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Frequency and duration measurements of children's outdoor free play: A Scoping review

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Abstract: Outdoor free play encompasses unstructured, self-directed play in the outdoors and has been shown to support children's health and development. Accurate and reliable measures are required to conduct research on children's outdoor free play and examine cross-sectional and longitudinal variation. This study systematically reviews and evaluates measurement approaches for children's outdoor free play used in existing literature. A scoping review was conducted to identify English-language peer-reviewed and grey literature that included measurements of the occurrence, frequency or duration of outdoor free play with children aged 2 to 17 years old. Studies were excluded if the outdoor free play measure included structured settings or activities, or focused on a specific location or play activity. Quantitative and qualitative content analysis was used to consider outdoor free play terminology, definition, and operationalization; positioning in relation to other variables and the topic of interest; and data collection context. A total of 4,860 unique studies were identified. After screening and full-text review, 184 papers were taken forward for analysis. Parent-recall questionnaires were used in 70.1% of included studies to measure outdoor free play, often using a single question to capture the variable. A lack of differentiation between outdoor play emanating from structured and unstructured settings was common, as was limited consideration of contextual factors such as season, school or non-school days, and time of day. The implications of existing approaches to measuring children's outdoor free play and the need for valid and reliable measures to further research examining children's outdoor free play are discussed.

Introduction

Outdoor play for today's generation of children differs from that experienced by their parents or grandparents in both quantity and type (Clements, 2004; Solomon-Moore et al., 2018). Increasing urbanization and car dependency, screen-based leisure time, and shifting work patterns and family lifestyles, have reduced the opportunities for children to be outside and at play (Charles et al., 2008; Clements, 2004; Cordovil et al., 2015; Lester & Russell, 2014; Singer et al., 2008). Parents face increased societal pressure to focus on the protection, safety and supervision of their children, further limiting children's autonomy over their play (Lee et al., 2015; Valentine, 1997). The types of outdoor activities in which children participate have accordingly shifted, with more time spent in adult-led, organized, structured activities, such as sports groups or after school clubs (Sublette & Mullan, 2012; Watchman & Spencer-Cavaliere, 2017). Adult interaction significantly shapes children's choices and behaviour, and children tend to be more conscious of their actions or movements in the presence of adults, which influences their overall play patterns (Bento & Dias, 2017; Bundy et al., 2011).

The importance of outdoor play on the health, development and well-being of children has been extensively documented, including enhancements to cognitive, physical, emotional and social domains,

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boosting Vitamin D levels, spatial awareness, and impacts on the gut microbiome (Absoud et al., 2011; Bento & Dias, 2017; Kellert, 2002; Lee et al., 2020; Santer et al., 2007; Sobko et al., 2020; Thomas & Harding, 2011). Most studies outlining the benefits of outdoor play do not differentiate between organized or structured activities, and outdoor free play (OFP). Based on the recent Play, Learn, and Teach Outdoors—Network (PLaTO-Net) consensus definitions for outdoor play and free play (Lee et al., 2022), OFP can be understood as play that is unstructured, self-directed and takes place outside. Participation in OFP, also known as spontaneous or unstructured outdoor play, is believed to have a more holistic profile of benefits when compared to outdoor play alone, including enhancements in self-esteem, autonomy and confidence (Bento & Dias, 2017; Clements, 2004; de Valk et al., 2013). Additionally, while structured or adult-led activities are often associated with financial and time costs for families (e.g., activity fees, adult supervision time, transportation time), children can engage in OFP without cost and in almost any setting. This potentially supports play equity (Neumark-Sztainer et al., 2003) although other cultural factors may affect whether this potential is actualized. As such, a deepened understanding of the facilitators and barriers to OFP could provide important data to guide policies, as well as neighbourhood- or family-level interventions to enhance OFP opportunities.

The current literature on OFP contains much diversity regarding definitions, operationalizations, and measurement approaches, as well as a predominant focus on physical play. A best-practice approach to measure OFP has not yet been developed, making it difficult to compare research findings across studies. This paper considers the existing literature and provides timely insight into the considerations for OFP measurement approaches. The aim of this scoping review was to evaluate approaches that have been used to measure OFP and to make recommendations for OFP measurement in future research.

Current Challenges in Outdoor Free Play Research

Location: Children's OFP can originate from community settings (e.g. parks, streets), including the home, or can be based within organizational settings such as school, child care or recreation programs. While organization-based OFP can provide children with choice and autonomy on how to spend their outdoor time within certain parameters, it is common for activities to be prescriptive or organized (e.g. gym class or recess time) or set within a larger program or agenda. This diverges from unstructured free time for children to make their own play choices (Canadian Public Health Association, 2019). It is challenging to draw the line between outdoor play and what may be OFP when it occurs in organizational settings due to these programmatic elements. In contrast, home- and community-based outdoor play is easier to identify as OFP. Due to this, this paper focuses on home- and community-based OFP and excludes play occurring in organizational settings.

Measurement: Many research studies consider OFP as a proxy for physical activity, and use the term, outdoor active play (Alexander et al., 2014; Lundy & Trawick-Smith, 2021, Veitch et al., 2010). This approach overlooks the value of play activities that may be more sedentary (Herrington & Brussoni, 2015). Another common component in existing literature is the use of parents as proxies through questionnaire measures. These instruments may have reduced validity for the measurement of OFP due to second-hand reporting, and are often not explicit with respect to differentiating between structured and unstructured play. Further, OFP can have different characteristics at different developmental stages (Hughes, 2010), and even not be called play at later ages (e.g., "hanging out" for youth). Other studies, particularly those in structured settings, such as child care centres, have measured outdoor play through typologies that categorize observed play behaviour (Fjørtoft & Sageie, 2000; Loebach & Cox, 2020). Such tools evaluate play in a specific location and during a specific episode, rather than understanding overall levels of engagement in OFP for a particular child. The act of overt observation may also impact children's play choices and be logistically challenging in a community context.

Without precise definitions and measurement strategies for OFP, the ability to produce valid and comparable research on its antecedents and outcomes is impaired, as well as the evaluation of any interventions to increase participation. One methodological review (Bates & Stone, 2015) sought to identify commonly used approaches to measure outdoor play and independent mobility in children and youth.

They highlight the heterogeneity of study designs and measurement tools and the lack of a standardized methodological approach. The authors found that questionnaires or surveys were used most frequently to measure children's outdoor play and independent mobility (62.5%). However, their review did not differentiate between outdoor play and OFP. To our knowledge, this is the first review that aims to provide an overview of existing OFP measurement approaches, recognizing the distinct nature of OFP from other structured outdoor play opportunities.

Method

A scoping review was selected as the appropriate method for exploring the application of OFP measures within the existing literature due to the systematic nature of paper identification, where systematization, transparency and reproducibility of scientific evidence are prioritized, and the feasibility of canvassing multiple literature sources (Grant & Booth, 2009). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) checklist was used for this review (Tricco et al., 2018). We used the protocol outlined by Arksey & O'Malley (2005) and Levac et al. (2010) to guide the scoping review (Arksey & O'Malley, 2005; Levac et al., 2010), and consisted of six stages:

1. Identify the purpose and research question

2. Determine database, sources and scope of review

3. Study selection

4. Chart and extract data

5. Complete numerical and thematic analyses to summarize and report results

6. Identify findings and undergo consultation

Two reviewers (MO and RR) assessed relevant studies derived from the search strategy and determined inclusion within this study. MO and RR extracted all data from the final full texts selected for inclusion and reviewed extracted data for accuracy.

Scoping Review Question

The research question was constructed using the elements of Population, Concept and Context (PCC), as recommended by the Joanna Briggs Institute (Peters et al., 2015). The studied population was children aged 2 to 17 years, the concept was OFP and the context was unstructured environments. Therefore, we developed the following research question: "What approaches are used to quantitatively measure OFP among children aged 2 to 17 years in unstructured outdoor environments?"

Definition

OFP is defined as unstructured, self-directed play that takes place outside (Lee et al., 2022). This means that, within limits appropriate for the child's stage of development, the child/ren can determine or co-determine what they do, where they go, and with whom. We focus on home- and community-based OFP rather than organization-based free play due to the latter occurring within structured contexts. The age range of 2-17 years was selected to allow the examination of approaches across childhood. The under-2 age range was excluded as outdoor play at this age is often reliant on close adult supervision, participation or direction, which would negate the definition of OFP used in this study. The upper age limit of 17 was chosen as the study focuses on childhood and 18 years is the Federally defined age of adulthood in Canada. These definitions provided a foundation to determine eligibility criteria, as shown through the inclusion and exclusion criteria below.

Inclusion Criteria

Studies were included if they met the following criteria:

- the reported methodology assesses individual outdoor play within at least one the following parameters:
  - assessment of OFP
  - assessment of outdoor play that does not explicitly include structured activities

- the outdoor play methodologies included children aged 2 to 17 years;

- the outdoor play methodologies were administered in unstructured environments (e.g., home, community);

- the outdoor play methodologies assess occurrence, frequency and/or duration of outdoor play participation; and,

- the paper included an application of the methodology resulting in empirical findings.

- there were no publication date restrictions

Exclusion Criteria

Studies were excluded if they met the following criteria:

- the reported methodologies assess outdoor play within at least one of the following parameters:

  - assessment of outdoor play combines structured activities and free play

  - assessment of a specific type of outdoor play (e.g. dramatic play, active play, etc.)

  - assessment of a location-specific type of outdoor play

  - assessment of outdoor play in an organizational, structured setting (e.g., school, child care, recreation program

  - assessment of games or activities

- there is insufficient information to determine how outdoor play was measured;

- the outdoor play methodologies assess only content, quality, perception or allowance of outdoor play;

- the study is not freely available in full text, including conference abstracts where the full-text article cannot be located (even with author contact);

- the study is not available in the English language; and,

- the study is a systematic review.

Search Strategy

The electronic databases Embase, Medline, PsychInfo and Web of Science were searched in May 2022 to identify all eligible studies. The Boolean operators "AND" and "OR", as well as the Boolean operators for proximity searching, were used to enhance the search strategy through several combinations. The following primary concept search phrase was constructed: ("play" OR "playing" OR "playtime") within five words of ("outdoor*" OR "outside" OR "out-of-school" OR "out-of-home*" OR "yard*" OR "garden" OR "gardens" OR "street*" OR "playground*" OR "playscape*" OR "park" OR "parks" OR "neighbo?rhood*" OR "natur*" OR "forest*" OR "city" OR "cities" OR "built environment*" or ("out*" within three words of (home or school or play))). This was combined with AND searches for ("measure*" OR "record*" OR "data" OR "variable*" OR "baseline*" OR "observ*" OR "report*" OR "self-report*" OR "parent-report*" OR "survey*" OR "questionnaire*" OR "log" OR "cross-sectional" OR "longitudinal" OR "associate*") AND ("child*" OR "teen*" OR "adolescen*" OR "youth*").

Medical Subject Headings (MeSH) terms for each of the search words were included when applicable, and a staff librarian was involved with the search strategy and implementation. The search strategy considered results from all geographic areas and publication dates. In addition, a comprehensive

reference search was performed, and gray literature was searched via OpenGrey, ProQuest, Des Libris and IGO Search. Additional studies and grey literature were identified through a call-out for relevant articles within the authors' networks. Further information on the search strategy can be found in Appendix 1.

Study Review and Selection

Articles from the search strategy were uploaded to Covidence (https://www.covidence.org/), a technology platform for the production and use of systematic reviews, and were screened by two reviewers (MO and RR). Each article underwent abstract and full-text screening by both reviewers. The process of article selection followed the Preferred Reporting of Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (Figure 1) (Moher et al., 2015). The eligibility criteria previously outlined were used to screen articles for inclusion. Differences in inclusion decisions between reviewers were flagged and discussed, and a final decision was agreed upon. If a conflict on an inclusion decision remained, a third reviewer (EO or MB) was tasked with resolving the conflicts.

Abstracts were removed if they did not meet the eligibility criteria, were duplicates, or if the full-text could not be located even after contacting the lead author. Conference abstracts identified by the search strategy were compared to returned papers and authors were contacted by email if no corresponding paper could be identified. A full-text review involved reviewing articles in full and determining further eligibility. Guided by the inclusion and exclusion criteria, final studies were identified as being relevant to our research question and were included in the review. Data extraction was conducted by two reviewers (MO and RR) independently.

Data analysis focused on the characteristics of studies, the measurement tools used and the themes derived from the measurement strategy limitations. Information was organized systematically into data tables developed by the primary authors (MO and RR). Thematic analysis was performed to understand the play typologies and measurement tools from the selected articles.

Results

Overview of Selected Studies

The electronic search strategy returned a total of 8,665 records. In addition, 23 articles were identified within the grey literature and through a call-out for relevant studies within the authors' networks. Using the key search descriptors, 4,860 articles were identified, after the removal of duplicates, and reviewed. Many abstracts were excluded for reasons including but not limited to using 'play' as a verb, measuring outdoor play in structured settings, or measuring a specific sub-type of outdoor play, such as 'active play'. At the full-text review process, 458 articles were assessed for eligibility (Figure 1).
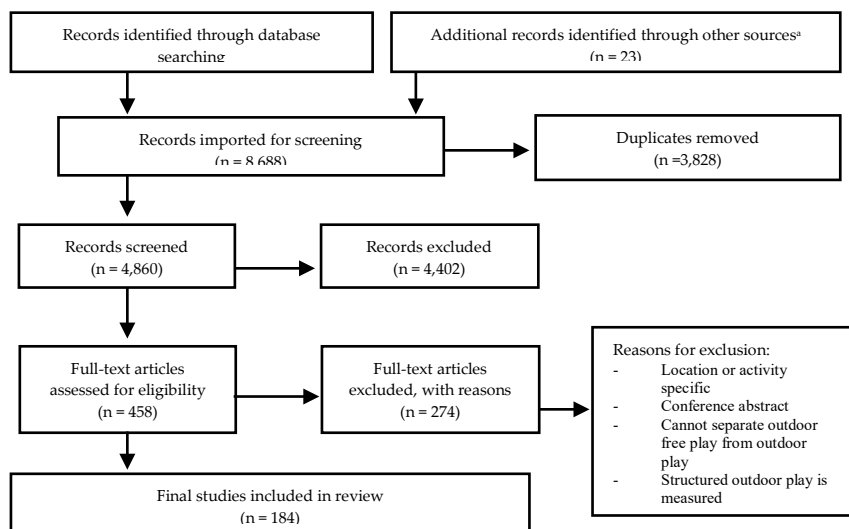
[a] Other sources included grey literature search results and studies received from network calls for our consideration.
Figure 1. PRISMA flow diagram for article selection

Characteristics of included studies

This scoping review yielded 184 articles from 51 countries, mostly located in the Global North. Included articles represented a variety of study topics, with most collecting data from children in the early years (0-6 years) or primary school years (6-12 years). The first identified paper was published in 1934. Table 1 and the sections below provide an overview of the characteristics of the final included studies. All included studies are outlined in Appendix 2.

Table 1. Characteristics of included OFP review studies (N=184)

Characteristics	Sample Group	N	%
Continent of study location	Africa	4	2.2%
	Asia	26	14.1%
	Australia	17	9.2%
	Europe	76	41.3%
	North America	54	29.3%
	South America	7	3.8%
	Unknown*	2	1.1%
Publication year	Pre- 2005	12	6.5%
	2005 – 2009	13	7.1%
	2010 – 2014	46	25.0%
	2015 – 2019	61	33.2%
	2020 – 2022[a]	52	28.3%
Variable Type	Covariate	28	15.2%
	Exposure	65	35.3%
	Outcome	91	49.5%
Target age range[b]	2 – 5 years	116	63.0%
	6 – 12 years	129	70.1%
	13 – 17 years	42	22.8%
Respondent	Parent/Guardian	136	73.9%
	Child[c]	27	14.7%
	Both (jointly)	10	5.4%
	Both (separately)	2	1.1%
	Differentiated by child age	9	4.9%
Measurement method	Questionnaire	168	91.3%
	Logbook	16	8.7%
	Interview[d]	1	0.5%
Outdoor play measured in	Occurrence only[e]	4	2.2%
	Frequency[f]	30	16.3%
	Duration	103	56.0%
	Frequency and duration	42	22.8%
	Unknown[g]	5	2.7%

[a]Up to May 2022
[b]Papers can be included in multiple age group categories as some studies spanned different age ranges, therefore the percentages do not equate to 100%.
[c]Includes one paper where adults recalled their childhoods
[d]Categorized as an interview if delivered by a researcher and explicitly semi-structured or unstructured.
[e]Frequency and/or duration data can also be used to calculate OFP occurrence
[f]Categorized as a frequency measure when frequency information is explicitly recorded (e.g. 'how many days a week does your child play outside') rather than implied (e.g. 'how much time does your child spend playing outdoors daily').
[g]Details not provided within the paper

Geographic Region

Of the final included articles, 76 (41.3%) studies were conducted in Europe and 54 (29.3%) studies were conducted in North America. There was a notable paucity of literature from Africa and South America (Table 1). The majority of studies included in this review collected data in the United States (21.2%), Australia (9.2%), Canada (8.2%) or Germany (6.5%).

Publication Year

The majority of studies (61.5%) were published in the past 8 years (Table 1). Of these, 28.3% were

published between Jan 2020 and May 2022. Within our final included studies, few articles (6.5%) assessed OFP prior to 2005.

Target Population (Respondent and Sample age group)

Participants within the selected articles crossed a range of age groups. While most studies had small or targeted ages of children, other studies had broad age groups that crossed multiple stages of a child's life. Children in the early years were represented in 63.0% of included studies and children of primary school age were represented in 70.1% of studies (Table 1). Approximately 13.0% of the studies focused on all years that a child attends formal school (i.e., 6 – 17 years). Only 22.8% of studies had sample populations of children over the age of 12 years, and among those that included youth, most focused on those aged 13 to 14 or studied a broad age range (i.e., 0 – 17 years).

Of all included studies, 73.9% exclusively used parent-report measures to assess children's OFP (Table 1). Only 14.7% of studies relied solely on child-report to measure OFP (Table 1) and these included children aged 6-17 years (Table 2). Many of the measures administered to caregivers and children while together (5.4% of the total) were conducted during a hospital or clinic visit. Among studies that examined older children aged 13-17, the use of parent-report was slightly more common (Table 2).

Table 2. Measurement tool respondent by target age group among included OFP review studies

Measurement Tool Respondent	Target Age Group n(%)		
	2-5 years	**6-12 years**	**13-17 years**
Parent	104 (89.7%)	81 (62.3%)	15 (35.7%)
Child	0 (0.0%)	27 (20.9%)	11 (26.2%)
Both	12 (10.3%)	21 (16.3%)	16 (38.1%)
Total	**116**	**129**	**42**

Study Topic and Aim

There was variance in the primary topics studied within the final article selection. The three largest primary study topics were physical activity (29.9%), play (outdoors or otherwise) (29.3%) and weight/obesity (17.4%). Other movement-based topics included sedentary behaviours (2.7%) and independent mobility (2.7%). Almost half (49.5%) of included studies had OFP as an outcome variable within the study (Table 1), often with OFP providing a measure to support a physical activity outcome variable. These studies measured OFP as a result (outcome) within their study, whereas other studies measured OFP as an associated or confounding variable within their analysis (covariate) or a predictor variable that may be associated with an outcome (exposure). While there was a clear focus on children's physical health, not all were connected to movement and activities. A small number of studies focused on environmental risks, such as blood lead concentration (3.3%), vitamin D exposure (3.3%), ocular health (1.1%), pesticide exposure (1.1%), and parasite transmission (0.5%), using OFP as a proxy for levels of potential exposure. Other studies measured OFP as a variable related to other aspects of children's health, such as traffic-related injury, atopy, mental health and constipation.

How was Outdoor Free Play Defined?

Within the included studies, a range of terms and definitions were used to identify OFP. The word stem 'play' (e.g. playing, playtime) was used in all variable descriptions with the exception of one study which just referred to 'time'. 'Outdoor' and 'outside' were used interchangeably among most OFP terms used, however, some studies used 'out-of-home' (1.1%) or had no mention of the outdoors (3.8%) within their OFP terminology. The most variation was seen in relation to the term 'free'. Only 9.8% of the papers included a term in their play variable description relating to the play being free, such as free, unstructured, unsupervised, unorganized, spontaneous or independent. The most commonly used terms were 'outdoor play' (39.1%), followed by 'playing outdoors' (14.1%) and 'playing outside' (12.0%). OFP was the most commonly used term specific to free play, but this was only used in 2.7% of the studies. Most studies

included in the review did not provide information on the descriptors, contexts or characteristics of the OFP variable that was being measured. The studies that included descriptors, contexts or characteristics of OFP outlined factors related to the setting and location (Berglind & Tynelius, 2018; de Macêdo et al., 2022; Loucaides & Tsangaridou, 2017; Nordbakke, 2019; Saldanha-Gomes et al., 2017; Veitch et al., 2009), the time, day or season (Adams & Prince, 2010; Dodd et al., 2021), the organizational component of the activity (Andrejewski, 2011; Deforche et al., 2009; Page et al., 2010; Surdu et al., 2006), and excluded activities (Balcerek et al., 2017; Goodman et al., 2012; Hammond et al., 2011; Loucaides & Jago, 2006; Remmers et al., 2014). Studies also asked multiple questions related to outdoor play, separating out structured activities and sport activities in a separate question to OFP (Deforche et al., 2009; Goodman et al., 2011; Hammond et al., 2011). Through a process of elimination, this provided insight into the authors' understanding of the type of play or activity they intended to measure.

How was Outdoor Free Play Measured?

A variety of approaches were used to measure OFP (see typology in Appendix 3). Methods captured within this review were predominantly questionnaires (91.3%), followed by logbooks (8.7%) and interviews (0.5%). There was variability in how some measures were administered based on setting, including the use of tools originally designed as a pen and paper questionnaire being adapted based on data collection procedures. For example, one study (Xu et al., 2016) administered the *Outdoor Playtime Recall Questions* (Burdette et al., 2004) via face-to-face interviews with parents. For the purposes of this classification analysis, structured measures with quantitative or closed response options were categorised as questionnaires.

Studies measured OFP using frequency, duration or occurrence measures. Duration measures were used most frequently to measure OFP (56%), followed by combined frequency and duration measures (22.8%), frequency only measures (16.3%), and occurrence only measures (2.2%). These variables demonstrated a 'stacking' nature, as a measure of occurrence could become a measure of frequency if completed over sequential days, and likewise, a measure of duration could become a measure of frequency and duration. All measures of frequency and/or duration were also measures of occurrence. Measures of occurrence were most often captured through a dichotomous variable (yes/no), asking if a child participates in OFP. Frequency was commonly measured as the number of days per week a child participates in OFP captured via categorical options, a continuous variable (open-ended) or a Likert scale. Some studies (Balcerek et al., 2017; Grammatikopoulou et al., 2018; Husmann et al., 2017; Silva & Santos, 2017) had response options for how many 'times' per week OFP occurred rather than number of days, and others primarily focused on number of times but also included a 'daily' option (Ferrao, 2015; Ferrao & Janssen, 2015; Janssen, 2015; Nordbakke, 2019; Parent et al., 2021). Duration was captured through the use of continuous or ordinal response options and was most commonly measured as the number of minutes per day. Studies that measured a combination of frequency and duration often asked for the number of days per week, and the number of minutes per day, that a child participated in OFP (Appendix 3).

Within the reviewed articles, two additional variables were identified to guide participants' responses for frequency, duration and occurrence. First, participants were primed to respond based on actual events (common with logbook methods and in some questionnaires); based on what was typical/usual; or based on an average. Second, sometimes participants were given a timeframe as a reference period, such as the previous week, a weekend, a week within the last month, or a specific season. However, no reference period was given for most studies. Measurement approaches also varied in the number of data responses required from each participant. Two or more data inputs were typically requested in studies that examined seasonality, examined weekdays separately from weekends, or used logbook methods that spanned several days A typology of these measurement approaches for the included articles, separated by target respondent and data gathering method, is provided in Appendix 3.

Which measurement tools were used to measure outdoor free play?

