical implications for the ECE field; policy, systems, and environment changes to promote happiness in ECE centers through increased positive emotions and engagement may help the ECE workforce manage the high demands and low resources of their role (Bakker & Oerlemans, 2016). Future research should consider using validated PERMA-specific instruments, more diverse samples, and objective methods, such as behavioral assessments, to enhance the reliability and generalizability of the results. Investing in the happiness of ECE providers can mitigate burnout, promote healthy teacher-child interactions, and possibly reduce turnover in this critical profession (Kim & Kim, 2020)..

Compliance with Ethical Standards

Conflicts of Interest. The authors declare no conflicts of interest regarding the research, authorship, or publication of this article.

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Ethical Approval. All procedures involving human participants adhered to the ethical standards of the institutional and/or national research committee and the 1964 Helsinki Declaration and its subsequent amendments or comparable ethical guidelines. All procedures were approved by the Colorado Multiple Institutional Review Board (IRB: 21-4662).

Informed Consent. Written informed consent was obtained from all participants.

Data Availability. The datasets generated and/or analyzed during this study are available from the corresponding author upon reasonable request.

Author Contributions. Julia Pangalangan – Data analysis and interpretation; manuscript writing. Emily Mauirro – Data analysis and interpretation; writing results section. Charlotte Farewell – Data analysis and extensive reviewing and revising; PI of the WELL study. Jini Puma – Extensive reviewing and revising; PI of the WELL study

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