Almost half of all included studies (48.1%) developed their own questionnaires or measurement approaches to capture children's OFP (Appendix 3). Of those using existing and unmodified measures, the

most common measurement tool was the *Outdoor Playtime Recall Questions* developed by Burdette et al. (2004) (10.8%) which was applied to children aged 0-12 years. This tool quantifies weekly outdoor play time using questions previously shown to correlate with physical activity levels measured through accelerometers in preschoolers. There are two questions for the parent, one recalling a typical weekday and the other a typical weekend day in the past month, asking for the time spent outdoors playing in hours and minutes (Burdette et al., 2004). Also frequently used was the *MoMo Physical Activity Questionnaire* (6.1%), which was originally developed in German and uses 28 items and measures to understand the frequency, duration and intensity of physical activities, including outdoor play, in a typical week. This tool seeks to capture habitual activity and has been shown to have acceptable test-rest reliability for children aged 4-17 years (Jekauc et al., 2013). The tool is typically used as a child self-report tool for children aged 11 and older; children under the age of 11 typically complete the questionnaire with the help of their parents. Previous research found that the MoMo-PAQ was weakly correlated with accelerometry data (Jekauc et al., 2013).

The *Children's Play Scale* (Dodd et al., 2021) (2.2%) was another common measure and assesses the frequency of children's play in seven locations and the length of time at each place. Parents are also asked to report on seasonal differences in play behaviour for each of these locations. The seven indoor and outdoor locations include: At home or in other people's homes; outside at home or at other people's homes (e.g., garden/yard/balcony); at a playground; in trees/forests/woodland/grassy spaces (not including the garden at home or other people's homes); in the street or public places close to home; outdoors near water (e.g., at the beach, in the sea, near a river, lake or cliffs); indoor play centres and pools (e.g., soft play, trampoline parks, swimming pools, etc.). The *Canadian Health Behaviour in School-Aged Children (HBSC) Questionnaire* (Freeman et al., 2016) (1.1%) was the final measure that was used in more than one study. It collects data on school-aged children aged 11 to 15 years to understand health attitudes, behaviours and lifestyles. Survey items are continuously updated, validated, and pilot-tested. The HBSC includes one outdoor play question – 'How many hours a day, in your free time, do you usually spend playing outdoors outside of school hours?' – with nine response options including none at all; About half an hour; About 1h, About 2h, About 3h, About 4h, About 5h, About 6h, About 7 h or more.

Measurement limitations

Some common limitations were evident among the authors who reported them. Limitations were related to the study design, the target participant sample, the way in which the data were transformed, the measurement tool and the survey response options (Table 3).

Table 3. Study and measurement limitations, as stated by authors among included OFP review studies

Limitation Area	Limitation Detail
Participants and Respondents	• Parents may have encouraged the child to play more during the study • Parents with children in child care, or who are less aware of their child's activities outside of the home, may know less about their child's play behaviour and therefore underestimate their child's OFP (misclassification/measurement error) • Parents may overreport their child's OFP due to social desirability (social desirability bias) • Parents may have challenges remembering their child's OFP behaviour and time (recall bias) • Younger children may not be able to accurately report their OFP using traditional survey approaches • Respondents who choose to respond to surveys may be naturally more proactive in encouraging their child's OFP and/or have healthier lifestyle habits (respondent bias) • Challenging for parents to quantify OFP among younger age groups due to play often being supervised and/or facilitated. • Sample only includes those who speak English and are able to understand and respond to survey questions
Data Transformation	• Ordinal response categories may not fully represent the range of children's OFP (ceiling effect) • Dichotomization (loss of information and reduced statistical power) • Cumulative totals could not be calculated for categorical and some ordinal measures
Measurement	*Measurement Tool* • The order of questions asked may influence response effects • Retrospective self-report can lead to recall bias • Tool developed within a local context may not be generalizable to other populations

- Tool developed previously may now be dated and/or has not been validated recently
- Tool has not been validated, or has not been validated with the target group

Survey Question on Outdoor Free Play

- Frequency, time or intensity of OFP was not assessed, only the occurrence of outdoor free play (presence/absence)
- The assessment timeframe was too specific (e.g. only one day, or only weekdays)
- The assessment timeframe was too broad (e.g. the past month, or no timeframe given)
- Respondent was asked to report on OFP within a given geographic region (e.g. neighbourhood) which does not encompass all OFP
- Assessment of time spent in OFP does not consider play quality
- Question does not consider differences in seasonality, climate or weather.
- Question does not address differences between OFP and outdoor recreation
- Question prompts respondents to think of active outdoor play and does not consider other unstructured activities (e.g. reading; listening to music) and could be considered OFP
- Question may be interpreted differently by respondents as 'time in play' was not operationalized for participants
- Respondents were not asked to differentiate children playing alone from children participating with or receiving direction from an adult.

Discussion

This scoping review is the first comprehensive overview of measurement tools to assess OFP among children aged 2-17 years. The results of this study demonstrate that there is a large amount of literature available on this topic, with 184 articles that were identified and included in the final study sample. Among these, 75.5% collected data in Global North countries, 47.3% focused on physical activity or obesity study aims and 91.3% of studies used a questionnaire to measure OFP. The number of included articles in the final sample is reflective of the limited number of studies that considered child autonomy in the measurement of OFP.

Less than 10% of included studies explicitly focused on OFP. This constrains the progression of research in considering OFP as distinct from physical activity, outdoor play and other forms of outdoor activities. As research has shown, OFP provides benefits that cannot be addressed through structured outdoor play opportunities, including benefits to cognitive, physical and social-emotional development, as well as physical health (Absoud et al., 2011; Bento & Dias, 2017; Kellert, 2002; Lee et al., 2020; Santer et al., 2007; Sobko et al., 2020; Thomas & Harding, 2011). In addition, children's OFP requires unique considerations for how it can be supported, including the role of adults, and how OFP may differ across seasons, locations and developmental stages. To further research on children's OFP, this review outlines important evidence on how OFP is measured within the existing literature and recommendations on measurement in future studies.

Measurement Tool Themes

Outdoor Free Play as a Proxy for Physical Activity

Half of the studies focused on physical activity, sedentary behaviour or weight management (50.0%). Within most of these studies, OFP measures were used as a proxy for physical activity, in particular among younger age groups. One of the most utilized tools was Burdette et al.'s (2004) *Outdoor Playtime Recall Questions*, a parental-reported measure of children's outdoor playtime as a measure of physical activity. This study emphasized that physical activity in preschool-aged children usually occurs during free play, rather than in structured activities. However, not all play is physically active and therefore, this only captures a portion of activities and does not consider the other benefits of OFP, such as peer relationships or social functioning (Herrington & Brussoni, 2015).

Proxy-report of Children's Outdoor Free Play

For most studies, children under age 7 were not perceived as having the cognitive ability to report on their own outdoor play (Burdette et al., 2014), necessitating parent-report. Limitations associated with relying on parent recall include the potential for recall bias and social desirability bias (Reimers et al., 2019;

Shephard, 2003). In fact, a previous study by Jayasuriya et al. (2016) found that over one-half of the parents in their study did not know the amount of time their child played outside at child care each day. Likewise for play at home, Veitch et al. (2009) showed low reliability in parent proxy reporting to capture the amount of time children spend in a given play behaviour. Children may participate in concurrent activities, such as cleaning up, making proxy-reports challenging (Hinkley et al., 2012). In physical activity research, parents often report more activity than when objective measures are used (Colley et al., 2012), indicating a potential social desirability bias.

Another common limitation was that most studies did not report who was responding on behalf of the child. Among studies with parent respondents, only 6.0% reported that mothers were specifically targeted to report on their child. All other studies did not identify if there were considerations for response differences by fathers, mothers, grandparents or other caregivers. Previous studies have reported that parental reports of child behaviour differ between mothers and fathers (Davé et al., 2008; Luoma et al., 2004). Studies using this approach assumed that parents were either present in the home and closely monitoring children, or were in communication with the child or another person about these patterns. In the 9.8% of studies where parents and children jointly responded to the data collection instrument, it was unclear whose voice was given priority or how any discrepancies in perspective were resolved.

For studies that rely on proxy reporting, it is generally recommended that all caregivers be included to enhance the accuracy of reporting (Eiser & Morse, 2001). Further, including children's perspectives of their play can provide unique insights, as long as measurement strategies are appropriate to the developmental stage of child respondents. While 25.5% of included studies in this review gathered information from the child in some manner, over three-quarters of the studies did not utilize opportunities to engage children in the reporting process. As OFP is based on the requirement that adults not be involved in directing children's play, relying on parent-report to assess this measure may be problematic.

Retrospective Questionnaires

Retrospective questionnaires were used in almost all studies. Retrospective questionnaires are common tools and can facilitate quick, flexible and easy approaches to capturing OFP through a single question. However, there are vast limitations to relying on retrospective recall to provide valid results (Schwarz & Oyserman, 2001). Responding to even the simplest question involves complex cognitive processes, (Piasecki et al., 2007; Schwarz & Oyserman, 2001), creating opportunity for error. In addition, retrospective self-report often relies on estimation or a quick 'count' of occurrences or timing. In the case of parents or children responding on OFP frequency and duration, there is inevitably error within these tools. Direct measures can help with the assessment of OFP, such as GPS devices, however, they are more resource-intensive and the trade-offs need to be considered in the context of the research question.

Structured Settings

Definitions or operationalizations were rarely provided that would indicate if the study made a clear distinction between structured and unstructured activities. When these distinctions were evident within a measurement tool, the location was also measured to indicate if a structured setting was examined. For example, Sarker et al. (2015) included three measures of unstructured, free play: during child care/school, during the preschool program/daycare, and outside of child care, preschool, school or daycare, which made it possible to separate OFP according to the definition outlined within this review. Some studies that used the *Outdoor Playtime Recall Questions* (Hinkley et al., 2018; Nathan et al., 2021; Wosje et al., 2010) used multiple settings to capture OFP information, without differentiating between structured and unstructured activities, making it difficult to know if the measure included sports or other physical activities. Some authors demonstrated that they were cognizant of the differences between OFP and outdoor play by including a robust definition of OFP (Stracciolini et al., 2022; Wijtzes, Jansen, et al., 2014) or adapting existing measurement approaches to accurately assess OFP (Grigsby-Toussaint et al., 2011; Janssen, 2015).

While not included in our final sample, many studies operationalized the *Outdoor Playtime Checklist* (Burdette et al., 2004), a tool that is distinct from the *Outdoor Playtime Recall Questions* measure, which was

included in the same research (Burdette et al., 2004). Studies that used the *Outdoor Playtime Checklist* (Burdette et al., 2004) were excluded from this review as this tool explicitly includes outdoor play while at daycare or preschool. Studies that purposefully excluded child care, school, or other structured settings were included in this review, assuming all other inclusion criteria were met. For example, one study (Lumeng et al., 2017) mobilized the *Canadian Health Measures Survey* (Tremblay & Gorber, 2007), which specifically addressed unstructured free play by asking parents, 'aside from time in daycare and pre-school, on a typical weekday, how much time does your child spend outside in unstructured free play?' Of note, outcomes such as risky play and nature play were often researched in connection with OFP but were typically excluded from our review because the research was based in education settings.

Considerations for Future Measures

Prioritizing Children's Agency

The United Nations Convention on the Rights of the Child states that children have the right to form their own views and to express those views freely (United Nations General Assembly, 1989). However, research has historically prioritized adult perspectives to capture children's information (Clarke, 2015; Malone & Hartung, 2010). This is exacerbated with young children, where researchers perceive data collection as more challenging or time-consuming, or they underestimate children's competence to capture accurate data (Clarke, 2015; Powell & Smith, 2009). In particular, methods that require verbal or written responses are often perceived as not suitable for children under six. This was evident within this review as most studies did not engage children in their methodology, particularly younger children.

To reflect the understanding that children's agency is key to their OFP behaviours, different approaches are needed to support data collection participation from a variety of age groups, such as participatory research approaches that include the child and measurement tools that do not rely on written responses. Joint measurement tools that involve both the parent and the child are preferred if parent perspectives are desired, with the parties providing separate or sequential data. In addition, instruments beyond interviews and surveys may better support children's participation. Measurement approaches that are age-appropriate and involve multiple data collection strategies are most successful when including children as research participants (Christian et al., 2010). Children are most likely to participate in data collection when instruments include opportunities to be active and express themselves, including photography, storytelling, and using software and digital tools (Larsson et al., 2018).

Supporting Participant Responses

For parent recall survey measures, consideration of methods and opportunities to increase participants' recall of their children's OFP is needed, such as shortened reference periods, using personal and tangible indications such as examples of OFP activities, and reducing the influence of social desirability on participants' responses. Selecting an appropriate recall period can reduce recall bias (Althubaiti, 2016). Additional methods, such as diaries or interviews, could also be used to reduce measurement error (Cramer et al., 1993). Diaries would capture day-to-day activities, and interview responses could be supported by prompts that assist recall. Furthermore, social desirability bias can be reduced by ensuring the questionnaire is validated before implementation (Althubaiti, 2016).

Clear wording and consideration of possible interpretations can help avoid misinterpretation. For example, studies measuring the number of times each week children participated in OFP (Balcerek et al., 2017; Grammatikopoulou et al., 2018; Husmann et al., 2017; Silva & Santos, 2017) did not specify if these 'times' had to occur on different days. It was unclear whether researchers sought to capture discrete episodes of OFP regardless of the day of occurrence, yet some studies included a 'daily' option (Ferrao, 2015; Ferrao & Janssen, 2015; Janssen, 2015; Nordbakke, 2019; Parent et al., 2021).

Assessing Across Different Days, Time-Points and Seasons

Many surveys assessed OFP by asking participants to recall an average or typical day (Dodd et al., 2021; Handal et al., 2007; Kocken et al., 2012; Sum et al., 2022). This can be problematic if there is no clear

definition of what is considered a typical day. For example, some participants may consider a typical day to be a weekend spent outdoors with family, while for others it may be a weekday where children are cared for by grandparents after school. In addition, consideration of the time of day, weekends or weekdays, and seasons, may alter the way in which participants report OFP. Seasonal variation of children's physical activity, movement and behaviours occurs regardless of region (Carson & Spence, 2010). These aspects need to be taken into consideration in measurement tools, with explicit decisions made on how to address these normal variations. Outlining time framings and reference periods can produce more specific measurement questions, as seen within this review (Chung et al., 2021; Rodriguez-Ayllon et al., 2020; Wijtzes, Bouthoorn, et al., 2014; Wijtzes, Jansen, et al., 2014).

Further Defining The Parameters of Outdoor Free Play

Within this review, we used the concept of child autonomy in play as an indicator of OFP rather than child choice. The latter allows children to select from different options for play, the former allows them to be self-governing. A conceptualization of free play which focuses on children's choice instead of child autonomy could allow for free play to take place within organized settings, such as recess or after school clubs, as set out by Lee et al. (2022). Conversely, even in unstructured conditions, children's time and opportunities for play will have parameters. For example, a parent may set the available timeframe for play, and opportunities may be shaped by the affordances in the physical and social environment. For the field of OFP to progress, these various conceptualizations will need to be further understood. An important part of the distinction between choice and autonomy may come down to the extent to which outdoor play is supervised by an adult. This would have implications for the developmental stage at which outdoor free play (away from the supervision of an adult) becomes possible.

Strengths & Limitations

To our knowledge, this is the first review to examine the measurement of children's OFP. In addition, the scope of the search included all geographic regions and any year of publication. This review considered a large age range of children, encompassing early and middle childhood as well as adolescence. The depth of the literature scoped is reflective of the large number of studies that were assessed to create a comprehensive final sample. This review examined multiple methodological and measurement considerations in the assessment of children's OFP. A strength of our findings is the significant detailed limitations brought forward on the existing validated instruments and original tools currently used in this area of research.

A methodological limitation of this review was the restriction of studies to the English language, which may have reduced the geographic and cultural scope of included studies. However, over 50 countries were assessed indicating a diverse geographic range. Another limitation is the unique definition and eligibility criteria used to assess measures of OFP. Although many considerations went into creating eligibility criteria that excluded structured settings and forms of play, the inclusion criteria included all studies that did not explicitly state that structured activities or settings were present. Therefore, it is not possible to know if all structured forms of outdoor play were fully excluded from the final articles. Using a definition of OFP based on expert opinion to determine inclusion criteria, supported our decision to consider this a valid approach to determining eligibility of studies.

Implications

There are important implications based on the findings of this scoping review. First, the range of research topics that utilize a measure of outdoor play, each with differing empirical needs and resources, suggests that a suite of tools should continue to be used for future research. Recommending just one measurement approach is unlikely to meet the needs of all research endeavours. Second, further consideration of the differences between play types (e.g., OFP vs play-based physical activity) can support the choice of measurement approach. Third, an important implication of this review is the knowledge that specific measurement methods, separate from measuring physical activity and structured play, are required to assess children's OFP. Multiple validated measurement approaches are available for many

other indicators of children's health and behavior. Future OFP research must prioritize the creation of validated instruments that accurately capture children's OFP. This requires innovative ways to support participant recall, engage children in data collection and accurately assess OFP across different time periods, locations and seasons.

The findings from this review also revealed a lack of standard terminology regarding OFP and that the parameters of structured and unstructured settings can be challenging to untangle. The recent international consensus definition work by Lee et al. (2022) conceptualizes and defines play to help harmonize the international research community. To understand how adult supervision and direction may influence and shape OFP, there needs to be an understanding regarding the nature of supervision. Current literature conceptualizes supervision based on different considerations, including distance from the child, whether the supervision is carried out visually or audibly, and whether it is continuous or periodic (Morrongiello & Cox, 2020; Saluja et al., 2004). The child's developmental stage must also be considered in defining appropriate supervision. For younger children who require supervision to participate in outdoor play, we must consider ways in which autonomy in play can be maintained. More research is required to understand the nuances between play choice to play autonomy and how play autonomy can be supported along developmental stages, which will inevitably influence measurement approaches.

Conclusion

This review outlines the current state of measurement to understand and assess children's OFP and provides measurement considerations and recommendations for future research. With a recent exponential increase in OFP-related research, it is imperative that studies use accurate, valid, reliable and practical approaches to measuring this variable, as well as consistent approaches that would facilitate comparison across studies, populations and settings. In addition, future measurement tools must prioritize child autonomy in play as an indicator of OFP to effectively capture the true nature of free play. Existing tools could be modified or supplemented to focus on OFP, reduce potential biases, and support the inclusion of children's perspectives and voices.

Declarations

Authors' Declarations

Publisher's Declarations

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Appendix 1. Search Strategy

Embase

1. play/
2. recreational park/
3. forest/
4. city/
5. neighborhood/
6. Built environment/
7. or/2-6
8. 1 and 7
9. ((play or playing or playtime) adj5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard* or garden or gardens or street* or playground* or playscape* or park or parks or neighbo?rhood* or natur* or forest* or city or cities or "built environment*" or (out adj3 (home or school or play)))).tw,kw.
10. or/8-9
11. Measurement/
12. Observational study/
13. Cross-sectional study/
14. Longitudinal study/
15. Questionnaire/
16. (measure* or record* or data or variable* or baseline* or observ* or report* or "self*report*" or "parent*report*" or survey* or questionnaire* or log or cross-sectional or longitudinal or 20hinese20n*).tw,kw.
17. or/11-16
18. child*.tw,kw.
19. adolescen*.tw,kw.
20. teen*.tw,kw.
21. youth*.tw,kw.
22. or/18-21
23. 10 and 17 and 22

Medline

1. "Play and Playthings"/
2. Parks, recreational/
3. Nature/
4. Forests/
5. Built environment/
6. Cities/
7. or/2-6
8. 1 and 7
9. ((play or playing or playtime) adj5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard* or garden or gardens or street* or playground* or playscape* or park or parks or neighbo?rhood* or natur* or forest* or city or cities or "built environment*" or (out adj3 (home or school or play)))).tw,kf.
10. or/8-9
11. "Surveys and questionnaires"/
12. Observation/
13. Cross-sectional studies/
14. Longitudinal studies/
15. (measure* or record* or data or variable* or baseline* or observ* or report* or "self*report*" or "parent*report*" or survey* or questionnaire* or log or "cross?sectional" or longitudinal or 20hinese20n*).tw,kf.
16. or/11-15
17. child*.tw,kf.
18. adoles*.tw,kf.
19. teen*.tw,kf.
20. youth*.tw,kf.
21. or/17-20
22. 10 and 16 and 21

PsychInfo

(DE "Childhood Play Behavior") AND ((DE "Recreation Areas") OR (DE "Playgrounds") OR (DE "Neighborhoods") OR (DE "Built Environment") OR (DE "Nature (Environment)") OR (DE "Urban Environments"))
OR
(TI (play or playing or playtime) N5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard# or garden# or street# or playground# or playscape# or park# or neighbo#rhood or neighbo#rhoods or natur* or forest# or city or cities or "built environment*" or (out N3 (home or school or play)))) OR (AB (play or playing or playtime) N5 (outdoor* or outside or "out-of-school*" or "out-of-

home*" or yard# or garden# or street# or playground# or playscape# or park# or neighbo#rhood or neighbo#rhoods or natur* or forest# or city or cities or "built environment*" or (out N3 (home or school or play)))) OR (KW (play or playing or playtime) N5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard# or garden# or street# or playground# or playscape# or park# or neighbo#rhood or neighbo#rhoods or natur* or forest# or city or cities or "built environment*" or (out N3 (home or school or play))))

AND

(DE Measurement) OR (DE Longitudinal studies) OR (DE surveys) OR (DE questionnaires) OR (TI (measure* or record* or data or variable* or baseline* or observ* or report* or "self#report*" or "parent#report*" or survey* or questionnaire* or log or cross-sectional or longitudinal or 21hinese21n*")) OR (AB (measure* or record* or data or variable* or baseline* or observ* or report* or "self#report*" or "parent#report*" or survey* or questionnaire* or log or cross-sectional or longitudinal or 21hinese21n*")) OR (KW (measure* or record* or data or variable* or baseline* or observ* or report* or "self#report*" or "parent#report*" or survey* or questionnaire* or log or cross-sectional or longitudinal or 21hinese21n*))

AND

(TI (child* or teen* or adolescen* or youth*)) OR (AB (child* or teen* or adolescen* or youth*)) OR (KW (child* or teen* or adolescen* or youth*))

Web of Science

(TI=((play or playing or playtime) NEAR/5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard$ or garden$ or street$ or playground$ or playscape$ or park$ or neighbo$rhood or neighbo$rhoods or natur* or forest$ or city or cities or "built environment*" or (out NEAR/3 (home or school or play))))) OR (AB=((play or playing or playtime) NEAR/5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard$ or garden$ or street$ or playground$ or playscape$ or park$ or neighbo$rhood or neighbo$rhoods or natur* or forest$ or city or cities or "built environment*" or (out NEAR/3 (home or school or play))))) OR (AK=((play or playing or playtime) NEAR/5 (outdoor* or outside or "out-of-school*" or "out-of-home*" or yard$ or garden$ or street$ or playground$ or playscape$ or park$ or neighbo$rhood or neighbo$rhoods or natur* or forest$ or city or cities or "built environment*" or (out NEAR/3 (home or school or play)))))

AND

(TI=(measure* or record* or data or variable* or baseline* or observ* or *report* or survey* or questionnaire* or log or cross-sectional or *longitudinal or 21hinese21n*)) OR (AB=(measure* or record* or data or variable* or baseline* or observ* or report* or survey* or questionnaire* or log or cross-sectional or longitudinal or 21hinese21n*)) OR (AK=(measure* or record* or data or variable* or baseline* or observ* or report* or survey* or questionnaire* or log or cross-sectional or longitudinal or 21hinese21n*))

AND

(TI=(child* or teen* or *adolescen* or youth*)) OR (AB=(child* or teen* or adolescen* or youth*)) OR (AK=(child* or teen* or adolescen* or youth*))

Appendix 2. Final Sample of Included Studies

Author(s) & Year	Title	Country	Age Range (years)	Data Collection Method
Aarts et al. (2010)	Environmental determinants of outdoor play in children: A large-scale cross-sectional study	Netherlands	4-12	Questionnaire
Aarts et al. (2012)	Outdoor play among children in relation to neighborhood characteristics: a cross-sectional neighborhood observation study	Netherlands	4-12	Questionnaire
Adams & Prince (2010)	Correlates of physical activity in young American Indian children: lessons learned from the Wisconsin Nutrition and Growth Study	United States	3-8	Questionnaire
Aggioa et al. (2017)	Correlates of children's independent outdoor play: Cross-sectional analyses from the Millennium Cohort Study	United Kingdom	7	Questionnaire
Aktas Arnas & Saribas (2020)	An investigation of pre-school children's and their parents' outdoor play experiences	Turkey	3-6	Questionnaire
Altun D. (2022)	Family Ecology as a Context for Children's Executive Function Development: the Home Literacy Environment, Play, and Screen Time	Turkey	4-5	Questionnaire
Anderson et al. (2016)	Vitamin D and Fracture Risk in Early Childhood: A Case-Control Study	Canada	0-6	Questionnaire
Andrejewski (2011)	Nature connection, outdoor play, and environmental stewardship in residential environmental education	United States	10-12	Questionnaire
Balcerek et al. (2017)	Health-Related Behaviour Among Children of Childhood Cancer Survivors in Germany	Germany	0-17	Questionnaire
Berglind & Tynelius (2018)	Objectively measured physical activity patterns, sedentary time and parent-reported screen-time across the day in four-year-old Swedish children	Sweden	4	Questionnaire
Bhuyan & Zhang (2020)	A mixed methods research strategy to study children's play and urban physical environments in Dhaka	Bangladesh	7-15	Questionnaire
Bornhorst et al. (2015)	WHO European Childhood Obesity Surveillance Initiative: associations between sleep duration, screen time and food consumption frequencies	Multiple: Bulgaria, Czech Republic, Lithuania, Portugal, Sweden	6-9	Questionnaire
Bringolf-Isler et al. (2010)	Built environment, parents' perception, and children's vigorous outdoor play	Switzerland	6-14	Questionnaire
Buchanan et al. (2021)	A Longitudinal Analysis Examining the Associations of Tummy Time With Active Playtime, Screen Time, and Sleep Time	Australia	0-2	Questionnaire
Burdette & Whitaker (2020)	A national study of neighborhood safety, outdoor play, television viewing, and obesity in preschool children	United States	0-3	Questionnaire
Burdette et al. (2004)	Parental Report of Outdoor Playtime as a Measure of Physical Activity in Preschool-aged Children	United States	3-5	Questionnaire
Caroli et al. (2011)	Physical activity and play in kindergarten age children	Multiple: Denmark, Italy & Poland	5	Questionnaire

Carsley et al. (2016)	The impact of daycare attendance on outdoor free play in young children	Canada	1-5	Questionnaire
Chesnut et al. (2018)	The Grow parenting program: Demonstrating proof of concept	United States	5-10	Questionnaire
Chia et al. (2022)	Family-focused contextual factors associated with lifestyle patterns in young children from two mother-offspring cohorts: GUSTO and EDEN	Multiple: Singapore & France	5-6	Questionnaire
Chomitz et al. (2018)	Healthy Living Behaviors Among Chinese-American Preschool-Aged Children: Results of a Parent Survey	United States	3-6	Questionnaire
Chung et al. (2021)	The association of BMI and physical activity on acetabular dysplasia in children	Netherlands	9	Questionnaire
Cleland et al. (2008)	A prospective examination of children'™s time spent outdoors, objectively measured physical activity and overweight	Australia	5-12	Questionnaire
Contreras et al. (2020)	Rural-urban differences in body mass index and obesity-related behaviors among low-income preschoolers	United States	3-4	Questionnaire
Cortinez-O'Ryan et al. (2017)	Reclaiming streets for outdoor play: A process and impact evaluation of "Juega en tu Barrio" (Play in your Neighborhood), an intervention to increase physical activity and opportunities for play	United States	4-12	Questionnaire
Dealey & Stone (2018)	Exploring out-of-school play and educational readiness	United States	5	Questionnaire
Deforche et al. (2009)	Objectively measured physical activity, physical activity related personality and body mass index in 6- to 10-yr-old children: A cross-sectional study	Belgium	6-10	Questionnaire
Delisle Nyström et al. (2019)	Relationships between area-level socioeconomic status and urbanization with active transportation, independent mobility, outdoor time, and physical activity among Canadian children.	Canada	8-13	Questionnaire
de Macêdo et al. (2022)	Urban Mobility and Subjective Well-Being among Brazilian Children	Brazil	9-14	Questionnaire
Dodd et al. (2021a)	Children's play and independent mobility in 2020: Results from the British children's play survey	Britain	5-11	Questionnaire
Dodd et al. (2021b)	Development and evaluation of a new measure of children's play: the Children's Play Scale (CPS)	United Kingdom	5-11	Questionnaire
Dodd et al. (2022)	Child's Play: Examining the Association Between Time Spent Playing and Child Mental Health	England	5-11	Questionnaire
D'Souza et al. (2021)	A comparison of children's diet and movement behaviour patterns derived from three unsupervised multivariate methods	Australia	3-8	Questionnaire
Egan et al. (2021)	The home play environment: The Play and Learning in the Early Years (PLEY) Study	Ireland	0-5	Questionnaire
Essery et al. (2008)	Mothers of Preschoolers Report Using Less Pressure in Child Feeding Situations Following a Newsletter Intervention	United States	2-5	Questionnaires
Eurenius et al. (2021)	Social-Emotional Problems Among 3-Year-Olds Are Associated With an Unhealthy Lifestyle: A Population-Based Study	Sweden	3	Questionnaire
Ferrao & Janssen (2015)	Parental encouragement is positively associated with outdoor active play outside of school hours among 7-12 year olds	United States	7-12	Questionnaire

Ferrao. (2015)	How parents influence outdoor active play among 7-12 year old children	United States	7-12	Questionnaire
Ford et al. (2002)	Primary care interventions to reduce television viewing in African-American children	Georgia	7-12	Questionnaire
Gerards et al. (2015)	The effectiveness of lifestyle triple P in the Netherlands: A randomized controlled trial	Netherlands	4-8	Questionnaire
Goodman et al. (2011)	Activity compensation and activity synergy in British 8-13 year olds	England	8-13	Diary
Goodman et al. (2012)	Day length and weather effects on children's physical activity and participation in play, sports, and active travel	England	8-11	Diary
Grammatikopoulou et al. (2018)	Edmonton obesity staging system among pediatric patients: a validation and obesogenic risk factor analysis	Greece	2-14	Questionnaire
Grigsby-Toussaint et al. (2011)	Where they live, how they play: neighborhood greenness and outdoor physical activity among preschoolers	United States	2-5	Questionnaire
Gross et al. (2013)	Maternal depressive symptoms and child obesity in low-income urban families	United States	5	Questionnaire
Hallit et al. (2021a)	Prevalence of asthma, its correlates, and validation of the Pre-School Asthma Risk Factors Scale (PS-ARFS) among preschool children in Lebanon	Lebanon	3-5	Questionnaire
Hallit et al. (2021b)	The Preschool Asthma Risk Factors Scale: A Predictive Tool For Asthma And Respiratory Symptoms Among Preschool Children In Lebanon	Lebanon	3-5	Questionnaire
Hammond et al. (2011)	Growing Minds: The Relationship Between Parental Attitudes Toward Their Child's Outdoor Recreation and Their Child's Health	United States	6-13	Questionnaire
Handal et al. (2007)	Neurobehavioral development in children with potential exposure to pesticides	Ecuador	2-5	Questionnaire
Hawlader et al. (2019)	Determinants of vitamin D deficiency among Bangladeshi children: A hospital based case-control study	Bangladesh	1-13	Interview
Heinen et al. (2016)	The Childhood Obesity Surveillance Initiative (COSI) in the Republic of Ireland: Descriptives of childhood obesity risk factors	Ireland	5-12	Questionnaire
Hinkley et al. (2018)	Cross sectional associations of screen time and outdoor play with social skills in preschool children	Australia	2-5	Questionnaire
Hofferth & Sandberg (2001)	Changes in American Children's Time, 1981-1997	United States	3-17	Diary
Holmes et al. (2022)	Making connections between learning centres and children's play lives during the covid-19 pandemic	United States	1-5	Diary
Hunter et al. (2020)	Moderators of parents' perceptions of the neighborhood environment and children's physical activity, time outside, and screen time	Australia	3-17	Questionnaire
Hurwitz et al. (2020)	Only So Many Hours in a Day: Early Childhood Screen Time in Boston and Mexico City	Multiple: United States & Mexico	2-8	Diary
Husmann et al. (2017)	Low 25(OH)-vitamin D concentrations are associated with emotional and behavioral problems in German children and adolescents	Germany	3-17	Questionnaire
Imhof et al. (2015)	The association of socio-economic factors with physical fitness and activity behaviours, spinal posture and retinal vessel parameters in first graders in	Switzerland	7-8	Questionnaire

	urban Switzerland			
Ishihama et al. (2020)	What Japanese Children Actually Do and What They Wish To Do in Their Free Time	Japan	8-12	Questionnaire
Itoi et al. (2015)	Decline in objective physical activity over a 10-year period in a Japanese elementary school	Japan	11-12	Diary
Jansen et al. (2010)	Weight status, energy-balance behaviours and intentions in 9-12-year-old inner-city children.	Netherlands	9-12	Questionnaire
Janssen I. (2015)	Hyper-parenting is negatively associated with physical activity among 7-12 year olds	Multiple: Canada & United States	7-12	Questionnaire
Janssen I. (2016)	Estimating Whether Replacing Time in Active Outdoor Play and Sedentary Video Games With Active Video Games Influences Youth's Mental Health	Canada	11-15	Questionnaire
Katz & Lambert (2011)	A new look at myopia development: Possible links with childhood stress and diet	United States	6-13	Questionnaire
Kim et al. (2018)	How does low socioeconomic status increase blood lead levels in Korean children?	South Korea	7-12	Questionnaire
Kobel et al. (2015)	Correlates of habitual physical activity and organized sports in German primary school children	Germany	6-9	Questionnaire
Kocken et al. (2012)	Ethnic differences and parental beliefs are important for overweight prevention and management in children: a cross-sectional study in the Netherlands	Netherlands	6-12	Questionnaire
Koning et al. (2018)	Agreement between parent and child report of physical activity, sedentary and dietary behaviours in 9-12-year-old children and associations with children's weight status	Netherlands	9-12	Questionnaire
Kovacs et al. (2021)	Physical activity, screen time and the COVID-19 school closures in Europe - an observational study in 10 countries	Multiple: the Russian Federation, Spain, Italy, Germany, France,Belgium (Flemish Region), Portu-gal, Romania, Hungary, Poland and Slovenia	6-18	Questionnaire
Krause et al. (2015)	Ascaris and hookworm transmission in preschool children from rural Panama: Role of yard environment, soil eggs/larvae and hygiene and play behaviours	Panama	0-5	Questionnaire
Larson et al. (2011)	Children's Time Outdoors: Results and Implications of the National Kids Survey	United States	6-19	Questionnaire
Lehrer et al. (2014)	Grade 1 students out-of-school play and its relationship to school-based academic, behavior, and creativity outcomes	Canada	6-7	Diary
Liu (2014)	Behavioral, policy, and environmental approaches to obesity prevention in preschool-aged children	United States	3-4	Questionnaire

Loebach et al. (2021)	Paving the way for outdoor play: Examining socio-environmental barriers to community-based outdoor play	Canada	10-13	Questionnaire
Loucaides (2009)	School location and gender differences in personal, social, and environmental correlates of physical activity in Cypriot middle school children	Cyprus	12-15	Questionnaire
Loucaides et al. (2004)	Correlates of Physical Activity in a Cypriot Sample of Sixth-Grade Children	Cyprus	11-12	Questionnaire
Loucaides & Jago (2006)	Correlates of Pedometer-Assessed Physical Activity in Cypriot Elementary School Children.	Cyprus	10-12	Questionnaire
Loucaides & Tsangaridou (2017)	Associations between Parental and Friend Social Support and Children's Physical Activity and Time Spent outside Playing.	Cyprus	11-12	Diary
Lu et al. (2019)	Environmental correlates of sedentary time and physical activity in preschool children living in a relatively rural setting in the netherlands: A cross-sectional analysis of the gecko drenthe cohort	Netherlands	3	Questionnaire
Lumeng et al. (2017)	Improving self-regulation for obesity prevention in head start: A randomized controlled trial	United States	0-5	Questionnaire
MacArthur (2012)	Active Videogaming Compared to Unstructured, Outdoor Play in Young Children: Percent Time in Moderate- to Vigorous-Intensity Physical Activity and Estimated Energy Expenditure.	United States	5-8	Questionnaire
Maher et al. (2022)	A cross-sectional study on the use of near-visual display devices in the Middle-Eastern children population	United Arab Emirates	4-16	Questionnaire
Marino et al. (2012)	Amount and environmental predictors of outdoor playtime at home and school: A cross-sectional analysis of a national sample of preschool-aged children attending Head Start	United States	3-4	Questionnaire
Marques et al. (2013)	Modifiable lifestyle behavior patterns, sedentary time and physical activity contexts: A cluster analysis among middle school boys and girls in the SALTA study	Portugal	11-12	Questionnaire
Marques et al. (2014)	Correlates of urban children's leisure-time physical activity and sedentary behaviors during school days	Portugal	10-12	Questionnaire
McDonald et al. (2009)	Overweight is more prevalent than stunting and is associated with socioeconomic status, maternal obesity, and a snacking dietary pattern in school children from Bogota, Colombia	Colombia	5-12	Questionnaire
McFarland et al. (2014)	The relationship between parental attitudes toward nature and the amount of time children spend in outdoor recreation	United States	3-5	Questionnaire
Molu et al. (2021)	Sleep problems, sleep environment and daily routines in Turkish preschoolers	Turkey	3-6	Questionnaire
Murgueytio et al. (1998)	Behaviors and blood lead levels of children in a lead-mining area and a comparison community	United States	0-7	Questionnaire
Myers et al. (2015)	Early childhood nutrition, active outdoor play and sources of information for families living in highly socially disadvantaged locations	Australia	0-4	Questionnaire
Mygind et al. (2020)	Is vegetation cover in key behaviour settings important for early childhood socioemotional function? A preregistered, cross-sectional study	Australia	2-5	Questionnaire

Nathan et al. (2021)	Impact of covid-19 restrictions on western Australian children's physical activity and screen time	Australia	5-9	Questionnaire
Nigg et al. (2021)	Relating outdoor play to sedentary behavior and physical activity in youth - results from a cohort study	Germany	6-17	Questionnaire
Nigg et al. (2022)	Urban-rural differences in children's and adolescent's physical activity and screen-time trends across 15 years	Germany	4-17	Questionnaire
Nordbakke (2019)	Children's out-of-home leisure activities: changes during the last decade in Norway	Norway	6-12	Questionnaire
Nriagu et al. (1997)	Lead poisoning of children in Africa III. Kaduna, Nigeria	Nigeria	1-6	Questionnaire
Nriagu et al. (2007)	Lead poisoning associated with malaria in children of urban areas of Nigeria	Nigeria	2-9	Questionnaire
Oakley et al. (2021)	Backyard benefits? A cross-sectional study of yard size and greenness and children's physical activity and outdoor play	Australia	6	Questionnaire
O'Conner et al. (2016)	Let's Get Real: are Today's Children Playing with Nature? do the Educational Aspirations of the Nature Play Movement Emerge within Children's Neighbourhood Play?	Ireland	0-14	Questionnaire
Oladosu et al. (2021)	Predictive value of serum Vitamin D3 level for forearm fractures among children in a tropical country: A case control study	Nigeria	0-15	Questionnaire
Page et al. (2010)	Independent mobility, perceptions of the built environment and children's participation in play, active travel and structured exercise and sport: The PEACH Project	United Kingdom	10-11	Questionnaire
Parent et al. (2021)	Social determinants of playing outdoors in the neighbourhood: family characteristics, trust in neighbours and daily outdoor play in early childhood	Canada	5	Questionnaire
Park et al. (2016)	Risk Factors for Functional Constipation in Young Children Attending Daycare Centers	South Korea	3-7	Questionnaire
Parker et al. (2016)	Physical Activity and Anthropometric Characteristics Among Urban Youth in Mexico: A Cross-Sectional Study	Mexico	8-11	Questionnaire
Pelc et al. (2016)	Environmental and socioeconomic factors contributing to elevated blood lead levels in children from an industrial area of Upper Silesia	Poland	3-18	Questionnaire
Pernica et al. (2012)	Risk factors predisposing to pedestrian road traffic injury in children living in Lima, Peru: A case-control study	Peru	2-17	Questionnaire
Pesce et al. (2016)	Deliberate Play and Preparation Jointly Benefit Motor and Cognitive Development: Mediated and Moderated Effects.	Italy	5-10	Questionnaire
Piccininni et al. (2018)	Outdoor play and nature connectedness as potential correlates of internalized mental health symptoms among Canadian adolescents	Canada	11-15	Questionnaire
Pineros-Leano (2018)	Association between early maternal depression and child growth: A group-based trajectory modeling analysis	United States	0-9	Questionnaire
Posner et al. (2002)	Exposure to traffic among urban children injured as pedestrians	unknown	4-15	Questionnaire
Poulain et al. (2020)	Loss of childcare and classroom teaching during the Covid-19-related lockdown in spring 2020: A longitudinal study on consequences on leisure	Germany	1-10	Questionnaire

	behavior and schoolwork at home			
Prioreschi & Norris (2020)	Describing correlates of early childhood screen time and outdoor time in Soweto, South Africa	South Africa	0-17	Questionnaire
Pullenayegum et al. (2021)	Clustered longitudinal data subject to irregular observation	Canada	0-5	Questionnaire
Qiu & Zhu (2021)	Housing and community environments vs. Independent mobility: Roles in promoting children's independent travel and unsupervised outdoor play	United States	7-11	Questionnaire
Rajabi et al. (2021)	Children's indoor and outdoor play as potential correlates of mental health during the COVID-19 pandemic in Iran: A brief report on national survey	Iran	5-11	Questionnaire
Reimers et al. (2019a)	Are there disparities in different domains of physical activity between school-aged migrant and non-migrant children and adolescents? Insights from Germany	Germany	6-17	Questionnaire
Reimers et al. (2019b)	Parental and peer support and modelling in relation to domain-specific physical activity participation in boys and girls from Germany	Germany	6-17	Questionnaire
Reimers et al. (2019c)	Social support and modelling in relation to physical activity participation and outdoor play in preschool children.	Germany	4-6	Questionnaire
Remmers et al. (2014a)	A longitudinal study of children's outside play using family environment and perceived physical environment as predictors	Netherlands	7	Questionnaire
Remmers et al. (2014b)	Correlates of parental misperception of their child's weight status: The 'be active, eat right' study	Netherlands	5	Questionnaire
Remmers et al. (2014c)	Moderators of the longitudinal relationship between the perceived physical environment and outside play in children: The KOALA birth cohort study	Netherlands	5-7	Questionnaire
Rodriguez-Ayllon et al. (2020)	Associations of physical activity and screen time with white matter microstructure in children from the general population.	Netherlands	10	Questionnaire
Ross et al. (2020)	The indirect influence of child play on the association between parent perceptions of the neighborhood environment and sense of community	United States	6-17	Questionnaire
Ruedl et al. (2022)	Association of modifiable factors with the development of physical fitness of Austrian primary school children: A 4-year longitudinal study	Austria	7-10	Questionnaire
Ryan et al. (2012)	Bone mineral density and vitamin D status among African American children with forearm fractures	United States	5-9	Questionnaire
Sääkslahtet al. (1999)	Is physical activity related to body size, fundamental motor skills, and CHD risk factors in early childhood?	Finland	3-4	Diary
Sääkslahti et al. (2004)	Physical activity as a preventive measure for coronary heart disease risk factors in early childhood	Finland	4-5	Diary
Saldanha-Gomes et al. (2017)	Prospective associations between energy balance-related behaviors at 2 years of age and subsequent adiposity: The EDEN mother-child cohort	France	5	Questionnaire
Saldanha-Gomes et al. (2020)	Clusters of diet, physical activity, television exposure and sleep habits and their association with adiposity in preschool children: The EDEN mother-child cohort	France	2-5	Questionnaire
Saldanha-Gomes et al.	Prospective associations between dietary patterns, screen and outdoor play	France	2	Questionnaire

(2022)	times at 2 years and age at adiposity rebound: The EDEN mother-child cohort			
Sarker et al. (2015)	Validation of parent-reported physical activity and sedentary time by accelerometry in young children	Canada	0-5	Questionnaire
Schmidt et al. (2017)	Physical activity of German children and adolescents 2003-2012: The MoMo-study	Germany	4-17	Questionnaire
Schmidt et al. (2019)	Development of atopic sensitization in Finnish and Estonian children: A latent class analysis in a multicenter cohort	Multiple: Estonia & Finland	3	Questionnaire
Schmidt et al. (2020)	The physical activity of children and adolescents in Germany 2003-2017: The MoMo-study	Germany	4-17	Questionnaire
Schmidt et al. (2022)	Influence of socioeconomic variables on physical activity and screen time of children and adolescents during the COVID-19 lockdown in Germany: the MoMo study	Germany	4-17	Questionnaire
Schoeppe et al. (2014)	Associations between children's independent mobility and physical activity	Australia	8-13	Questionnaire
Schwarzfischer et al. (2020)	Effects of screen time and playing outside on anthropometric measures in preschool aged children	Multiple: Italy, Germany, Poland, Spain & Belgium	3-6	Questionnaire
Seham & Schey (1934)	The influence of the environment upon health and function	Unknown	8-15	Questionnaire
Sharp et al. (2014)	Temperament is associated with free play in young children	Canada	1-5	Questionnaire
Sharp et al. (2017)	Temperament is associated with outdoor free play in young children: A TARGet Kids! Study.	Canada	1-5	Questionnaire
Shinomiya et al. (2021)	Sleep and the general behavior of infants and parents during the closure of schools as a result of the COVID-19 Pandemic: Comparison with 2019 data	Japan	2	Questionnaire
Sijtsma et al. (2015)	Television, sleep, outdoor play and BMI in young children: the GECKO Drenthe cohort.	Netherlands	3-4	Questionnaire
Silva & Santos (2017)	Playing outdoor and practising sport: A study of physical activity levels in Portuguese children	Portugal	11-12	Questionnaire
Sioen et al. (2011)	Determinants of vitamin D status in young children: results from the Belgian arm of the IDEFICS (Identification and Prevention of Dietary- and Lifestyle-Induced Health Effects in Children and Infants) Study	Belgium	4-11	Questionnaire
Slutsky & DeShetler (2017)	How technology is transforming the ways in which children play	United States	3-5yr	Diary
Sterman et al. (2019)	Mothers supporting play as a choice for children with disabilities within a culturally and linguistically diverse community	Australia	5-12	Diary
Stone & Faulkner (2014)	Outdoor play in children: Associations with objectively-measured physical activity, sedentary behavior and weight status	Canada	10-12	Questionnaire
Stracciolini et al. (2021)	Attitudes and behaviors of physical activity in children: Findings from the Play, Lifestyle & Activity in Youth (PLAY) Questionnaire	United States	6-11	Questionnaire
Sum et al. (2022)	COVID-19-Related Life Experiences, Outdoor Play, and Long-term Adiposity Changes among Preschool-and School-Aged Children in Singapore 1 Year	Singapore	1-10	Questionnaire

	after Lockdown			
Surdu et al. (2006)	Blood lead levels and hand lead contamination in children ages 4-6 in Copsa Mica, Romania	Romania	4-6	Questionnaire
Syahrul et al. (2016)	Prevalence of underweight and overweight among school-aged children and it's association with children's sociodemographic and lifestyle in Indonesia	Indonesia	6-13	Questionnaire
Tabatabaei et al. (2022	Biomonitoring of BTEX in primary school children exposed to hookah smoke	Iran	7-13	Questionnaire
Takahashi et al. (1999)	Influence factors on the development of obesity in 3-year-old children based on the Toyama study	Japan	3	Questionnaire
Tang & Woolley (2021)	No time for play: Children's daily activities during summer holidays in the Beijing central area	China	6-12	Diary
Thakor et al. (2004)	Effect of Physical and Mental Activity on Blood Pressure	India	10-15	Questionnaire
Thompson et al. (2005)	Factors Influencing the Physically Active Leisure of Children and Youth: A Qualitative Study	Canada	8-10	Questionnaire
Tolbert et al. (2011)	Young children in urban areas: Links among neighborhood characteristics, weight status, outdoor play, and television watching	United States	5	Questionnaire
van Grieken et al. (2014)	Promotion of a healthy lifestyle among 5-year-old overweight children: health behavior outcomes of the 'Be active, eat right' study	Netherlands	5	Questionnaire
van Grieken et al. (2017)	Personalized Web-Based Advice in Combination With Well-Child Visits to Prevent Overweight in Young Children: Cluster Randomized Controlled Trial	Netherlands	3	Questionnaire
van Rossema et al. (2012)	An observational study on socio-economic and ethnic differences in indicators of sedentary behavior and physical activity in preschool children	Netherlands	3	Questionnaire
van Stralen et al. (2012)	Mediators of the effect of the JUMP-in intervention on physical activity and sedentary behavior in Dutch primary schoolchildren from disadvantaged neighborhoods	Netherlands	8-12	Questionnaire
Veitch et al. (2009)	The validity and reliability of an instrument to assess children's outdoor play in various locations	Australia	8-12	Questionnaire; Diary
Veldhuis et al. (2012)	Behavioral risk factors for overweight in early childhood; the 'Be active, eat right' study	Netherlands	5	Questionnaire
Vera-Becerra et al. (2015)	Child Feeding Practices and Overweight Status Among Mexican Immigrant Families	Multiple: United States & Mexico	1-6	Questionnaire
Verbestel et al. (2014)	Are context-specific measures of parental-reported physical activity and sedentary behaviour associated with accelerometer data in 2-9-year-old European children?	Multiple: Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain and Sweden	2-9	Questionnaire
Verburgh et al. (2016)	Do elite and amateur soccer players outperform non-athletes on neurocognitive functioning? A study among 8-12 year old children	Netherlands	8-12	Questionnaire
Wada et al. (2012)	Associations of birth weight and physical activity with sex steroids in preschool Japanese children.	Japan	3-6	Questionnaire

Wang et al. (2020)	The associations between outdoor playtime, screen-viewing time, and environmental factors in chinese young children: The "eat, be active and sleep well" study	China	3-6	Questionnaire
Wang et al. (2021)	Associations among Outdoor Playtime, Screen Time, and Environmental Factors in Japanese Preschoolers: The 'Eat, Be Active, and Sleep Well' Study	Japan	3-5	Questionnaire
Watanabe et al. (2006)	Association of parental and children behaviors with the health status of preschool children	Japan	3-5	Questionnaire
Watanabe et al. (2016)	Clustering patterns of obesity-related multiple lifestyle behaviours and their associations with overweight and family environments: A cross-sectional study in Japanese preschool children	Japan	3-6	Questionnaire
Watowicz et al. (2012)	Lifestyle behaviors of obese children following parental weight loss surgery	United States	9-16	Questionnaire
Wen et al. (2009)	Time spent playing outdoors after school and its relationship with independent mobility: A cross-sectional survey of children aged 10-12 years in Sydney, Australia	Australia	10-12	Diary
Wijga et al (2010)	Diet, Screen Time, Physical Activity, and Childhood Overweight in the General Population and in High Risk Subgroups: Prospective Analyses in the PIAMA Birth Cohort.	Netherlands	5-7	Questionnaire
Wijnhoven et al. (2015)	WHO European Childhood Obesity Surveillance Initiative: health-risk behaviours on nutrition and physical activity in 6-9-year-old schoolchildren	Multiple: Bulgaria, Czech Republic, Lithuania, Portugal & Sweden	6-9	Questionnaire
Wijtzes et al. (2014a)	Sedentary behaviors, physical activity behaviors, and body fat in 6-year-old children: The Generation R Study	Netherlands	6	Questionnaire
Wijtzes et al. (2014b)	Social inequalities in young children's sports participation and outdoor play	Netherlands	6	Questionnaire
Worobey et al. (2013)	Child outdoor physical activity is reduced by prevalence of the Asian Tiger Mosquito, Aedes albopictus	United States	8-12	Diary
Wosje et al. (2010)	Dietary patterns associated with fat and bone mass in young children	United States	3-7	Questionnaire
Xu et al. (2014a)	Associations of maternal influences with outdoor play and screen time of two-year-olds: Findings from the Healthy Beginnings Trial	Australia	2	Questionnaire
Xu et al. (2016b)	Associations of outdoor play and screen time with nocturnal sleep duration and pattern among young children	Australia	2-5	Questionnaire
Xu et al. (2016)	A 5-year longitudinal analysis of modifiable predictors for outdoor play and screen-time of 2- to 5-year-olds	Australia	2-5	Questionnaire
Xu et al. (2017)	Mothers' perceived neighbourhood environment and outdoor play of 2- to 3.5-year-old children: Findings from the healthy beginnings trial	Australia	2-3.5	Questionnaire
Yoon & Lee (2019)	Neighborhood outdoor play of White and Non-White Hispanic children: Cultural differences and environmental disparities	United States	5-11	Questionnaire

Appendix 3. A Typology of Measurement Approaches for Outdoor Free Play

Focus of measure (occurrence / frequency / duration)[1]	Question Framing (actual / typical / average)[2]	Reference time period[3]	Question features/examples	Response formats	No. of data entry points	Age (yrs)	Articles (common instruments in bold)[4]
Respondent: Child/youth							
Logbook							
Duration of OFP	Actual OFP	A day during school summer holiday	What activities did you do? Who accompanied you?	Open text for each hour.	One day.	6-12	Tang & Woolley (2021).
Frequency and duration of OFP	Actual OFP	A day	What activities did you do and how long did you engage in them for?	Marked in a minute-by-minute chart. Pre-set options.	Daily for five days.	8-12	Itoi et al. (2015), Worobey et al. (2013).
			Where were you and what did you do there?	Open text.	Daily for 4 days.	8-13	Goodman et al. (2011)[5], Goodman et al. (2012)[5].
			How long did you spend playing outdoors after school yesterday?	Ordinal scale ('none' to 4+ hours).	Daily for 5-6 days.	10-12	Loucaides & Tsangaridou (2017), Wen et al. (2009).
Questionnaire							
Occurrence of OFP	Actual OFP	Previous week	'I spent time outside'	Ordinal scale ('strongly disagree' to 'strongly agree')	One.	10-12	Andrejewski (2011).
	Typical OFP	n/a	'Things I do after school: • play outside with my friends • play outside on my own • play unorganized sports.'	Yes/No	One.	8-10	Thompson et al. (2005).
Frequency of OFP	Typical OFP	n/a	How often do you normally play out?	Ordinal scale ('never' or 'almost never' to 'daily' or 'nearly every day').	One	10-12	**Motorik-Modul Physical Activity Questionnaire (MoMo-PAQ):** Schmidt et al. (2020)[6]. Marques et al. (2013), Marques et al. (2014), Page et al. (2010), Silva & Santos (2017).

		When aged 6-13yrs	How often they played outdoors.	Ordinal scale ('not sure' to 'often').	One	n/a	Katz & Lambert (2011)[7].
		A week	How often do you play outside? How often do you play outdoors in your neighbourhood, and is this usually with or without an adult present?	Interval scale (number of days). Ordinal scale ('never' to '5+ times a week' or 'daily').	One. Two (summer and winter).	8-17	**MoMo-PAQ:** Reimers et al. (2019b)[6]. de Macêdo et al. (2022), Prezza et al. (2010), Schoeppe et al. (2014), van Stralen et al. (2012),
Duration of OFP	Actual OFP	Previous day	How long did you play outdoors after school?	Ordinal scale (<30mins to 3+hrs).	One.	8-12	Ishihama et al. (2020), Jansen et al. (2010).
	Typical OFP	A day	In your free time, how many hours do you spend playing outdoors outside of school hours?	Ordinal scale ('none' to 7+hrs).	One. Two (a weekday and a weekend day).	8-15	Janssen I. (2016), Loucaides (2009), Piccininni et al. (2018), Seham & Schey (1934), Thakor et al. (2004).
		A day	What activities do you do and how long for?	Set list of activities with 'other' option. Times 'from/to'.	Two (school day and school holiday day).	7-15	Bhuyan & Zhang (2020)[8].
		Previous week	How much time did you spend outdoors on a weekday?	Ordinal scale ('none' to 4+hrs)	One.	16-19	Larson et al. (2011)[6].
	Average OFP	n/a	How many hours per day do you play outside?	Ordinal scale ('none' to 5+hrs)	One	6-11	Stracciolini et al. (2021).

Frequency and duration of OFP	Typical OFP	A week	How often do you play outdoors without adult supervision? How long do you spend playing out on those days?	Interval scale (0-7 days a week). Ordinal scale (<30min to 3+ hours). Free text (minutes).	One	8-17	**MoMo-PAQ:** Nigg et al. (2021)[6]; Nigg et al. (2022)[6]; Reimers et al. (2019a)[6]; Schmidt et al. (2017)[6], Schmidt et al. (2022)[6]. Loebach et al. (2021), Verburgh et al. (2016)
		A school week (Mon-Fri)	On how many days do you play outside after school? How much time do you spend playing outside?	Interval scale (0-5 days). Ordinal scale (none to 2+ hours)	One	9-12	Koning et al. (2018)[6].
Respondent: Parent/guardian and children together							
Logbook							
Duration of OFP	Actual OFP	A day	What was the child doing?	Open text and start/end times	Two (a weekday and a weekend day)	3-17	Hofferth & Sandberg (2001)
Interview							
Duration of OFP	Typical OFP	n/a	Does the child play outside and how long for?	Yes/No. Hours/minutes.	One	1-13	Hawlader et al. (2019)
Questionnaire[9]							
Frequency of OFP	Actual OFP	n/a	Does the child play outside every day?	Yes/No	One.	7-13	Tabatabaei et al. (2022)
	Typical OFP	n/a	How often do you play outside?	Ordinal scale (almost never to nearly every day)	One	4-11	**MoMo-PAQ:** Husmann et al. (2017), Schmidt et al. (2020)[6].
		A week	How often do you play outdoors after school without the presence of adults?	Interval scale (0-7 days). Ordinal scale (never to almost daily or daily)	One	3-12	**MoMo-PAQ:** Reimers et al. (2019b)[6]. Nordbakke (2019).
Duration of OFP	Typical OFP	n/a	How much time do you spend playing outside?	Minutes/hours	One. Two (a weekday and a weekend	4-15	Ford et al (2002), Posner et al. (2002)

							day)
		A day in the previous month	How long does the child spend playing outdoors?	Hours/mins per day	Two (a weekday and a weekend day)	5-9	**Outdoor Time Recall instrument**: Ryan et al. (2012).
Frequency and duration of OFP	Typical OFP	n/a	How often do you play outside and how long for?	Undetermined	One	9-16	Watowicz et al. (2012)
		A week	How often do you play outside? How long on average during one of those days?	Interval scale (0-7 days). Free text (Minutes).	One	4-10	**MoMo-PAQ:** Reimers et al. (2019a)[6]; Reimers et al. (2019c); Nigg et al. (2021)[6]; Nigg et al. (2022)[6]; Schmidt et al. (2017)[6], Schmidt et al. (2022)[6].
Respondent: Parent/guardian							
Logbook							
Frequency of OFP	Actual OFP	A day	Did play occur for at least 10 minutes after school in specified outdoor locations.	Yes/no	Daily for 7 days.	8-12	Veitch et al., (2009)[5].
Duration of OFP	Actual OFP	A weekend	Select the activity the child was engaged was for every 5-minute interval.	Set options.	Daily for 4 days.	3-5	Sääkslahti et al. (1999), Sääkslahti et al. (2004).
		A day	Select the activity the child was engaged was for every 15-minute interval.	Set options.	Four (2 random weekdays and 2 random weekend days for 2 weeks)	2-8	Hurwitz et al. (2020).
		A typical day	The child's activities between the hours of 7:00 am and 9:00 pm in 15-minute increments	Open ended	Two (a weekday and a weekend day)	3-5	Slutsky & DeShetler (2017).
		A typical school day	The amount of time the child was engaged in different types of play, the location, and who the child was with.	Ordinal scale ('none' to 2+ hours)		6-7	Lehrer et al. (2014).
Frequency and duration of OFP	Actual OFP	A day	List and describe outdoor pay activities that took place and the context.	Open ended	Daily for 1-2 weeks	1-12	Holmes et al. (2022), Sterman et al. (2019).

Questionnaire [10]							
Occurrence of OFP	Actual OFP	n/a	Does your child ever play outside in public spaces without close supervision?	Yes/No/Unsure	One	6-13	Aggioa et al. (2017), Shinomiya et al. (2021)
Frequency of OFP	Actual OFP	n/a	Does your child play outdoors daily?	Yes/No	One	4-16	Maher et al. (2022)
		Previous week	How often did your child play outside? On which days did your child play outdoors for 30+ mins?	Ordinal scale ('daily' or 'at least once a day' to 'never'). Nominal items (days of the week).	One	1-15	Bhuyan & Zhang (2020)[8], Parker et al. (2016), Poulain et al. (2020)
	Typical OFP	n/a	How often does your child play outside?	Interval scale (number of days). Ordinal scale ('>3 times per week' to '1 time p/w'; 'more than once a day' to 'rarely/never,'; 'daily' to 'seldom').	One	1-17	Chomitz et al (2017), Ross et al. (2020), Schmidt et al. (2019), Sum et al. (2022), Wijga et al. (2010)
		A week	How often does the child play outside? The number of days the child spent playing in various specified locations for at least 10 minutes after school.	Interval scale (number of days). Ordinal scale ('never', 'rarely' or 'child plays mainly inside' to '5+ days per week' or 'every Saturday and Sunday').	One Two (Mon-Fri and Sat-Sun)	0-17	Balcerek et al (2017), Grammatikopoulou et al. (2018), Pesce et al. (2016), Ruedl et al. (2022), Veitch et al. (2009)[5]
		Previous month	How often did your child play outdoors in various specified locations?	Ordinal scale ('never' to 'daily').	One	7-12	Ferrao (2015), Ferrao & Janssen (2015), Janssen (2015)
	Average OFP	Previous six months	How often did your child play outside in the neighbourhood?	Ordinal scale ('never' to 'every day each week')	One	5	Parent et al. (2021)
Duration of OFP	Actual time in OFP	Most recent typical weekday	Did the child spend any time playing outside and, if so, the amount of time?	Yes/no and ordinal scale (<2 to 1+ hour).	One	3-4yr	**Head Start Family and Child Experiences Survey (FACES):** Liu (2014), Marino et al. (2012)
	Typical OFP	n/a	Aside from time in daycare/school, how much time does your child spend outside in	Minutes per day.	One. One (a	0-17	**Canadian Community Health Survey / TARGet Kids!**

| | | | unstructured free play?

How much time does your child spend playing outdoors?

How much time does your child spend playing outdoors between waking up to noon, noon to 6pm and 6pm to bedtime. | Ordinal scale ('never' to 6+ hrs per day).

Ordinal scale ('none' to 60+ mins per day) | weekday). Two (a weekday and a weekend day). Two (summer and winter). Three (school days, Sat-Sun, Wednesday [a non-school day]). | | **Questionnaire:** Anderson et al. (2016), Carsley et al (2005), Pullenayegum et al. (2021), Sarker et al. (2015), Sharp et al. (2014), Sharp et al. (2017)

Childhood Obesity Surveillance Initiative (COSI) Family Form: Bornhorst et al. (2015), Heinen et al. (2016), Wijnhoven et al. (2015).

EDEN birth mothers cohort: Chia et al. (2022), Saldanha-Gomes et al. (2017), Saldanha-Gomes et al. (2020), Saldanha-Gomes et al. (2022).

Fragile Families and Child Wellbeing Study: Burdette & Whitaker (2020), Pineros-Leano (2018), Tolbert et al. (2011).

Adams & Prince (2010), Altun (2022), Berglind & Tynelius (2018), Caroli et al (2011), Deforche et al. (2009), D'Souza et al. (2021), Egan et al. (2021), Essery et al. (2008), Eurenius et al. (2021), Imhof et al. (2015), Kim et al. (2018), Kobel et al. (2015), Kovacs et al. (2021), Krause et al. (2015), Loucaides et al. (2004), Loucaides & Jago (2006), MacArthur (2012), Molu et al. (2021), Murgueytio et al. (1998), Myers et al. (2015), Nriagu et al. (1997), Nriagu et al. (2007) Park et al. (2016), Pelc et al. (2016), Prioreschi & Norris |

							(2020), Sardu et al. (2006), Stone & Faulkner (2014), Syahrul et al. (2016), Takahashi et al. (1999), Vera-Becerra et al. (2015), Wada et al. (2012), Watanabe et al. (2006), Watanabe et al. (2016), Yoon & Lee (2019).
		A week	How much time does the child spend outdoors for play/recreation outside of school hours?	Hours/mins per day.	Two (Mon-Fri and Sat-Sun)	6	Oakley et al. (2021)
		A school week	How long does the child spend outside?	Total hours/mins.	Four (Mon-Fri and Sat-Sun for warmer cooler months)	6-12	Cleland et al. (2008).
		A day in the previous month	How long does the child spend playing outdoors?	Hours/mins per day.	Two (a weekday and a weekend day)	0-12	**Outdoor Time Recall instrument:** Buchanan et al. (2021), Burdette et al. (2004), Chesnut et al (2018), Contreras et al. (2020), Gross et al. (2013), Hinkley et al. (2018, Lumeng et al. (2017), Mygind et al. (2020), Nathan et al. (2021), Sioen et al. (2011), Verbestel et al. (2014), Wang et al. (2020), Wosje et al. (2010), Xu et al. (2014), Xu et al. (2016a), Xu et al. (2016b), Xu et al. (2017). Schwarzfischer et al. (2020).
		A day in the previous week	How much time did the young person spend outdoors?	Ordinal scale ('none' to '4+ hours' per day).	One (the week). Two (Mon-Fri and Sat-Sun)	3-17	Larson et al. (2011)[6], Hunter et al (2020).
		Currently	How much time does your child spend playing	Ordinal scale ('none'	Two	8-13	Delisle Nyström et al. (2019)

			outdoors?	to 3+ hrs per day).	(weekday and weekend day)		
	Average OFP	n/a	How long does the child play outdoors? How much time the child spent outdoors engaged in vigorous active play, moderately intensive play, and quiet play. How much time the child spent playing outside before noon, from noon until 6pm pm., and after 6pm	Hours/mins per day. Hours per week. Ordinal scale ('none' to 1+, 2+ or 4+ hrs per day).	One. Two (Mon-Fri and Sat-Sun).	2-17	Bringolf-Isler et al. (2010), Grigsby-Toussaint et al. (2011), Handal et al. (2007), Hammond et al. (2011), McDonald et al. (2009), McFarland et al. (2014), Qiu & Zhu (2021), Wang et al. (2021).
		Previous month	How much time the child been occupied with playing outside?	Ordinal scale ('none or less than 30 min/day' to 3+ hr/day).	Two (weekdays and weekend days)	3	**Generation R:** van Rossema et al. (2012).
Frequency and duration of OFP	Typical OFP	n/a	How often the child plays outdoors at specific locations while not in school, and the length of time the child spends playing at each. How many days per week and how many hours per day does the child play outdoors?	Ordinal scale ('never' to 'every day'). Ordinal scale (<30mins to 2+, 3+ or 4+ hrs per day).	Two (Autumn/Winter and Spring/Summer). One (Mon-Fri). Two (Mon-Fri and Sat-Sun).	4-12	**Children's Play Scale:** Dodd et al. (2021a), Dodd et al. (2021b), Dodd et al. (2022), Rajabi et al. (2021). Cortinez-O'Ryan et al. (2017), Gerards et al. (2015), Kocken et al. (2012), Lu et al. (2019), Sijtsma et al. (2015).
		A week	How many days does the child play outside and how long for?	Ordinal scale ('once a week or less' to 'every day'). Hours/mins per occasion.	One.	3-6	Aktas Arnas & Saribas (2020).
		Previous month / four weeks	How many days does the child play outside and how long for?	Interval scale (number of days per week). Ordinal scale	One (a week). One (Mon-Fri).	4-12	Aarts et al. (2010), Aarts et al. (2012), Koning et al. (2018)[8], van Grieken et al. (2017).

				(<30mins to 2+ or 3+ hrs per day)	Two (Mon-Fri and Sat-Sun)		
Average OFP	A week	How many days the child plays outside, and the duration of play in the morning, afternoon and evening.	Days per week. Minutes per day.	Two (Mon-Fri and Sat-Sun)	5-7	**Be Active, Eat Right Study:** Remmers et al. (2014a), Remmers et al. (2014b), van Grieken et al. (2014), Veldhuis et al. (2012)
	Current season	How many days the child plays outside and the duration of play in the morning, afternoon and evening.	Interval scale (days per week). Ordinal scale ('never' to 3-4hrs).	Two (Mon-Fri and Sat-Sun)	6-10	**Generation R:** Chungyz et al. (2021), Rodriguez-Ayllon et al. (2020), Wijtzes et al. (2014a), Wijtzes et al. (2014b).
	Previous four weeks	How many days the child played outside and the time spent in outside play	Interval scale (days per week). Ordinal scale (<30mins to 3+hrs per day).	One	5-7	Remmers et al. (2014c).

[1]Frequency and/or duration papers implicitly provide data on occurrence.

[2]Marked 'typical' if not explicitly stated.

[3]Marked 'n/a' if not explicitly stated.

[4]Instruments which were used and cited in three or more papers.

[5]More than one method to triangulate OFP.

[6]Different respondents for different child age ranges.

[7]Study conducted with undergraduate students.

[8]Separate measures for children and parents.

[9]Excludes Oladosu et al. (2021) as not enough information provided.

[10]Excludes Dealey & Stone (2018), Hallit et al. (2021a), Hallit et al. (2021b), O'Conner et al. (2016), Pernica et al. (2012) as not enough information provided.

The impact of integrating Jolly Phonics Lessons application into English literacy lessons on UAE preschoolers' phonics skills

Noora Almansoori[1], Robin Ogdol[2], Aisha Alteneiji[3]

Abstract: The Jolly Phonics Lessons application is a digital tool that is designed to enhance the preschoolers' reading and writing skills through synthetic phonics approach. This study examined the impact of integrating Jolly Phonics Lessons application into literacy lessons on the emergent reading and writing skills among kindergarten students, ages 4-6, in the United Arab Emirates through a comparative study between pupils (Group-A), whose literacy classes were integrated with the application, and pupils (Group-B) who were taught using the traditional method of teaching literacy. Mixed methods research design was followed to analyze the effects of integrating the application. The Phonemic Awareness Assessment Inventory (PAAI) tool, field notes, and artifacts were utilized to measure the development of students' letter-sound identification, letter formation, phoneme blending and segmenting abilities. In addition, the paper compared the growth on phonics skills between students in Groups A and B. The results showed that students in Group-A outperformed pupils who received literacy instruction through traditional methods. The findings from the PAAI scores exhibited dramatic growth in letter-sound recognition and letter formation, and substantial increase in phoneme blending and segmenting abilities of Group-A. The T-statistic for differences between two means at 95% confidence revealed that there is a significant difference between the performance of students in Groups-A and B. Implications from this study highlight the positive impact of incorporating Jolly Phonics Lessons application into literacy classes on low-achieving students. On this bases, future research of Jolly Phonics Lesson application to support mixed-ability classes or students with dyslexia.

Introduction

This study investigates the effects of incorporating the Jolly Phonics Lessons application, an educational digital technology tool, on the phonics abilities of United Arab Emirates (UAE) kindergarten students. By examining the impact of this technology-based instruction, the research aims to shed light on the potential benefits and advantages of incorporating digital tools in the early childhood education for improving phonics acquisition among preschoolers in the UAE context.

Teachers are well aware of how critical literacy development is. The development of language and literacy abilities is the foundation of all learning. High-quality literacy instruction during the early years plays a crucial role in a child's educational journey, serving as a foundational element for success both in school and in later life. In this light, educators must possess fundamental understanding of language structure and be well-grounded in effective strategies to teach literacy (Crim et al., 2008). This would guarantee that students would be provided with best practices in early childhood literacy teaching.

However, there is a growing body of studies that reveal how the education system fails to deliver high-quality, effective, and research-supported early literacy instruction. Students' poor literacy skills, which include recognizing letters, pronouncing letter sounds, and sounding out words, are evident in kindergarten schools worldwide. Mohammed and Amponsah (2018) mentioned three main contributing

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factors of students' lack of motivation and exposure to literacy, which leads to poor reading and writing skills. These factors include under-developed understanding by teachers of effective literacy instruction, scarcity of appropriate teaching and learning resources, and lack of cohesion between classroom and learning support tools and programs.

Kindergarten teachers in the UAE default themselves to the traditional one-size-fits-all educational approach. The study of Diamond et al. (2015) cited the importance of tailoring the curricular requirements to the needs of individual learners instead of generalizing for all students. It suggests that teachers should provide students the opportunities to gear their learning experiences in a manner that is most suitable for their unique needs. Here is where integrating technology in the classroom can help. Beginning reading and writing skills can grow further if students are introduced to effective teaching practices for literacy while using digital technology as an instructional scaffold. Students can reinforce their learning and seek additional support through wide-range of activities, measure their learning from the assessments built into the technology, and reflect on their performance from the feedback that they will receive after each assessment (Ihmeideh, 2009). There is a need for educational revolution and innovation where incorporation of technology is highlighted. Teachers need to embrace technology-based learning approaches where the utilization of educational digital tools is maximized. These would enhance learning opportunities, aid and personalized learning, and connect learning to real-world contexts and applications.

Jolly Phonics Lessons application is a software that teaches children to read and write using synthetic phonics approach. Elizabeth Ohaka (2022), an early childhood educationist, mentioned that using Jolly Phonics program can address the problem of imbalanced learning on literacy particularly at the early learning stage. This program teaches letter-sounds identification, formation, blending, and segmenting in conjunction with developmentally-appropriate stories, songs, and actions that make learning engaging, fun and challenging.

One of the UAE Vision 2021 National Agenda that aims to develop a first-rate education system through innovation and sustainability (Vision 2021, 2018). Taking this into consideration, the Ministry of Education (MOE) started to equip all schools with smart systems and devices and set it as the foundation for effective teaching and learning, projects, and research. However, teachers are not maximizing the use of the facilities provided by the MOE. Therefore, to address the escalating issues, the current student explores the impact of using the Jolly Phonics lessons program.

There is a gap in the literature with regard to a descriptive study on the impact of integrating the Jolly Phonics Lessons application in early literacy classes in the UAE. The results will include how educators can enhance kindergarten literacy education to raise students' literacy achievement. This study would create the foundation for subsequent actions including the development of literacy pedagogies, curricula and further research.

Purpose of the Study

This study investigates the impact of integrating the Jolly Phonics Lessons application into English literacy lessons on emergent phonics skills of UAE government kindergarten students. Ariati et al. (2018) have identified areas of early years' beginning literacy, including learning the letter sounds, letter formation, phoneme blending and phoneme segmenting. In this light, the researcher chose these skills as the main variables. To determine its effects, students' pretest and posttest scores in the Phonemic Awareness Inventory Assessment (PAAI) were compared.

Furthermore, this study also compares the growth on phonics skills of students who had English literacy lessons that were integrated with Jolly Phonics Lessons application and students who received literacy instructions in the traditional methods. This was attained by examining the PAAI posttest scores of the two groups.

Significance of the Study

This study holds substantial importance in the field of early childhood education and language

acquisition. The research investigates the effects of incorporating Jolly Phonics lessons application, a systematic phonics program, into English literacy lessons for preschoolers in the United Arab Emirates.

The study gives great importance to the following stakeholders in early childhood education:

Early Childhood Education Students

Phonics is an essential component of early literacy development. This research seeks to examine how integrating Jolly Phonics lessons application can contribute to enhancing the phonics skills of UAE preschoolers. This is important as students' phonics abilities play a vital role in reading, writing, and overall language acquisition.

Furthermore, having solid phonics skills form a strong foundation for successful reading and writing abilities. This study aims to contribute to the long-term academic success and achievement of UAE preschoolers. Children's reading fluency, comprehension, and overall language competency can all benefit from improved phonics abilities, setting the children on a trajectory for future academic success and achievement.

Educators

The study focus on kindergarteners in the UAE, making it pertinent to the local educational context. The study offers insight into the effectiveness of this specific educational strategy and learning program within the cultural and linguistic context of the UAE preschoolers by examining the impact of the Jolly Phonics lessons application in the UAE. This body of knowledge can help teachers in establishing well-informed choices and decisions on early literacy interventions and programs.

In addition, the emphasis of the study on integrating Jolly Phonics application adds a practical components to the research. Understanding the effects of a phonics program offered through a digital platform might provide important insights into possible advatages and challenges of incorporating technology in early literact instruction, especially in light of the expanding availability and use of technology in educational settings.

Management, Curriculum Developers, and Policymakers

The integration of Jolly Phonics lessons application into English literacy lesosns may result to evidenced-based suggestions for designing, developing, and implementing innovative and effective phonics instructions, thereby supporting the development of early literacy skills of early childhood students.

Parents

The study gives parents a profound understanding of the positive impact of technology integration on their children's literacy skills. This can help the parents embrace the use of technology as an effective tool that benefits their children's phonics development. In addition, the research findings can inform the parents about the interventions, activities, exercises, and resources that they can utilize to support, practice, and reinforce their children's phonics abilities outside the classroom.

Overall, the study has significant implications for both research and practice in the field of early childhood care and education. It aims to increase our knowledge of effective instructional approaches, successful teaching strategies, contribute to existing body of knowledge, and eventually improve kindergarterners' educational results and experiences not only in the United Arab Emirates but on a worldwide scale.

Theoretical Framework

Jolly Phonics is a multi-sensory approach to the teaching of phonics that uses a variety of techniques to engage different learning styles. The Jolly Phonics focus on reading and writing is heavily influenced by constructivism learning theory and the work of Jean Piaget (Brau, 2020). The constructivism learning theory emphasizes that individuals learn best when they are engaged in meaningful activities that allow them to

connect new information to their existing knowledge (Schunk, 2020). As a result, it implies that phonics instruction should be learner-centered, with learners discovering decoding rules. The program encourages children to engage through interactive activities such as songs, games, and finger tracing.

In a kindergarten classroom, using the Jolly Phonics Lessons application on the iPad can be used to support aspects of constructivism theory. The Jolly Phonics Lessons application serves children with different learning styles. For instance, visual students can use the application since it is full of colorful images that activate memory; auditory learners are provided with audio records for learning literacy skills; and kinesthetic learners use their fingers to trace the letter and complete touching games. Additionally, before moving on to a letter, a revision of the previous taken letter will be made, which will enable students to connect prior to new facts. Constructivism theory also posits that learning is most effective when it is relevant to the learner's life experiences (Brau, 2020).

Jolly Phonics is designed to be culturally sensitive and adaptable to different languages and dialects. This makes the program more relevant to the learner's life experiences, which in turn increases their motivation to learn. By using examples from the child's own environment and culture, Jolly Phonics allows learners to construct knowledge in a meaningful context. Moreover, constructivism theory emphasizes the importance of reflection in the learning process. Jolly Phonics incorporates regular review and assessment activities to help students reflect on their progress and identify areas where they need further support. Teachers can assess individuals using the application, as it offers assessments to be done after they receive the lesson to ensure lesson learning outcomes are achieved and understood. This allows learners to see their own progress and build on their successes. By reflecting on their own learning, children are able to construct meaning and understand the concepts they have been taught. By incorporating these principles into the teaching of phonics, Jolly Phonics provides an effective approach to literacy development that supports children's construction of knowledge (Shunk, 2020; Sun, 2019).

Teachers play a guiding role as promoters in this learning process (Brau, 2020). Thus, the educators' use of the Jolly Phonics application will highly contribute to the success of constructivism theory, and the Jolly Phonics application offers games that can be individually used by kindergarten learners and will allow them to make connections between the letters they already knew and the new ones through the iPad.

Literature Review

Jolly Phonics Lessons Application as an Instructional Scaffolding Tool

The Jolly Phonics Lesson Application is a highly effective tool for scaffolding instruction in phonics for emerging readers. Scaffolding aims to provide a structure or tool to break instruction down into manageable chunks for the learner (Scheper, 2023). Research conducted by Tyler et al. (2015) indicates that providing structured, systematic phonics instruction at early stages can significantly benefit children's literacy outcomes. This aligns with the Common Core State Standards for English Language Arts (CCSS-ELA), which call for explicit and systematic phonics instruction (Lee et al., 2013). The Jolly Phonics Lesson Application offers engaging and enjoyable activities with colorful and interactive visuals that make learning feel effortless. Nazare et al. (2022) suggest that technology-assisted instruction can be more engaging and effective for children. Educators can scaffold students' learning by first understanding their individual and collective zone of proximal development (ZPD), which is the distance between what children are capable of and the next level they can achieve with the correct guidance (Smagorinsky, 2018). With the Jolly Phonics Lesson Application, teachers can provide a tailored approach that considers each student's ZPD, fostering foundational literacy skills essential for reading growth. Educators can use the app to break down vocabulary into individual sound bites, practice blending and segmenting words, progress towards letter formation, and design customized activities tailored to a pupil's level. The accessibility of the application ultimately provides opportunities for the learner to revisit learning challenges and strengthen foundational skills at any time.

Strategies to Integrate Jolly Phonics Lessons Application in Literacy Classes

Incorporating Jolly Phonics lessons into literacy classes can foster literacy skill growth and

development in an effective and engaging manner. A multitude of strategies and resources exist to integrate Jolly Phonics into daily literacy classes. For instance, Al-Awidi and Ismail (2014) suggest supplementing traditional lessons with technological software that includes phonics-based activities and games, such as the unique Jolly Phonics Lessons application. In addition, structured exercises such as teaching sight words while concurrently emphasizing corresponding letter sounds reinforce the critical link between letters and sounds found at the core of early phonics instruction (Ehri, 2017). The successful application of the Jolly Phonics approach lies in the correct sequencing of the instruction, starting with the simplest and building to the most complex skill. Bdeir et al. (2022) emphasize the importance of breaking down lessons, including letter sound, letter formation, letter blending, and (consonant-vowel-consonant) (CVC) word segmenting. In the class, educators can choose any letter sound from the lesson banner to view the full lesson, including the 4 skills, and deliver it to young individuals, which can be accomplished by screen mirroring the iPad to the computer or laptop and then to the data show so all learners can view the screen. Next, teachers can assess students formatively in circle time by allowing them to complete several exercises available, like spelling the sound out, forming the letter, and others. During the center's time, instructors might have a specific literacy center with iPads provided so children can play the games available in the lesson letter. The educator can offer scaffolding and monitoring while pupils are using the iPads. Teachers in the classroom can then assess kindergarteners using formative exercises, games that reinforce and scaffold identified weak areas, and the implementation of the tools in centers with tailored support while actively supervising children (Vadasy & Sanders, 2014). At-school assessment options provide individual scoring to guide instructors on essential points of intervention while indicating ways of improving student reading ability. The systematic application of Jolly Phonics in literacy classes through scaffolding provides an exciting and fun approach to foster early reading skills with universal application in all other academic subjects. Moreover, this approach targets children with reading difficulties, providing them with individualized attention meant to grow and advance their literacy level.

Research Hypotheses

Based on the background, problem statements, and literature review, the following hypotheses were framed for this study:

- Integrating Jolly Phonics Lesson application into English literacy lessons has positive impact on kindergarten students' skills on: (a) letter-sound identification; (b) letter formation; (c) phoneme blending; and (d) phoneme segmenting

- There is a significant difference on the performance of Group-A students, who had English literacy lessons that were integrated with Jolly Phonics Lessons application, and Group-B students, who received literacy instructions in traditional methods, on: (a) letter-sound identification, (b) letter formation, (c) phoneme blending, (d) phoneme segmenting

Method

Research Design

This education action research used analytical investigative techniques to improve the quality of teaching and learning in early childhood education. A comparative study was employed to compare and contrast instructional approaches. According to Coccia and Benati (2018), a comparative study is an extensive investigation between two or more comparison groups to offer relevant similarities and differences about how different instructional methods affect teaching and learning.

This comparative student employed a mixed-methods design. Mixed methods research is the process of collecting, analyzing, mixing, and drawing conclusions in a single study by combining qualitative and quantitative approaches to supplement findings with measurable statistics and provide deeper insights to researchers (Halcomb & Hickman, 2015). Quantitative data is information that is closed-ended and collected to analyze numerical data (Mkandawire, 2019). On the contrary, open-ended and descriptive qualitative data is used to describe phenomena, such as words, that can be observed for in-

depth analysis (Billups, 2019).

The quantitative analysis of testing statistical differences between the literacy achievements of the two groups is supported through mean interpretation and T-test statistics. On the other hand, the researcher's field notes and artifacts supported the qualitative analysis of the data.

Research Procedures

The researcher obtained written consent from the school principal and mentor school teacher (MST) to carry out the study. The purposive sampling technique was used to select students in Groups A and B. The study research followed a structured approach by using William Edwards Demings's Plan-Do-Check-Act (PDCA) cycle process technique as shown in Figure 1 (Pietrzak & Paliszkiewicz, 2015). The PDCA is a cycle of continual progression based on the scientific method of proposing a change, putting it into practice, evaluating the results, and responding appropriately through actions (Maruyama & Inoue, 2016). Plan, Do, Check and Act are the four stages of the cycle for improvement initiative. This recurrent process has been utilised as a structured procedure in order to tackle concerning problems and determine effective solutions. The researcher conducted pretest using the PAAI at the beginning of the study to gauge students' letter-sound identification, letter formation, phoneme blending, and phoneme segmenting skills.
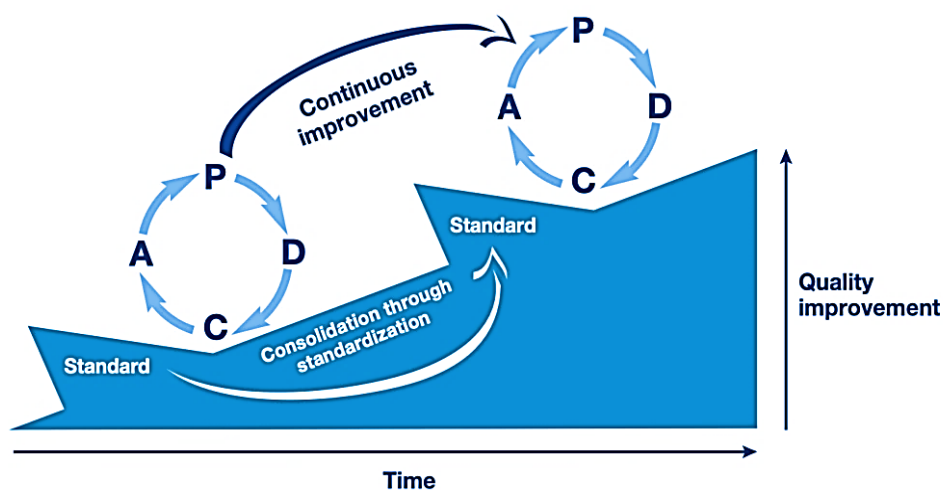

Figure 1. William Edwards Deming PDCA Cycle

Students were assigned into two groups. Group-A students experienced the treatment, which was the integration of the Jolly Phonics Lessons application into English literacy lessons. Group-B was not introduced to the same intervention. All literacy classes delivered to the were in traditional methods. Both groups contained students who are in their early development or emerging level in literacy. The main reason was in most of the Kindergarten schools in the UAE, English literacy subjects are not yet offered in KG 1 (Hania et al., 2022). In this view, it would be the first year of the KG 2 students to learn English literacy lessons. Since every student in Group-A had a counterpart in Group-B in term of skills and abilities, this ensured that the intervention was the mere source of potential similarities and differences in outcomes between the two groups. All other variables, aside from the examined intervention, remained constant between the two groups. Both groups were exposed to the same lessons, letters, vocabulary, and stories. The timing of the classes was a control variable. Both groups followed it as it was allocated by the UAE Emirates School Establishment – Ministry of Education. The durations and the number of delivered lessons throughout the study were the same for both groups.

Diagnostic assessment using the PAAI was given to both groups to determine students' beginning phonics skill before the start of the study. Data was gathered and analyzed before introducing the intervention to establish a strong understanding on the students' literacy skills. These procedures of gathering data and determining areas for development enabled the research to attain the first stage of the cycle which was planning effective interventions. Interventions integrated were explicit and synthetic

phonics activities with extensive reading. Reading aloud, shared reading, guided reading, and choral reading approaches were incorporated with phonics, sight words instruction, and word study. Every two to three days, new letter and sound were introduced through interactive lessons, songs, short poems, stories, and explicit instruction in regard to letter-sound relationship.

The next step was carrying out the plan by integrating the gradual release of responsibility instructional framework. At the start of each week, the teacher delivered read-aloud and phonics lessons. While reading stories and reciting short poems, the teacher introduced and revised on the letter and sound identification, and letter formation. Then, the Jolly Phonics Lessons application was incorporated throughout the lesson. Students were also given opportunities to use smart gadgets and tablets, open the application, and do learning activities involving letters and sounds. From there, the responsibility moved from the instructor to the students through shared and guided reading, and independent writing. In between these approaches, students received instructional scaffold through shared reading and writing. Homework included reading, and phonics activities available from the software. Activities that develop literacy skills were emphasized in the learning centers and groupings on a day-to-day basis. The literacy learning centers included hands-on and technology-based activities from Jolly Phonics application on writing letters, letter-sound recognition, blending sounds to form words, and determining individual sounds in a word.

All observed changes were documented during the implementation process. Data was gathered using the data collection tools for evaluation. The next step was to check and reflect on the data collected in the previous stage. Every two weeks, the collected information was analyzed to evaluate and reflect if the set plans attained the intended goals. Students' learning portfolios were collected as well to monitor and differentiate their literacy growth from the start to the end of the study. Lastly, the final phase of the cycle was to take appropriate actions based on the results of the previous three stages. Activities were consistently adjusted and improved, and interventions were implemented based on students' needs and interests. The integration of the Jolly Phonics Lessons application was frequently planned, implemented, and assessed, repeating the iterative cycle. At the end of the research, post-tests using the PAAI were administered to both groups to determine their literacy performance. T-test statistic was employed to check for significant difference between the performance of the two groups.

Research Site and Participants

The research was conducted in a government kindergarten located in Umm Al Quwain, United Arab Emirates. The participants in this study were 36 students in KG-2 level, ages 4 to 6. The criteria for choosing the participants in both groups were determined through the use of purposive sampling. Purposeful sampling is a non-probability sampling in which researchers use their discretion in selecting participants of the population to participate in tests and other forms of data collection (Suri, 2012).

All 36 selected participants are at their emerging level of language development. Students at this level are commonly in the early stages of acquiring language abilities and skills. At this stage, they are starting to understand and use words, but their vocabulary and grammar are very limited, and their communication may be simplified or fragmented. The goal of choosing emerging-level students was to ensure that the selected samples were representatives of the classroom population in most of the government schools in the UAE (Hania et al., 2022). In UAE kindergarten schools, English literacy subjects are not yet offered in KG-1. In this view, students in KG-2 are at their emerging-level in the English language since this is something new to them. To ensure that both groups were as similar as possible, the researcher chose groups from classes at the same kindergarten level, which is KG-2, and at the same government school. These measures helped the researcher to find participants that share some similar characteristics and attributes such as age, nationality, and native language which is Arabic. In addition, the researcher consulted the school kindergarten coordinator, the MST, a professional kindergarten teacher, and the school's guidance counselor in selecting participants. They all made sure that the selected students had the same ability level by looking at the students' past and present academic records. Lastly, the mentor college teacher (MCT), a professional college teacher, and the internship mentor, a doctoral-degree holder

college instructor assisted in confirming if the selected participants were from homogeneous ability grouping. These actions were intended to increase the internal validity of the research by eliminating confounding variables (Emmel, 2013).

The researcher then divided the participants into two groups. The participants in Group-A were introduced to the Jolly Phonics Lessons application. This application was integrated throughout the teaching of phonics lessons. On the contrary, participants in Group B were not introduced to the Jolly Phonics lessons application and were taught using the traditional approach to teaching phonics. The aim of this research was to investigate the impact integrating jolly phonics lessons application in teaching phonics on emerging-level students.

Data Collection Tools

The data collection tools employed to gauge students' emerging phonic skills in the study included four types: phonemic awareness assessment tools, interview, field notes, and artifacts

Phonemic Awareness Inventory (PAAI)

Phonemic Awareness Assessment Inventory, adapted from Heggerty (2020), consists of numerous tests that measure students' letter and sound identification, letter formation, phoneme blending, and segmenting skills. The PAAI was employed in Groups A and B – at the beginning of the instruction to measure the skills that students have already developed (pretest), and after the period of eight weeks of the study (posttest). All the tools were utilized with the support of the MST, MCT, and internship mentor.

Letter-sound recognition is an essential part of learning to read and getting better at noticing problems from a young age to be settled (Lonigan et al., 2013). This test provides information about emerging readers' ability to define the sounds of lowercase letters. The sheet contains instructions of how the teacher should utilize the tool, and a two-column grid. The first column contained the lowercase letter to be identified, and the second column was for the teacher to record the score.

According to Neumann (2016), letter formation is a crucial attribute for pupils to master not only because it makes their writing more legible but also because it helps them increase their writing speed and efficiency. Neat letter formation is important to assist children in writing fluently (Eckert & Labov, 2017). The letter formation assessment provides model letters to follow, and space for students to write the letters. The letter formation test was conducted to record children's ability to correctly form the letters of the alphabet using the bottom-up approach, from left to right. The procedure was that the researcher chose any letter and required the student to form it first using their index finger, then using a pencil. The letter formation test was discontinued whenever the child missed three consecutive items. Each learner was required to form the letter he or she knew individually before and after integrating the Jolly Phonics Lessons application. The sheet contains the instructions of how it would be utlized, the model letters to follow, and space to put the score.

The phoneme blending test was designed to teach children how to sound out words. Blending is a method for teaching children to read that involves combining different sounds, also known as phonemes, to form words (Metsala & Ehri, 2013). It is an important skill in learning to read because the ability to mentally connect speech sounds to form words allows students to decode unfamiliar words when reading using letter-sound patterns (Caravolas et al., 2012). Blending difficulties are a defining feature of the struggling reader. The tool consists of the instructions, ten phoneme CVC exercises to be completed, and a space to record the score. Before and after integrating the Jolly Phonics Lessons application into literacy lessons, each learner was required to sound out random CVC words. The researcher chose random words from the provided ones, made sounds of the individual phonemes of each letter, and required the student to connect the sounds and spell the word. If three straight sounds to blend were missed and the child appeared confused or frustrated, the researcher stopped this section.

The phoneme segmenting assessment is employed to measure students' ability to identify the individual sounds in a word. Segmenting is a vital skill that young learners will pick up over the course of

their early phonics education, resulting in the long-term development of their reading and writing skills (Swanson et al., 2015). The researcher utilised the test to record scores of student's replies. Each child was asked to break the word told by the researcher into individual sounds. The exam is discontinued if the student missed three consecutive items or if appears confused or frustrated.

Artifacts

Artifacts are students' work products that display their performance after the teaching and learning process (Wolsey et al., 2020). In this research, artifacts such as work samples and audio were collected to monitor and measure students' growing literacy skills, and included within the literacy portfolio. The portfolio collection form adapted from Gronlund and Linn (1990) includes the date of the observation, the time spent on each activity, and anecdotal notes. The researcher organized the materials in a way that the growth on literacy skills were highlighted over time by including the exact dates and time for each collected artifact. The research wrote anecdotal notes to document the child's performance. The researcher utilized the gathered information from the portfolio to monitor student's language growth and development throughout the study, plan appropriate responsive instructions, and compare the work, progress and performance of the students from Groups A and B.

Field Notes

The field notes include a list of things that the researcher will look at when observing a class or a student (Genc & Buyukkarci, 2013). The research included activities to be observed, target goals, guiding questions, comments, reflection, and new aim activity to observe in the field notes. This study used the researcher's daily notes throughout the eight-week period to further investigate the progress of both groups in letter-sound idenfitication, letter formation, blending and segmenting.

Results

The Effects of Integrating Jolly Phonics Lessons Application on Students' Letter-Sound Identification

The letter sound identification assessment of the PAAI (Phonemic Awareness Assessment Inventory) was intended to respond to the first research question: How does the Jolly Phonics Lessons application affect kindergarten learners' skills in learning letter sound identification? The Groups A and B were measured twice over the course of eight weeks. Figure 2 illustrates Group-A scores prior to and after the integration of the Jolly Phonics Lessons application intervention. Figure 3 displays the outcomes of Group-B without receiving the Jolly Phonics Lessons application intervention.
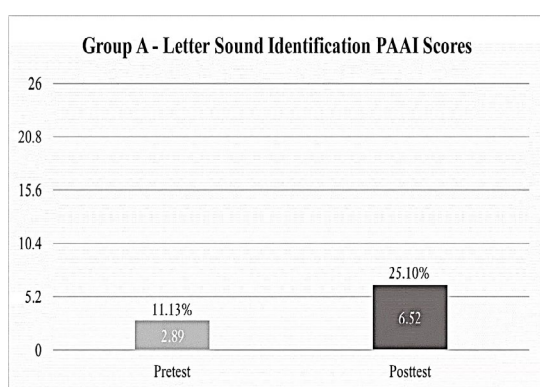
Figure 2. Group-A pretest/ posttest scores
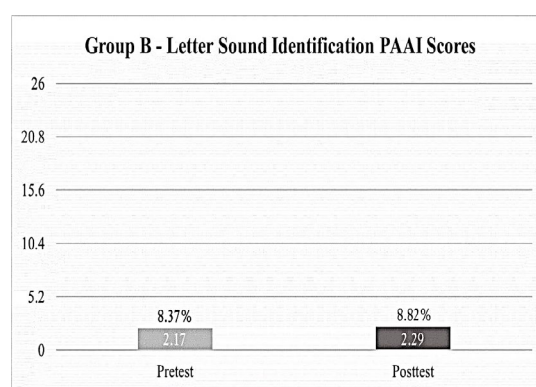
Figure 3. Group-B pretest/ posttest scores

The results in the pretest reveal that both groups have dismal results. Students failed to distinguish between similar sounds and, as a result, mistake letters and sounds resulting in problems in pronunciation and spelling. One of the identified factors for the poor performance of both groups, as shown in Figures 2 and 3, was due to the insufficient number of times they take English lessons in a week. Students only have English lessons three times a week. In this view, teachers are often forced to squeeze in teaching letter-sound identification, letter formation, and examples of words that start with that letter in one lesson. They

could not dedicate enough time to focus on teaching letter-sound identification alone. Furthermore, these children, who come from non-English-speaking households, have barely any contact with English sounds, making it challenging for them to decode letter sounds and distinguish between similar sounds (Gass, 2017).

However, results show that Group-A gradually improved compared to Group-B, as apparent in Figure 2. A few of the contributing factors that influenced the progress of the Group-A were due to some of the distinct features of the Jolly Phonics lessons application such as digital stories and poems, electronic flash cards, rhyme songs, and Sound Bees game. Despite that, the level of improvement varied among students in Group-A, all of them demonstrated progressive growth after the intervention interval.

The findings were consistent with Alqahtani's (2020) research, which reported that using the Jolly Phonics Lessons application with children showed a higher level of engagement, interest, retention, and recall of the letter sound identification rules they had learned. Children who use technology tool for learning phonics, according to Cotter (2012), have significantly better pronunciation, fluency, and comprehension than those who learn phonics through traditional methods.

The data were then analyzed statistically in order to infer the students' letter-sound identification assessment mean scores, as shown in Table 1. The mean interpretation table was adapted from Rousse and Dreyfus (2021).

Table 1. Mean score interpretation (Rousse & Dreyfus, 2021)

Mean Score	Interpretation
21.66 – 26.00	Mastery
17.33 – 21.65	Expert
13.00 – 17.32	Proficient
8.67 – 12.99	Competent
4.34 – 8.66	Advanced Beginner
0 – 0.433	Novice

Table 2. Mean scores of students on PAAI letter-sound identification assessment

Group	Mean Pretest	Standard Deviation	Interpretation	Mean Posttest	Standard Deviation	Interpretation	Gain
Group A	2.89	1.44	Novice	6.52	3.90	Advanced Beginner	3.63
Group B	2.17	1.66	Novice	2.29	1.35	Novice	0.11

Table 2 presents means scores of students' letter-sound identification assessment in both pretest and posttest. Both groups had mean scores less than 4.33 on the pretest, indicating that they were in the novice stage of skill acquisition. The Group-A obtained a mean score of 6.52 after eight weeks. In line with the mean score interpretation table, their level progressed from novice to advanced beginner. The Group-B, which was taught phonics in the traditional method, remained in the novice stage. Comparing the means, it is evident that students in Group-A outperformed their counterparts in Group-B in letter-sound identification as they gained a score of 3.63, while those in Group-B gained 0.11.

This results supports Griffith et al. (2020) discoveries that the Jolly Phonics Lessons application is a useful tool for teaching children develop their letter-sound ientification skill in engaging and distinctive way that has a high effect on promoting their self-directed and movitation.

Table 3 shows the results after utilizing the two sample T-test statistic. This aimed to check if posttest mean scores between Groups-A and B on the Letter-Sound Identification Assessment has statistical difference.

Table 3. PAAI letter-sound identification assessment results comparing groups-A and B

	Group A	Group B
Mean	6.5263	2.2941
Variance	15.2632	1.8456
Observations	19	17
Pooled Variance	8.9490	
Hypothesized Mean Difference	0	
df	34	
t Stat	4.2377	
P(T<=t) one-tail	8.15088E-05	
t Critical one-tail	1.6909	
P(T<=t) two-tail	0.0002*	
t Critical two-tail	2.0321	

*$p<.05$ margin of error

The results show that there is a significant difference between the letter-sound identification assessment mean scores between Group-A and Group-B. This implies that Group-A score is significantly greater than Group-B. This data supports the study conducted by Jones, Clark, and Reutzel (2018) that children learn letters and sounds better when they are repeated in the same story and through audio-visual games. The use of technology in Jolly Phonics education has the potential to greatly enhance students' achievements (Chmiliar, 2017).

The Effects of Integrating Jolly Phonics Lessons Application on Students' Letter Formation

To answer the second question, a diagnostic test on the letter formation was utilized. During the eight-week duration, the letter formation of both the experimental and control groups was evaluated twice, in weeks 1 and 8. Figure 4 represents Group-A scores, indicating the effect of the Jolly Phonics Lessons application intervention on their letter formation skills. On the other hand, figure 5 portrays the outcomes of the Group-B, which did not receive the same intervention.
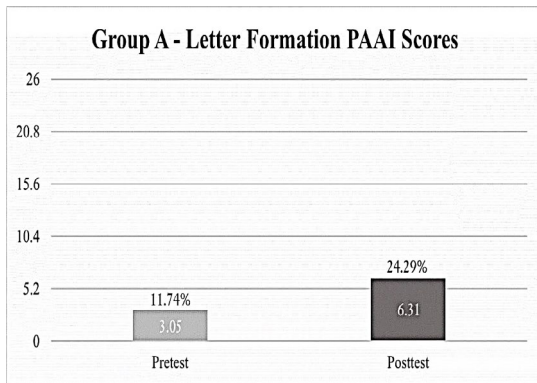
Figure 4. Group-A pretest/ posttest scores
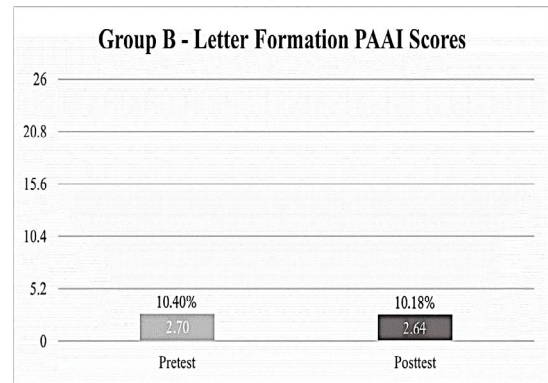
Figure 5. Group-B pretest/ posttest scores

The result show that students' letter formation skills in the pretest were similar. Struggles with letter formation were discovered while taking the assessment. Errors like letter backward writing, inability to write in a straight line, and cramped fingers while holding a pencil were seen among students in both groups. The root causes for this were that their teachers in KG1 were not able to dedicate time to teach holding pencil correctly when writing, and students were not given many opportunities to practice writing. In previous years, classes were mostly delivered online due to the global outbreak of coronavirus. In this view, very minimal learning opportunities that develop writing were provided to the students. According to Cameron et al. (2016), fine motor skills, pencil grip, and pencil control are the key skills that children need to develop in order to properly form the letters of the alphabet by hand.

Nevertheless, after the eight weeks, results show that Group-A performed better in the posttest. The Jolly Phonics application includes explicit visual instruction on how hands should be moved to form letters, games focusing on using index finger to form letters, and letter formation activities, which can all be

repeated indefinitely helped the students develop their letter formation skills. In addition, the immediate constructive feedback that students received about their accuracy, speed, and stroke order for every completed activity gave them clear ideas of how to improve their skills further. The results were consistent with the previous study by Ploog et al. (2013), who found that technology-based approaches provide richer, more varied and useful feedback to students than traditional pencil-and-paper activities.

Students' letter formation competency levels were determined based on the adapted mean score interpretation in Table 4. The averages of performance of both groups on letter formation assessment are shown in Table 5.

Table 4. Mean score interpretation (Rousse & Dreyfus, 2021)

Mean Score	Interpretation
21.66 – 26.00	Mastery
17.33 – 21.65	Expert
13.00 – 17.32	Proficient
8.67 – 12.99	Competent
4.34 – 8.66	Advanced Beginner
0 – 0.433	Novice

Table 5. Mean scores of students on PAAI letter formation assessment

Group	Mean Pretest	Standard Deviation	Interpretation	Mean Posttest	Standard Deviation	Interpretation	Gain
Group A	3.05	1.95	Novice	6.31	3.28	Advanced Beginner	3.26
Group B	2.70	1.61	Novice	2.64	1.53	Novice	-0.05

The Table 5 displays that both groups scored less than 4.33 on the pretest, indicating that students were in the novice stage of skill acquisition. After the eight weeks, the Group-A achieved a mean score of 6.31, representing advanced beginner level, while the Group-B garnered a mean score of 2.64, implying that the students remained in novice stage. The research findings support Haywood & Getchell (2021) research that indicated that technology facilitates children's building fine motor skills as they tap on the screen, which will further develop their writing skills.

Table 6. PAAI letter formation assessment results comparing groups-A and B

	Group A	Group B
Mean	6.3158	2.6471
Variance	10.7836	2.3676
Observations	19	17
Pooled Variance	6.8232	
Hypothesized Mean Difference	0	
df	34	
t Stat	4.2070	
P(T<=t) one-tail	8.91066E-05	
t Critical one-tail	1.6909	
P(T<=t) two-tail	0.0002*	
t Critical two-tail	2.0322	

*p<.05 margin of error

As presented in Table 6, the data were analyzed using the two sample T-test statistic. This helped in in checking for statistical difference between posttest mean scores of Group-A and B on the Letter Formation Assessment.

The results reveal that there is a significant difference between the mean scores of the two groups on their letter formation posttest. This indicates that Group-A outperformed Group-B in this area. Findings support the results of researcher Butler et al. (2019) who discovered that handwriting-supporting phonics

digital software is excellent for helping children develop their tracing abilities, starting with traceable letters for the beginning writer to help them write neatly and inside the lines.

The Effects of Integrating Jolly Phonics Lessons Application on Students' Phoneme Blending

The PAAI phoneme blending assessment was given to the student to address the third question. Once children learn the sounds of the letters, it starts to become more complex, and they start blending single sounds into words (Treiman & Zukowski, 2013). Blending is a method for teaching children to read that involves combining different sounds, also known as phonemes, to form words (Slater & Backett, 2019). Throughout the period of study, both the two groups underwent evaluation of their letter blending skills on two separate occasions, during the first and eighth weeks, respectively. Figure 6 represents the scores observed in the Group-A, clarifying the impact of the Jolly Phonics Lessons application intervention on their letter blending abilities. Figure 7 outlines the results from the Group-B, which did not receive the same intervention
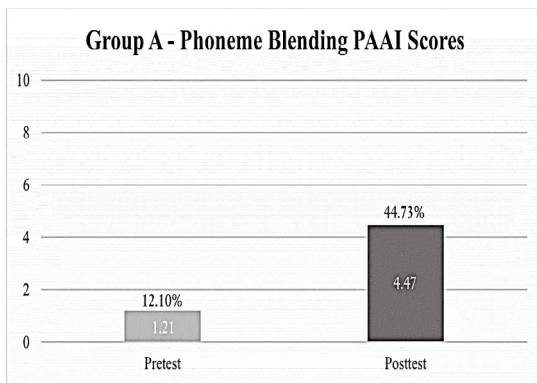

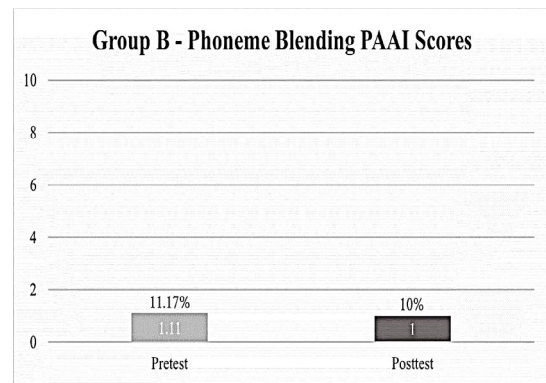**Figure 6**. Group-A pretest/ posttest scores

Figure 7. Group-B pretest/ posttest scores

The results of the assessment, supported by student artifacts and field notes for the qualitative data, indicated that students' phoneme blending performance in the pretest was similar. Furthermore, it revealed notable challenges associated with phoneme blending. Children had difficulty in connecting sounds correctly, leading to pronunciation and spelling obstacles. The main reason is that since English is the UAE students' second language, they find blending letters to produce sounds challenging. Arabic language as different phonetic rules and structures that necessitate various ways to teach phonetic abilities that also differ from English. Some students were mixing up phonemes of English and Arabic letters.

However, technology can enhance kindergarten letter-blending skills. One way is through the use of interactive games that combine visual and audio tasks to teach phonemic awareness skills (Killeen, 2013). This is evident in Table 6 as the results show that Group-A demonstrated slight increase on their phoneme blending performance compared to Group-B. The incorporated games in the application about blending sounds contributed on their of understanding the sound that the letters represent and be able to blend those sounds to create words. The findings underpin the studies of Aleven et al. (2016) who mentioned that adaptive learning technology can to significantly better gains in letter-blending skills among young students, and Reichert and Mouza (2018) who indicated that digital technology can be highly effective in helping students, especially with hearing challenges, improve their phoneme blending skills

Table 7. Mean score interpretation (Rousse & Dreyfus, 2021)

Mean Score	Interpretation
21.66 – 26.00	Mastery
17.33 – 21.65	Expert
13.00 – 17.32	Proficient
8.67 – 12.99	Competent
4.34 – 8.66	Advanced Beginner
0 – 0.433	Novice

Table 8. Mean scores of students on PAAI phoneme blending assessment

Group	Mean Pretest	Standard Deviation	Interpretation	Mean Posttest	Standard Deviation	Interpretation	Gain
Group A	1.21	0.91	Novice	4.37	1.34	Advanced Beginner	3.26
Group B	1.11	0.92	Novice	1	0.86	Novice	-0.11

As presented in Tables 7 and 8, phoneme blending skill levels were identified based on the mean score interpretation table. Both groups got low pretest mean scores implying that students were in the novice stage of phoneme blending skills. After eight weeks of integrating Jolly Phonics application in the literacy classes, the Group-A achieved a mean score of 4.47, which denotes an advanced-beginner level of proficiency. However, the Group-B remained in the novice stage with a mean score of 1. The results reveal that the traditional methods of teaching phonics have no positive remarkable impact on young learners; phoneme blending activities. Gee (2018) claimed that children must be exposed to technological applications that support repetition, as to read a word, and understand the sounds that the letters represent and be able to blend those sounds to produce the correct word.

Table 9 presents the T-statistic for difference between the posttest means scores of Groups-A and B on the Phoneme Blending Assessment at 95% confidence level.

Table 9. PAAI phoneme blending assessment results comparing groups-A and B

	Group A	Group B
Mean	4.474	1
Variance	1.8187	0.75
Observations	19	17
Pooled Variance	1.3158	
Hypothesized Mean Difference	0	
df	34	
t Stat	9.080832	
P(T<=t) one-tail	6.66E-11	
t Critical one-tail	1.6909	
P(T<=t) two-tail	1.33E-10*	
t Critical two-tail	2.0322	

*$p<.05$ margin of error

The data reveal that there is statistical difference between the PAAI phoneme blending assessment mean scores of Groups-A and B. This indicates that Group-A performed better compared to the Group-B. This supports the study stating that digital applications improve the cognitive capacity required for learning the letter blending skill through highly interactive multisensory integration of learning experiences, which captures their interest and attention by using colorful graphics, engaging animations, and appealing audio inputs (Zugarramurdi et al., 2022). The Jolly Phonics Lessons application is designed intentionally to best represent characters and sounds to enhance students' memory, develop vocabulary acquisition, and improve recall abilities to help them master the phoneme blending skill (Vanden et al., 2021).

The Effects of Integrating Jolly Phonics Lessons Application on Students' Phoneme Segmenting

According to Treiman & Zukowski (2013) phonological awareness hierarchy, the most difficult component of children's reading and writing development is sound segmentation. In this study, Groups A and B completed two evaluations, testing their CVC word segmentation abilities during the first and eighth weeks.
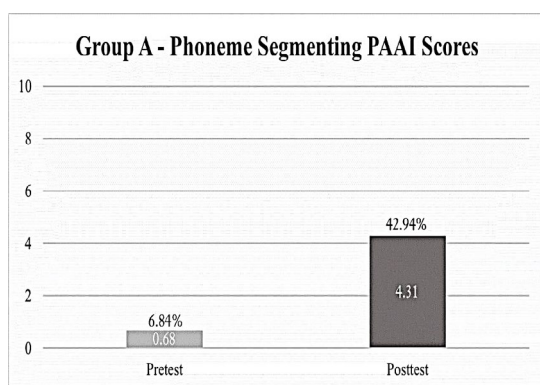
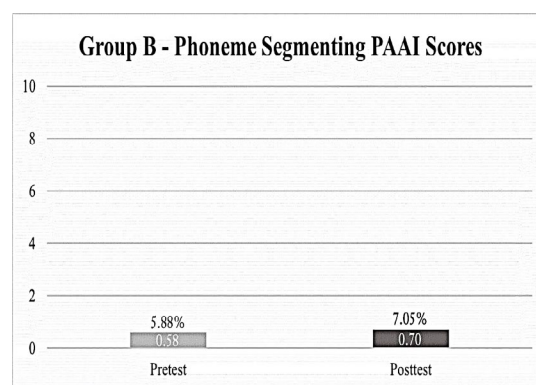**Figure 8**. Group-A pretest/ posttest scores

Figure 9. Group-B pretest/ posttest scores

It is apparent that both groups performed poorly on the phoneme segmenting pretest, as presented in Figures 8 and 9. One of the influencing factors is that since the learners are Arabs, they were mixing up the phonemes of Arabic and English letters. Another pertinent point is traditional CVC word segmenting instructions focus on only a limited range of words and do not encompass all different types of words children encounter in everyday lessons and readings. In this view, the practice provided to the students that familiarized them with the words was very limited. According to Teixeria and Santos (2018), teaching specific and common words in CVC word segmentation limits children's reading abilities and causes them to struggle with unfamiliar words and phrases. Moreover, CVC word segmenting instruction can focus on breaking down words into their component sounds, sometimes at the expense of comprehension. This means that children may learn to segment words without fully understanding what they are reading, which can slow the development of reading comprehension skills (Paige et al., 2018).

Nevertheless, an evident increase in phoneme segmenting skill after the intervention was seen in Group-A. Their post-test scores were way better than their counterpart group. Students were highly engaged in playing CVC word games incorporated in the application as they were supported with developmentally-appropriate and eye-catching visuals. According to Vega (2016), kindergarten students become more active in their reading through phonics education on digital technology, which promotes achievement in subjects other than English. The results underpin the study that highlighted that students who used interactive software to learn CVC word segmentation had an increase in achievement compared to those who did not use technology (Wei et al., 2018).

The phoneme segmenting skills were determined identified based on the mean score interpretation in Table 10. The averages of both groups for phoneme segmenting assessment is shown in Table 11.

Table 10. Mean score interpretation (Rousse & Dreyfus, 2021)

Mean Score	Interpretation
21.66 – 26.00	Mastery
17.33 – 21.65	Expert
13.00 – 17.32	Proficient
8.67 – 12.99	Competent
4.34 – 8.66	Advanced Beginner
0 – 0.433	Novice

Table 11. Mean scores of students on PAAI phoneme segmenting assessment

Group	Mean Pretest	Standard Deviation	Interpretation	Mean Posttest	Standard Deviation	Interpretation	Gain
Group A	0.68	0.74	Novice	4.31	1.33	Advanced Beginner	3.63
Group B	0.58	0.61	Novice	0.70	0.77	Novice	0.18

The results show that both groups had mean scores below 4.33 in the pretest, indicating that they were all in the novice stages for this skill. After the eight weeks of integrating Jolly Phonics application, the

Group-A mean score improved dramatically to 4.31, demonstrating a progression to advanced beginner in comparison to Group-B that stayed in novice level. Group-A surpassed the performance of Group-B. The outcome suggests that conventional way of teaching phonics had few or no effects on the development of students' phoneme segmenting skills. The interactive nature of the Jolly Phonics Lessons application and the ability to practice phoneme segmenting skills independently are factors that contributed to its effectiveness for young students (Vega, 2016).

Table 12. PAAI phoneme blending assessment results comparing groups-A and B

	Group A	Group B
Mean	4.3158	0.7059
Variance	1.7836	0.5956
Observations	19	17
Pooled Variance	1.2245	
Hypothesized Mean Difference	0	
df	34	
t Stat	9.7714	
P(T<=t) one-tail	1.05E-11	
t Critical one-tail	1.6919	
p(T<=t) two-tail	2.1E-11*	
t Critical two-tail	2.0322	

*p<.05 margin of error

The results show that there is a significant difference between the posttest scores of Groups-A and B on phoneme segmenting assessment. This implies that Group-A exceeded the performance of Group-B in terms of segmenting CVC words into its individual sounds. The results support the study of Culata et al. (2022) who underscored that digital tools like iPads enhance phonics, especially CVC word segmenting, as the most complex skill proficiency level among difficult learners over time, but traditional phonics learning techniques do not provide rich learning experiences for struggling learners

Conclusion and Discussion

Addressing the first research question on letter-sound identification, kindergarten students were assessed using the PAAI letter-sound identification assessment, and artifacts to gauge their letter-sound recognition abilities. During the integration of the Jolly Phonics Lessons applications in the daily teaching of phonics, Group-A was exposed to extensive reading sessions and letter-sound identification instructions. At the end of eight weeks, it was apparent that students in Group-A performed better in letter-sound recognition than their counterpart group. All students in Group-A demonstrated significant gain in letter-sound identification, verifying the findings of researchers who advocate for the integration of Jolly Phonics application to developing students' letter-sound recognition (Alqahtani, 2020; Chmiliar, 2017; Cotter, 2012; Griffith et al., 2020; Jones et al., 2018;)

In response to the impact of the intervention on student's letter formation skills, based on artifacts, and letter formation assessment, the letter formation competency of students in Group-A grew over the four phases of the research. In addition, no significant increase has been seen to Group-B. The incorporated explicit visual and auditory instructions and immediate constructive feedback in the application were one of the influencing factors that solidified students' letter formation abilities. This conclusion supports studies suggesting that digital technology helps children build their fine motor abilities as they tap on screens and navigate the tools, which contribute in developing emerging writing skills (Butler et al., 2019; Haywood & Getchell, 2021; Ploog et al., 2013)

Regarding the achievement of the students on phoneme blending and segmenting, the PAAI phoneme blending and segmenting assessments disclosed that students in Group-A, who attended literacy classes integrated with the Jolly Phonics Lessons application, exceeded the performance of students in Group-B in terms of blending and segmenting capabilities. Findings from the current research indicate that extensive reading, backed-up with purposeful e-learning games, digital stories, and activities offered in the

Jolly Phonics application, were effective for building students' phoneme blending and segmenting skills. The findings verify studies of researchers (Aleven et al., 2016; Cullata et al., 2022; Gee, 2018; Reichert & Mouza, 2018; Vanden et al. 2021; Vega, 2016; Wei et al., 2018; Zugarramurdi et al., 2022) who highlighted that children benefit from the Jolly Phonics Lessons application's interactive features, aside from intensive independent practice, contributes in the development of the blending and segmenting competencies.

Results also revealed that there is a significant difference between the post-test performance of students in Group A and B in the PAAI letter-sound identification, letter formation, phoneme blending and segmenting assessments. Using the T-statistic for the difference between mean scores at 95% level of confidence, findings showed that Group-A students outperformed their counterpart group in terms of achievements on letter-sound recognition, letter formation, phoneme blending and segmenting. This implies that integrating the Jolly Phonics Lesson applications in literacy lessons has a positive impact on students' phonics achievement.

Declarations

Authors' Declarations

Publisher's Declarations

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Children's experiences: The institutional grip of evaluation in Swedish school-age educare

Karin Lager[1]

Abstract: Swedish school-age educare has, in the last 25 years, undergone extensive reforms with revised goals for work in practice and new working conditions. The reforms and changing conditions seem to have challenged practice in terms of quality. Since 2010, instead of programme evaluation for generating knowledge about the expected benefits for children of attending school-age educare, quality and evaluation have been regulated in the Education Act 2010:800(2010) as decentralised, continuous, ongoing systematic quality work led by school leaders and teachers themselves. The aim of this study was to examine the norms and the social order forming evaluation in school-age educare practice, including how staff think institutionally about evaluation, how evaluation is classified and categorised and identifying institutional shadows. The article is built on interviews with 53 staff members in twelve different centres. The interviews were analysed using Mary Douglas' (1986) theory about how institutions think. The analysis contains a careful reading of interviews through a theoretically informed institutional lens and has resulted in different categories of evaluation in SAEC, as well as the identification of an institutional shadow. Children's experiences is discussed as the institutional grip and shadowing goals and results in evaluation. Finally, it argues for institutional change.

Introduction

In the late 1990s Johansson and Karlsson (1997) called for a programme evaluation of Swedish School-Age Educare (SAEC) in order to identify and develop relevant content, quality criteria's and professional competencies for the centres. More than 25 years later, the evaluation of SAEC as a programme for school-age children's learning, development and meaningful leisure time is, however, still rare besides two reports from the Swedish School Inspectorate (2010; 2018). The results of the inspections are unimpressive, since the reports mainly conclude that the teaching content is unclear, and care is hard to provide since there are too many children in the groups. Instead of programme evaluation for generating knowledge about the expected benefits for children of attending SAEC, quality and evaluation have been regulated in the Education Act (2010:800) since 2010 as decentralised, continuous, ongoing systematic quality work (SQW) led by school leaders and teachers themselves.

Unlike in many other European countries, there is no regulation of group size and child-to-staff ratio to ensure quality in Sweden (Plantenga & Remery, 2013). In contrast to most other European countries, Sweden has regulations for professional qualifications, where staff are required to have a teacher education. Yet only 43% of staff working in Swedish SAEC are qualified (Swedish National Agency for Education [SNAE], 2023) and in private schools the rate is only 27%. Despite professional requirements and the high availability of children whose parents are working or studying, the quality of Swedish SAEC is ranked low, from the European perspective, due to the lack of regulation of group sizes and child-to-staff ratios (Plantenga & Remery, 2013). In addition, Lager (2020a) identified that academically educated staff, stable staff teams, dedicated rooms, available material and time to plan and prepare work are distinctive quality features of SAEC centres. The variety between quality features in practice is, however, immense. Furthermore, knowledge about how to work with evaluation in practice and how the missing regulations

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and conditions influence staff members' daily work, is lacking. According to the study by Ackesjö (2022) of evaluation in SAEC, there is a broad variety of logic for how evaluation should be carried out in practice.

Swedish SAEC has, in the last 25 years undergone extensive reforms, with revised goals for work in practice and new working conditions. The reforms and changing conditions seem to have challenged practice in terms of quality (Lager, 2020a). SAEC is, just like other pedagogical practices in the Swedish education system, obligated to work with quality and effectiveness in continual SQW, which forms the ways in which SAEC is shaped and organised (see Lager, 2015, 2019). Andersson (2013) found that, after the integration of compulsory schooling in the 1990s, in combination with a new policy to evaluate schools and SAEC together in mutual SQW, the quality part of SAEC was mostly left out of the reports. Saar et al. (2012) argue for a separate evaluation of SAEC that is different from that in compulsory schooling. Further, they claim that SAEC has a unique task to meet the children's interest and the centres must be evaluated and valued in themselves. The Swedish Institute for Educational Research (2021) research compilation on working methods in SAEC shows, however, that there are few studies in Swedish research in the field of SAEC that focus on working methods and their impact on children's learning and development.

Since there seems to be a lack of research on how staff in SAEC handle the task of evaluation in relation to both policy and conditions in practice, it becomes important to fill this gap by providing new knowledge. One starting point to impact the field is by examining staff perspectives of evaluation in practice. Therefore, this article examines the norms and the social order that form evaluation in practice, and how staff in SAEC institutionally think about evaluation. The following research questions are posed:

- How is evaluation classified and categorised by staff in SAEC?

- What are the institutional shadows?

This article is built on interviews with 53 staff members in 12 different SAEC centres. The interviews are analysed using Mary Douglas' (1986) theory about how institutions think. The analysis contains a careful reading of interviews through a theoretically informed institutional lens and has resulted in different categories of evaluation in SAEC, as well as identifying institutional shadows. The result is discussed in relation to the task of SAEC and previous research, and it argues for institutional change.

Background

International research on evaluation in after-school centres is limited, mainly due to the fact that the corresponding international activities (out of school/after-school programmes, after-school centres, leisure time centres, all-day-school, everyday school, extracurricular activities, school-age care, educare and extended education) do not have the same tasks regarding care, teaching and education. Swedish SAEC centres are unique in the way that they are part of an integrated education system with a mission of education, learning and teaching along with the mission of meaningful leisure time, recreation and care (Klerfelt et al., 2020). Internationally, for example, the mission of after-school programmes is linked to the care of school children with a clearer focus on social work in vulnerable groups, or as practical/aesthetic activities with the aim of strengthening students' knowledge of school subjects (extracurricular activities). In a meta-analysis of American after-school programmes, Durlak et al. (2010) show that after-school programmes have positive impacts on children and youth who participate. The impact is described as a positive development in children's 'personal, social, and academic life' (p. 299). The researchers highlight the fact that, according to their results, after-school programmes need to be recognised as an important community focus for promoting the personal and social well-being of children and youth. At the same time, the results show large variations in how effective the programmes are and Durlak et al. (2010) suggest that further research should look into the variations between the programmes and how these variations impact the development of the children.

From a European perspective, Plantenga and Remery (2017) examined the structural quality aspects of childcare of school-aged children. In Europe, there are also variations in programmes for the care and education of school-aged children outside of the school day, which makes it hard to compare. Nevertheless, when the indicators 'child-to-staff ratio', 'maximum group size' and 'qualification of staff' are used, quality

differs a lot between the European countries. Due to the structural quality, the results can be interpreted as 'countries that invest in a childcare infrastructure also seem to take account of the quality of OSC' [Out of school care] (Plantenga & Remery, 2017). The results are connected to the childcare system for younger children in the different countries and the welfare state and its funding. Like the American meta-analysis (Durlak et al., 2010) Plantenga and Remery (2017) suggest the need for more research about quality in each programme and more process quality.

In contrast to American after-school programmes, as well as those of many of the European countries, Swedish SAEC centres have both tasks of care and education within one and the same form of programme, which is at the same time encompassed by a broader teaching concept than compulsory school, which should form a whole entity of care, learning and development. Haglund (2015) shows the result of the 'schoolification' of the SAEC practice when encounter the elementary school´s organisation of content and work forms. As a result of the SAEC centre being evaluated in connection with the school´s quality reports, Saar et al. (2012) argue that SAEC centres has been assessed based on the school´s facilities and as a unit together with the school. Instead, they emphasise that the SAEC centre needs to be studied and evaluated in itself and that the school´s norm regarding the SAEC centres should be challenged (see also Lager, 2015). The researchers suggest that an evaluation of the SAEC centre in itself entails an exploration of knowledge opportunities in SAEC centres in everyday practice, where the children should be involved to a greater degree (Saar et al., 2012).

As noted previously, there are a lack of working methods for evaluating teaching in SAEC as part of SQW. However, the SAEC social pedagogical tradition also includes the mission of meaningful leisure time and social togetherness as quality criteria (Haglund et al., 2020), but these criteria are rarely evaluated. The everyday practice in the SAEC evaluation within the school system is usually characterised by traditions clashing when the goal management processes do not recognise the local practice´s quality criteria or need for development (Lager, 2020b). In Lager (2015; 2019), however, it is shown that the SAEC centre's tradition of local evaluation, with a focus on social and relational learning, can still be the focus of the teachers´ evaluation. The teachers in Lagers (2015) study used several different methods in their work to generate knowledge about their practice (observations, estimates, interviews), which could also be communicated with the leader of the centre. The general opinion, however, is that such work is difficult to carry out in view of the structural deficiencies that exist in SAEC centres today, lack of time for work team meetings, lack of time for planning and set-up and, not least, lack of qualified personnel (Lager, 2020a).

In a recent study on evaluation in SAEC centres, Ackesjö (2022) shows how the evaluation of SAEC centres is part of a neoliberal trend (compare Lager, 2015), like many other public activities, while evaluation is also guided by the professional logic of the teachers. However, the study shows that the task of evaluation appears to be complex and contradictory with regard to the different logic for evaluation and goal fulfilment and exposes the need for additional knowledge about evaluation in SAEC practices. To summarise, there seems to be a lack of both theoretical and practical knowledge about evaluation in SAEC; difficulties which are most likely intertwined.

Theoretical Points of Departure

To be able to interpret or change the (school) actors you need to understand the institutional thinking (Douglas, 1986; Trondman & Winerdal, 2019). When institutions think there is a need for more than a rule or a law on paper, it also needs to feel real and connected to everyday life. Douglas (1986) calls this the 'contemporary mood' (p. 69) in and around the institution. The contemporary mood is connected to the aspect of legitimacy and how the social order of the institution needs to legitimise its institutional thinking. To order the institutional thinking of SAEC staff, there is a need to identify the thinking style within institutional processing (p. 91). Every little thing staff do is something that classifies the social order of the institution. The processing helps to control the thinking, to shut out things that do not conform to the social order of the institution. Douglas' (1986) institutional theory in this article makes it possible to analyse what kind of evaluation is legitimated in SAEC. How institutions think and visualise, Douglas says, and how individuals and programmes are classified and categorised, are in line with what can be thought of.

Trondman & Winerdal (2019) argues that Douglas theory about how institutions think can contribute to educational studies by explaining the social order and institutional grip. This is helpful when interpreting the actors handling in practice. To identify the categorisation and classification of evaluation in the social practice, it is important to understand the norms of the thinking world the social order for evaluation in SAEC. The institutional processing works towards the joint persistence of confirming the institutional thinking. The categorisation works to control what it is possible to think of. Problems seem to be solved within the given form of the thinking style, such as 'This is the real way of doing it'. This is what Douglas (1986) calls the 'institutional grip'.

Trondman and Winerdal (2019) describe the things the institution does not think of as 'shadowed' institutional places. The shadow is outside the thinking world of the institution. The institutional thinking lacks critical thinking, Douglas (1986) argues. The shadow does not belong to the institutions' own understanding, which explains why the people in it cannot question it. This makes it important to also analyse what is not talked about and questioned in the SAEC staff's evaluation.

Method

Research Design

This study is part of a project about children's leisure in school-age educare, where 12 centres were followed for one week each with observations and interviews with staff and children. Group interviews with staff in the twelve centres is used in this article.

Context of the Study and Participant

In the interview groups there was a variation in the numbers of people taking part, and a variation in education degrees, experience, in locations of schools, etc. (see Table 1).

Table 1. Interviewed staff and centres

Centres	Number of staff members interviewed	Staff	Location P (private school)
Antelope	4	Mix of teachers and staff with and without degrees	Countryside, rural, small school (P)
Bear	6	Mostly staff without degrees, some with	Large town, urban, small school
Dolphin	4	Teachers with degrees	Middle-sized town, large school (P)
Elephant	3	Mix of staff with and without degrees, some substitutes	Large town, urban, large school
Fish	6	Teachers with degrees	Small school, middle-sized town
Gorilla	6	Mix of staff with and without degrees	Large town, urban, small school
Hare	2	Mix of staff with and without degrees	Small town, rural, middle-sized school
Impala	3	Teachers with degrees	Large town, small school
Koala	2	Mix of staff with and without degrees, some substitutes	Large town, small school
Lion	8	Mostly staff without degrees and substitutes	Large town, small school
Swan	3	Mix of staff with and without degrees and substitutes	Small town, middle-sized school, rural
Tiger	6	Mostly teachers with degrees	Large town, small school,

Note. This variety in staff qualifications mirrors the Swedish situation, where there are few teachers with a degree in Education.

Data Collections Tool

To be able understand the social order of evaluation in SAEC, group interviews were carried out with 53 staff members from 12 different SAEC centres. Group interviews were chosen to develop an in-depth discussion of evaluation. Inspired by focus group interviews (Parker & Triter, 2006; Wibeck, 2010), themes for discussion in groups were created by the researcher. The themes were elaborated on in the interviews and the group members discussed different perspectives with each other, led by the researcher. This method is valuable, not just to answer the researcher's questions, but also to delve more deeply into

the theme, so the group members can see that they perhaps have different perspectives and can contribute not only to the research, but also to the understanding of the other group members. The twelve group interviews were recorded and transcribed by the author.

Due to ethical considerations, all participating staff were informed by the researcher about the study and gave their written consent to participate (Swedish Research Council, 2017). All staff at SAEC centres who had the opportunity and interest to join were welcome to participate in interviews. This resulted in groups ranging from two to 10 participants, who were interviewed at their workplaces. The variation in numbers of participants also depended on the size of the SAEC at the school and how it was organised. The time of the interview was set up in a dialogue where staff had time to sit down and talk, mostly for a period of one to one-and-a-half hours. They were all informed that they would be kept anonymous and that all data would be kept safely at the university, according to the regulations. No names of people, schools or SAEC centres are used; in cases where there are names, these are fictitious. In Sweden, SAEC centres are usually given names. In this study, fictitious animal names are used.

Data Analysis

Inspired by Douglas' (1986) theory of institutional thinking, the interest of this study is aimed at the institutional grip concerning evaluation in SAEC. Douglas uses two concepts for the institutional processing, categorisation and classification. In this article, these concepts are used to analyse what it is possible to think of regarding evaluation in SAEC. The categorisation controls the institutional thinking of evaluation. In this article, classification is used to analyse the categorisation in-depth, looking in detail at how the categorisation is built up.

In the first phase of reading the interviews (332 transcribed pages), the topic of evaluation in general was coded. In the next step, classification of the coding was done, which identified how staff think about evaluation and what norms inform this. In the next step, each categorisation was delved into in order to deepen the understanding and identify the classifications within the category. This analysis shows how different thinking is possible in the same category. There is a common social order for SAEC staff but, at the same time, there are different classifications, showing the many different ways to think within a category. This forms the first part of the result.

In the last step, I analysed what the staff do not talk and think about, which I had to ask more about in the interviews. In some examples, staff members tried to answer my question but sometimes there were simply no answers, as it was outside their way of thinking of evaluation. This shadow in the institutional thinking forms the second part of the result.

Findings

The findings are presented in two parts. The first part presents the analysis of how evaluation is classified and categorised, while the second part of the findings presents the institutionalised shadows.

Classification and Categorisation of Evaluation

This first part of the result deals with the question of how evaluation is categorised and classified by staff. During the analysis, three different categories were identified, all of which contain the span of how staff think about evaluation within the categorisation, classified in different ways. The themes are *Evaluation in the moment or on special occasions, Documentation as mental notes or essays* and *Dialogues in practice or structured interviews and surveys.* Each category will be described, visualised in examples, and then interpreted.

Evaluation in the Moment or on Special Occasions

In this category, evaluation is classified in a range from talking about evaluation as something that is done in time, with the children or with a colleague. It can be done by asking children questions or telling the children to show the answers with their thumbs, up or down. At the other end of the range, staff

members classify evaluation as something that is only done on special occasions, particular days that are prearranged for evaluation.

Evaluation in the Moment

Teacher 1: I think we evaluate every now and then in the moment with each other, because we rarely have time after a session, we don´t have time for reflection.

Teacher 2: No, we don´t have that time.

Teacher 1: But we meet once a week and then we talk.

Researcher: What are you doing there, at that moment?

Teacher 1: Checks how it went, what was good, what was bad, maybe we wouldn´t do this again or 'Good, this was fun we´ll try it again', 'The kids liked this' and then you can evaluate by talking to the children, how they experience it.

(Interview with staff at the Fish)

Special Days for Evaluation

Teacher 3: Exactly, because we got these days, we sat and wrote but then we wrote the 'Fripp' there, and the evaluation there. (…) Then we wrote that we have done it a couple of times but not as often as we said, maybe we did it every two weeks, or every week, maybe it was every other week, maybe it was only once a month? And then we wrote why, because they were a little different. So, we wrote that in the 'Fripp', the evaluation, when we had that evaluation day. Because it´s that one we´re going to have again, you mean, next week?

Teacher 1: Yes, we have, I was the one who brought up this idea that we should have evaluation at the work team meeting, and we need these days so we can evaluate and move forward.

Teacher 3: Quarterly huh?

Teacher 1: Yes quarterly, and then we have one in the middle of the semester, we didn´t have that before but it is Moa [leader] that has realised that now.

(Interview with staff at the Koala)

In the first example above, the staff talk about how they use daily practice to talk with the children, and how they can bring these moments into their mutual planning time once a week. It is nothing that is written down, only talked about and directly connected with different activities they have done with the children. In the other example, the staff are classifying evaluation as something they do on special occasions for evaluation. These occasions seem to be important to move their work forward. In the second example the work is a written evaluation in a special model called a 'Fripp'. To be able to work with the evaluation model, they need mandated time from the leader. Even if these two examples differ in how evaluation is classified, whether orally or written, both examples show that staff categorise evaluation as something both collegial and time consuming and that it is based on the children's experiences of the activities they offer.

Documentation as Mental notes or Written Essays

There seems to be a common categorisation of documentation as a part of evaluation in all staff groups, as a part of SQW. When staff classify documentation, it can be from thinking, taking mental notes and remembering by themselves, or, as other explains it, writing long essays.

Mental Notes

Preschool teacher: Yes but you don´t put it on paper but you like ... .

Teacher 1: Yes, but you still make some form of this … .

Preschool teacher: ... just like ... .

Teacher 1: A storage in mind.

Preschool teacher: Yes, a mental note there, yes.

Teacher 1: Yes, and then you come up with 'Yes exactly that, there are several children who have said this, it is something they would like to do'.

(Interview staff at the Gorilla)

Written Essays

Teacher 4: You don´t have to write much in them here either, and it´s very clear and simple.

Teacher 3: It depends on who you talk to, I think because at Pile (another centre in the neighbourhood) they write essays, and I just … essays? I don´t think you need to do that.

Teacher 1: It must have been someone who writes essays.

Teacher 3: Yes, that´s probably the person I´ve been talking to then, unfortunately, so I get really stressed!

Teacher 4: But I think that that system is great because in the 'Fripp' template or whatever you want to say, you immediately have all the goals that you can connect to the curriculum so you can just click. But we actually work with that, then you can just put it in, and it´s there! It´s not that you have to sit and copy and paste or something like that, but it´s clearly there.

(Interview with staff at Fish)

In these examples documentation is categorised as part of evaluating their work, but it is classified in different ways depending on how they think about it. In the first example, documentation is classified as a mental note; the preschool teacher says, 'it is not written on paper', and later, 'it is a mental note'. In the second example, the staff talk about how they get stressed by hearing that other colleagues are writing long essays as documentation. They talk about how, instead of writing essays, they want templates they just can 'click on'. They classify the task of evaluation as one where there has to be a lot of writing, but they are also discussing ways to get around it in practice. Even in this case, they talk about the model named 'Fripp', a kind of template forming the way they can think about documenting and evaluating. However, documenting is classified as something that can range from mental notes to written essays, based on memories, mental notes or written notes of children's experiences.

Dialogues in Practice or Structured Interviews and Surveys

In this category, evaluation is categorised as gathering children's experiences of learning and development. On the one hand, this is classified as gathering everything together in a dialogue. On the other hand, it is classified as conducting structured interviews or surveys where teachers ask questions of the children, which are later gathered and analysed by the teachers.

Dialogue in Practice

Teacher in training 2: You sometimes do thumbs up and things like that, I think that there is a dialogue that is not so systematic but is still there. Then you need to document it with the children in dialogue, you listen in and feel it you see what they do and try to follow it. So, I think there is a dialogue, and I think, for example, that it is a privilege to have the mornings sometimes because you can have another conversation.

Researcher: OK.

Teacher in training 2: Even if there aren´t that many children, it´s like, they get a little more space to talk, if something special has happened, maybe you talk about that too.

(Interview with staff at the Bear)

Structured Interviews

Teacher: I spontaneously think that we have tried to systematise the students´ participation in the evaluation of the activities, we have student interviews that are ongoing. We try to conduct and have them with everyone to get their experience of the centre and how they enjoy themselves and so on, to help us. Maybe we change some things or make some things clearer or something. Then we use the iPad, as it is usually relatively high motivation to think about various more specific things.

(Interview with staff at the Swan)

In this category, evaluation is categorised as gathering children's experiences and classified as something done as staff in daily practice in dialogue with the children or as structured interviews and surveys. The classification shows a range from low structure to high structure, where both ways aim to hear about the children's experiences. The issue about being systematic is highlighted, either not so systematic or very systematic. In the first example, staff classify dialogues in the mornings as good because there are fewer children participating and the dialogue form works well. At other times of the day there seem to be too many children or no good time to gather all the children's perspectives so, in order to let all

the children give their perspectives, they structure it with interviews or surveys, sometimes digitally. For example, in the second interview, staff talk about using the iPad to answer questions from the staff. This categorisation, like the one before, shows that the degree of structure differs in the centres, which mirrors the way it is classified.

The social norm of evaluation is formed as conducting children's experiences. Gathering children's experiences seems to be the institutional grip. Each of the three categories shows the institutional thinking of evaluation as gathering children's experiences of the practice, and for that they sometimes use more or less structured methods.

Institutionalised Shadows of Evaluation

This second part of the result deals with the institutional shadows. In analysing staff members' discussions about evaluation, notes were taken about what is not spoken or thought about. Hardly any of the interviewees talked about the link and connections between doing good work with children's learning and leisure and the school's facilities. Even if children's experiences are the institutional grip, evaluation, as goals and outcomes of the work, is not discussed. In the following examples it is visualised.

Shadows

Researcher: Yes, but you said at the beginning, I think you talked about why you work in this centre because there are specific facilities. It is made visible that you have good facilities versus if you were to work in another department that has worse. So, what is it possible to achieve concerning the facilities? I am looking for if what you can do is dependent on purely physical premises and if they do not exist, is it visible in your evaluation if that leads to success, or perhaps failure?

Pedagogue: In the best of all worlds, it should be so. I think that you shouldn´t see any difference based on what facilities you have. Because we have talked a lot about that, it has come up that we are doing very well here because we have the premises. But we say that it´s not the facilities that make it work, it´s what you do with it. I hope, just because you have more rooms and things like that, that it it doesn't make a difference. I would easily accept that challenge if they were to put me, I don´t know where I'll end up in the fall, for example. But if they were to put me somewhere else where I get to be in a classroom, it´s still the same thinking. Like we´re going to do good work, as good as we can, regardless of where we are. So, I don´t want it to be seen that there is any difference, because of where you are.

(Interview with staff at the Swan)

In this quote I try to formulate a question about how their work is connected to the facilities in their practice. The pedagogue, on the one hand, says that they have rooms that differ from the others at the school but, on the other hand, he says that the rooms do not mean anything, it is the thinking of the staff that matters. Despite having rooms or not, they will be able to do good work. I argue that this institutional thinking does not give space for any critical thinking about their work in relation to the facilities. It is institutionalised in the social order that the room or other physical premises, such as number of children, etc., do not influence the quality of their work; it is not questioned.

In the next example, I ask about the facilities in practice in influencing the ability to do good work:

Researcher: Do you usually think in terms of how the facilities you have influence what you can do?

Caretaker: Yes, sometimes it happens.

Teacher: Sometimes. Yes, it can be seen somewhere in your documentation.

Caretaker: Yes, it can be sometimes in evaluations that you can … .

Teacher: Yes, in that there are only two of us.

Caretaker: Like when we baked waffles, for example, the other day, or last Friday, we had a lot more children than we usually have, we had 35 against 25 on a Friday.

Teacher: And then you´re alone because she is in the kitchen, and then I´m alone with everyone else and then a lot of things happen because then you´re not enough staff.

Caretaker: Then it will be seen in our evaluation that you are short on staff.

Researcher: Because there is something that I think often doesn't come up because it has become so obvious that you lack resources.

Teacher: Yes, I know exactly.

Caretaker: I know, for example, last year when these children were smaller, we didn't go down to the beach because of there being 35 children and then also a very worried parent so then you back off.

Researcher: Yes, so there will be activities that you leave and those that don't leave then?

Teacher: A little longer then.

Caretaker: Yes exactly.

(Interview with staff at the Hare)

In this example, the teacher and caretaker discuss how the number of staff decide what can be done, that some activities, such as baking or going to the beach, are not possible with the number of staff and children. Not doing things they should is the social norm, the way to think around it. How this affects their work in terms of quality is not thought about. Even if, as in this example, they discuss how they are short of staff and cannot do the things they want to, no one seems to care that the children are deprived of a lot of learning activities and meaningful leisure in line with this thinking. The lack of facilities being as it is, this is the contemporary mood. It is not thought about in terms of goals and outcomes. There is really no connection between how their work facilities are linked to the fulfilment of the task. Only when I asked that specific question did some of them try to give an answer, but many times there was no answer, meaning that they hadn't thought about it! This, I argue, is the shadow of the institution's social order. What is shadowed is that there are no facilities in practice to work with the curriculum goals. Practice is constrained and leads to lack of continuity and competence.

The shadow, what is not talked about, lacks critical thinking. Evaluation, as presented above, is mainly about children's experiences of their work, which of course are important, and also about the models they use for documenting these experiences. But how these experiences are connected to what is supposed to be done – the goals and the outcomes, the results of the work in terms of learning, development, care and meaningful leisure – is not thought about, or even criticised. Children's experiences remain at the level of local knowledge, linked only to isolated activities they have done.

Conclusion and Discussion

The aim of this article has been to examine the norms and the social order of evaluation in practice, and the institutional thinking about evaluation in SAEC centres. The question of how evaluation is classified and categorised by staff is answered, as evaluation is categorised as gathering children's experiences, but it is classified to varying systematic degrees. Mostly, the process seems to be like other neoliberal trends of quality and effectiveness in the work with SQW, using templates and models. However, the degree of structure differs when you look at the classification, and there is no discussion at all about goals to be fulfilled. The institutions are structured in different ways depending on resources and facilities. We know from previous research (Haglund, 2015; Lager, 2020a) that the practice in general is restrained but it seems to differ from one centre to another in how firmly it has to be structured. Some staff teams seem to have more time for working and reflecting together. Other teams seem only be able to do the very simplest when it comes to the time-consuming work of evaluation, but doing it in interaction with children seems to be the social order. So, even if the classification seems to differ in order of structure, the categorisation of evaluation of what it is in practice is quite similar, in terms of social order.

The second research question has examined the institutional shadows of evaluation. The fact that daily practice suffers from ideal conditions, lack of continuity and lack of competence, is not related to the fact that the goals are not fulfilled. Mostly, staff think that they have to organise daily practice by themselves first, then work with the goals and then evaluate. They seem not to have thought that it could be done in another way – the institution lacks critical thinking, as Douglas (1986) puts it. This, I argue, is an institutionalised shadow – the link between conditions in practice and the goals and outcomes of the evaluation, after years of constraints, lack of ideal conditions, loss of competence and lack of pedagogical

leadership of SAEC. With this shadow, it is not possible to make any differences which indicate the need for institutional change in practice.

Even if there are regulations in Sweden for evaluation as part of SQW, there seem to be variations in practice. This is connected to the way of thinking in practice, the social order and how institutions think of evaluation. It is also connected to the wide task of evaluation to include care, meaningfulness, learning and development, a very broad task. In addition, the staff in Swedish SAEC, along with the lack of ideal conditions, lack competence. From a European perspective, Sweden is rated highly regarding staff regulations but low according to the lack of regulations of group size (Plantenga & Remery 2013; 2017). In Sweden a lot of children participate in SAEC, compared to other countries around the world. It is not very common that over 80% of all children in school aged between six and nine years of age attend SAEC, like in Sweden (SNAE, 2023). In the light of American studies (Durlak et al., 2010), good quality after-school programmes are highlighted as promoting positive development in children and youth.

An interesting note is that most of the staff categorise evaluation as something they need to discuss in work teams, together. In this way, evaluation is categorised as something mutual. Some of the staff teams say they have some time for this, some do not. Staff try to gather to discuss together, reflect upon their work and documenting the proceedings and they use mutual planning time for planning and reflecting, but it all remains as local knowledge.

Based on this study's findings I suggest that it is time for a programme evaluation of Swedish SAEC, as Johansson and Karlsson (1997) called for in the 1990s. With such a high level of participation of children in Swedish SAEC, the outcomes of such a policy should be informed. It is also suggested that policy for SAEC should guide the staffs work with evaluation of children's learning, development, and meaningful leisure. The current study was conducted with 53 staff members from 12 different centres, representing centres with variations in education degrees and conditions. The limitations of this study may be connected to the stories of the staff. It thus suggests that more research about goal fulfilment and evaluation is needed in teachers' daily practice. Just as with other practices, SAEC staff talk about SQW and tools and models to achieve quality in their work with evaluation. The institutional shadow of evaluation in SAEC and the lack of possibilities to fulfil the mission of SAEC shows, as Douglas put it, that institutions lack critical thinking.

Declarations

Author's Declarations

Publisher's Declarations

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Balancing acts: Parental coping and adaptation during COVID-19 in Türkiye

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Abstract: The global health crisis, COVID-19, swiftly enveloped people all around the world. Upon the World Health Organization declared the COVID-19 as a pandemic, numerous countries have determined their own road maps. The main purpose of this study was to understand the effect of the COVID-19 pandemic on the life balance of parents with children aged 0-6 years in Türkiye. This study was a cross-sectional design. The data was collected from 514 parents who have at least one child at the age of 6 or less. Results showed that there were several direct and indirect relationships between demographic measures (gender, age, educational status, number of children in home and employment status of parents), mediating variables (self-rated measures such as support from distance learning, support from others), and endogenous variables (life balance variables). The findings of the study showed that "new normal" has entailed potential job losses for some individuals and changed perspectives and delivery methods of education. The findings also highlighted the importance of parents' engagement into education for understanding and helping children's development.

Introduction

The COVID-19 pandemic has rapidly spread to countries worldwide, affecting people mentally, physically, or psychologically (Abel & McQueen, 2020; Abela, 2020; Cao et al., 2020; Duan & Zhu, 2020; Trinidad Montano & Lacaran Acebes, 2020). Many countries have implemented policies requiring people to limit or eliminate daily travel of any kind. Although, reports indicate that children have been less directly affected by the coronavirus, the closure of schools for several weeks in almost all countries has significantly impacted school-age children (Centers for Disease Control and Prevention [CDC], 2020; United Nations International Children's Emergency Fund [UNICEF], 2020). Although it seems like the widespread impact of the pandemic has disappeared, the emergence of new variations and the news about different types of viruses are triggering people's fears. Especially the restrictions implemented during the pandemic still strongly linger in people's memories and have particularly affected the life balances of families during the process.

During the pandemic, schools in 188 countries around the world were closed, affecting approximately 1.6B K-12 students and, directly and/or indirectly, their parents (UNICEF, 2020). This led to an inevitable burden on families. Parents assumed multiple new roles at home, such as teacher, doctor, babysitter, peer, and more. Families with children aged 6 and under had to address the social, mental, physical, psychological, linguistic, and cognitive development of their kids. Additionally, the CDC (2020) released specific guidelines for parents and caregivers. At first glance, these roles and related responsibilities might seem like daily tasks for many parents, but shelter-in-place and social distancing orders limited a parent's ability to seek support.

The increased demands of parenting were not the stressors for many families. UNICEF (2020) reported that millions of parents had difficulty maintaining livelihoods and income sources due to

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workplace closures, corporate shutdowns, and significant drops in the stock market. As the quarantine period lengthened, economic, fiscal, and psychological uncertainty continued causing drastic disruptions to the established daily routines and rhythms of family life, also known as life balance.

COVID-19 and Turkish Parents

The World Health Organization (WHO) (2020) published a protocol for all countries to follow to combat the pandemic. In addition to this protocol, countries devised their own road maps, considering their health systems, financial status, and patient numbers. The course of the COVID-19 pandemic in Türkiye was similar to that in other countries; however, the growth rate in the first two weeks surpassed all other nations (Turkish Ministry of Health, 2020). Following WHO's declaration of the pandemic, the Turkish government implemented radical measures affecting various sectors such as social life, economic, political, administrative, legal, military, religious, educational, and cultural fields, impacting millions of Turkish citizens significantly.

Beginning on March 16, 2020, preschool, primary, and secondary school students were dismissed for one week. Following the initial school closures, the Ministry of National Education (MoNE) announced that education would resume through distance learning via television and the internet. This new approach to instruction was surprising for parents and children alike across the country. Following days, the MoNE stated that owing to planning and infrastructure preparations, the process related to distance education and content development would be carried out through the Education Information Network (EIN) in primary, secondary, and high schools. Although a comprehensive educational plan was implemented for students and families from kindergarten through high school, a separate approach was needed to support families with children aged 0-6 years due to the differing developmental needs of these younger children.

Uludağ (2008) suggested that when families receive support from others (e.g., teachers), parents could learn how to assist their children at home. Furthermore, other research showed that parents' participation in preschool education contributes to the cognitive, social, and emotional development of children, as well as their academic achievement at home (Berger, 2008; Cabus & Ariës, 2017; Galindo & Sheldon, 2012; Konca, 2020; Simsar & Kadim, 2017; Mart et al. 2022; Uludağ, 2008; Wilder, 2014; Yalçın & Simsar, 2020). Correspondingly, researchers stated that, without support, parents' participation in the education process of preschool children was insufficient, and this inadequacy could pose a significant problem in the implementation of home education during the pandemic and in classroom activities (Burak & Simsar, 2022; Deveci & Aykaç, 2018). Given what was already known about home education for children, efforts were made to provide not only broad governmental support for families with young children but also more direct assistance, such as preschool teachers collaborating with parents, caregivers supporting working parents, utilizing EIN and EIN TV, and grandparents assisting with the daily care of children.

Despite efforts specifically targeting preschool-aged children, issues arose from the one-size-fits-all approach. Working parents, having different educational levels, often lacked sufficient information about promoting child development or maintaining developmentally appropriate expectations to support their children at home. Previous research both supported the efforts of these parents and provided insights into solutions for the resulting challenges. In a 2018 study, researchers suggested that "A critical way to improve school education and facilitate students' development is to encourage parents to get involved in the education" (An et al., 2018, p.44). Furthermore, the International Labour Organization (ILO) (2020) stated, "By giving working parents the time, information, services, and resources they need to cope with the crisis, family-friendly policies and practices can make a critical difference. They also make an important contribution to wider social protection" (p. 2). Erdoğan and Demirkasımoğlu (2010) suggested that financial support was needed especially for low SES parents who did not have enough time for parental involvement in education and parenting at home.

Life Balance

Life Balance was defined as "a satisfying pattern of daily occupation that is healthful, meaningful, and sustainable to an individual within the context of his or her current life circumstances" (Matuska &

Christiansen, 2008, p.11). Parents possess diverse roles, role requirements, personalities, values, and interests that evolve over time, especially during the pandemic process. For instance, mothers of children ages 0-6 might assume roles such as a mother, teacher of young children, and playmate, with fathers potentially having different roles. However, during the COVID-19 pandemic, it can be presumed that changes in these roles and interests would impact the life balance of parents (ILO, 2020; Pisano et al., 2020). ILO (2020) highlighted that for working parents, the potential risk of unemployment or inadequate precautions in the workplace could elevate parents' stress. Consequently, heightened stress may have influenced parenting practices and parent-child relationships (ILO, 2020; Pisano et al., 2020; Simsar et al. 2021).

Karaman et al. (2018) conducted research with a large group of Turkish participants and discovered that the concept of balance in the life balance model comprises eight sub-areas: general health, positive orientation, friendship, career, depression, spiritual support, quality of relationships, and sleep disturbance. In studies on life balance conducted during the pandemic, researchers (Ayar et al., 2022; Lonska et al., 2021; Tomohiro, 2021) identified that the most affected group was the employed population with minor children in the household. Many people's careers were impacted during COVID-19; they lost jobs, faced unpaid leave, and worked from home. Not only were people's careers affected, but also their mental health (depression, anxiety, stress), positive orientation (hope, optimism, and life satisfaction), sleep, general health, relationships, and friendships (Karaman et al., 2023). Parents' responsibilities amplified, creating an additional burden (Lonska et al., 2021). Life balance is not a static concept; it is dynamic (Karaman et al., 2018). Therefore, it is susceptible to rapid influence by unexpected events, such as disasters and pandemics.

COVID-19 introduced considerable uncertainty due to both the nature of the disease and its impact on people's social lives and economic situations. People's mental health and life routines were disrupted by this uncertainty (Pisano et al., 2020; Toran et al., 2021). It is widely recognized that stress management impacts physical health and directly affects people's life balance (Fessell & Cherniss, 2020; Karaman et al., 2022; Karaman & Sarı, 2020). Consequently, during the pandemic, maintaining robust biological, physical, and mental health is imperative. However, one of the latest studies conducted by Satcher et al. (2020) concluded that fear and anxiety escalated during the pandemic and impinged on participants' mental health. Stress is known to correlate with depression, sleep disturbance, obesity, and various other health conditions (Matuska & Christiansen, 2008). Parents of children aged 0-6 may experience anxiety about continuing to educate their children at home, monitoring their child's development, overcoming economic challenges (UNICEF, 2020), and ensuring their child remains healthy (CDC, 2020).

Likewise, researchers have also noted that "Societal pressures or demands based on gender may influence perspective on life balance for some" (Davis et al., 2014, p. 195). In this context, males and females may experience life balance differently (Davis et al., 2014). From this standpoint, the life balance of Turkish mothers with children aged 0-6 seems more affected than that of fathers during the COVID-19 pandemic. In Turkish culture, one of the primary roles of mothers is child-rearing. Women, especially, play a crucial role in addressing the physical and emotional needs of children aged 0-6 (Can & Aslan, 2017; Simsar, 2021a). Similarly, Chan et al. (2007) examined parental response to a child's isolation during the SARS outbreak. Pertinent to the current study, they observed that mothers were particularly impacted by the SARS outbreak due to disruptions in their daily family life and work routines (Chan et al., 2007). Likewise, Pisano et al. (2020) studied child behaviors during the COVID-19 pandemic and found that parents reported increases in their children's irritability, intolerance to rules, whims, excessive demands, and sleep problems (difficulty falling asleep, restlessness, frequent awakenings, especially at age 4). Additionally, the study revealed a decline in children's vocabulary, notably for ages 4, 5, and 6. In another study, Guan et al. (2020) conducted qualitative research with 15 parents of preschool children in Beijing, finding that nearly all children were going to bed later and waking up later compared to pre-COVID-19 times. When challenging behaviors and events related to parenting and family life escalate, it is plausible that parents' life balance may be affected in various areas, such as general health, quality of relationships, depression, and sleep disturbance.

Current Study

Matuska and Christiansen (2008) stated that individuals, particularly parents, occupy varying roles and possess distinct personalities, values, and interests, all of which are subject to change over time. Further, there is evidence to suggest that societal expectations imposed on mothers and fathers influence their life balance, especially in light of altering roles and routines during the pandemic (Chan et al., 2007; Davis et al., 2014). Several studies have highlighted a spike in levels of fear and anxiety amongst the populace during the pandemic (ILO, 2020; Pisano et al., 2020; Satcher et al., 2020). The pandemic has exacerbated stress among parents concerning financial needs (Erdoğan & Demirkasımoğlu, 2010; ILO, 2020). This state of affairs is known to impact not only adults but also children, manifesting in behaviors such as increased screen time, delayed bedtimes, and early risings (Guan et al., 2020; Pisano et al., 2020). In this context, parents find themselves burdened with numerous responsibilities to address these concerns. Given the heightened stress, financial strain, and increased workload, it proves challenging for families with young children to maintain primary responsibility for the continuous education and developmental support of their children (Deveci & Aykaç, 2018). Consequently, this study aimed to explore how the life balance of parents with children aged 0-6 was impacted during the COVID-19 pandemic in Türkiye. We asked the following research questions to explore and understand the life balance of families who have kids under the age of 6:

1. What are the direct and indirect effects from demographic variables (e.g., age, gender, educational status, number of children, and employment status) to the life balance components?
2. Do the self-rated variables (e.g., spending time with children, support from others, support from distance learning, and spending time on TV) mediate the effects from demographic variables to the life balance components?

In this study, we hypothesized that there are direct and indirect effects from demographic variables (e.g., age, gender, educational status, number of children, and employment status) to the life balance components. We also hypothesized that self-rated variables (e.g., spending time with children, support from others, support from distance learning, and spending time on TV) mediate the effects from demographic variables to the life balance components.

Method

Participants and Procedure

This study was a cross-sectional design. After granting the required permission from the relevant university's ethics board, we created an online survey on Google Forms. Then, we contacted all public and private pre-K schools, private nursery schools, childcare centers, and kindergartens in a city located in the Southeast part of Türkiye. They passed the link of our survey to about 850 parents. The study utilized a convenience sampling method, meaning participation was completely voluntary, resulting in 530 parents completing the survey. After removing duplicate entries, we retained responses from 514 parents.

The participants were parents who had at least one child aged six or under. The study included 374 mothers (72.8%) and 140 fathers (27.2%), totaling 514 parents. The average age of the participants was 33.58 (SD = 4.75; range: 20-48). Regarding the highest level of education completed, 77 parents (15%) had completed primary school, 96 (18.7%) secondary school, 257 (50%) high school, and 84 (16.3%) had earned a four-year university degree. The total number of children in the family ranged from 1 to 4, with 168 parents (32.7%) having one child, 237 (46.1%) having two children, 86 (16.7%) three children, and 23 (4.5%) four children. Nine parents (1.7%) reported that neither parent was employed during COVID-19; 262 (51.0%) indicated that only one parent was employed, and 243 (47.3%) reported both parents were employed during the pandemic.

Measures

Demographic Form

There were five demographic questions in the survey. The first demographic question asked the gender of the parent. One parent or both parents were allowed to participate in the study. The second demographic question asked the age of the parent. The third demographic question was the educational status of a parent. The question asked the highest degree the participant completed. The fourth demographic question asked the number of children in the family. The fifth demographic question asked about the employment status of parents. The question was a three-choice multiple-category format item.

Self-Rated Measures

There were four self-rated questions (e.g., perceived) in the survey. All items were in a linear numeric rating scale format, and each participant was asked to select the option that best describes them in the past eight weeks. The response options for all questions ranged from "1=very little" to "10=very much". The first question was related to taking support from others (SO). The question was: *How much support related to childcare or household have you received from others (e.g., grandparents, friends, babysitter)?* The second question was related to spending time with children (STwC). The question was: *How much time have you spent with your child or children?* The third question was related to the time their child spends on TV (TTV). The question was: *How much time has your child spent on TV?* The fourth question was related to support from distance learning (SDL) The question was: *To what extent do you receive support from distance learning platform (abbreviated as EBA in Turkish) EIN and/or EIN TV)?* It is important to note that self-rated measures do not have prior psychometric data, however, they were assessed by a field expert prior to use.

Juhnke-Balkin Life Balance Inventory- Turkish Form (JBLI-TR)

Davis et al. (2014) developed the English version of JBLI, and Karaman et al. (2018) adapted into Turkish and validated. The Turkish form (JBLI-TR) comprises 8 subscales and 54 items. The subscales in the JBLI-TR are global health (i.e., 10 items and a sample item that *I exercise on a regular basis*), quality of relationships (i.e., 7 items and a sample item that *my marital partner or significant other loves me*), positive orientation (i.e., 8 items and a sample item that *I am happy most of the day*), depression (i.e., 7 items and a sample item that *during the last year my drinking or drug use has hurt others*), spiritual support (i.e., 6 items and a sample item that *I am comfortable with my spiritual–religious beliefs*), friendship/ intimacy (i.e., 5 items and a sample item that *I have good friends who I enjoy*), career (i.e., 5 items and a sample item that *my current job is personally fulfilling.*) and sleep disturbance (i.e., 6 items and a sample item that *I usually do not get enough sleep*). The JBLI-TR uses a 5-point Likert-type response format with responses ranging from 1 = strongly disagree to 5 = strongly agree. Cronbach's alpha values as the internal consistency varied from .77 to .83 in the adaptation study.

Data Analysis

In this study, we calculated the total scores (e.g., summed scores) for all subscales of JBLI-TR and obtained observed scores. There was no missing data on individual items in the life balance subscales. We first developed the path analysis model given in Figure 1 and ran a cross-sectional analysis. In the model, demographic measures (gender, age, educational status, number of children in home and employment status of parents) are the exogenous variables (e.g., no arrows pointing to them), the eight life balance variables are endogenous variables, and the self-rated measures are the mediating variables. Based on this model, there are both direct and indirect effects from all exogenous variables to the eight life balance variables. The indirect effects from the exogenous variables (demographic measures) to the eight life balance variables are mediated through SO, TTV, SDL, and STwC. In the data analysis, all endogenous, exogenous, and mediating variables were treated as continuous. There was no missing data in the analysis.
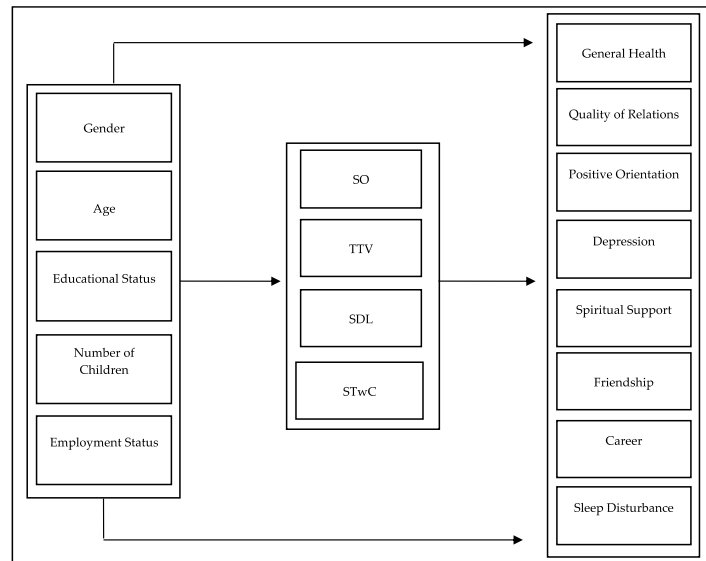
Figure 1. Hypothesized path model

However, due to encountering model fit problems in the path model, a) we removed all insignificant effects from the hypothesized model, and b) based on the suggested modification indices, we added a path from SO to the STwC, and then re-ran the model. We call this new model the final path model (see Figure 2). The bivariate correlations amongst all variables and descriptive statistics are given in Table 1. We ran both hypothesized and selected models in Mplus software version 8.3 (Muthén & Muthén, 2019). The sizes of the standardized total, direct, and indirect effects from exogenous variables to endogenous variables are given in Table 2. The sizes of the standardized total, direct, and indirect effects from endogenous variables to endogenous variables are given in Table 3.
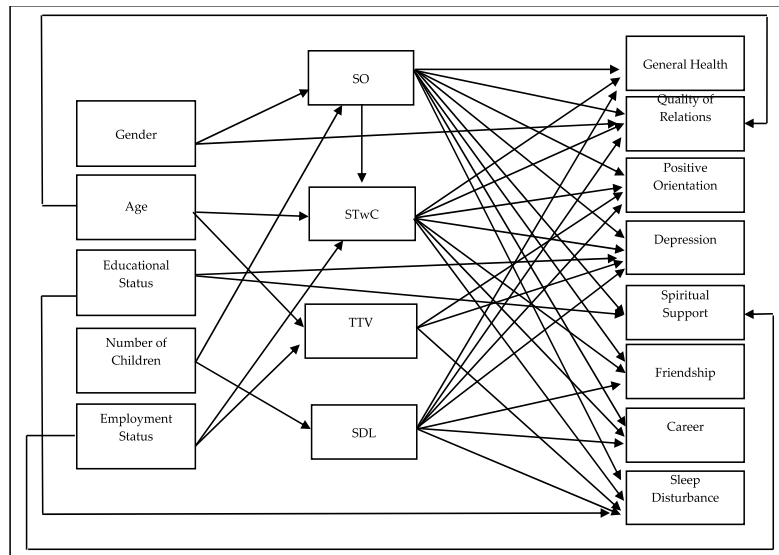
Figure 2. Final path model

Results

Descriptive Statistics

The descriptive statistics were given in Table 1 as means and standard deviations, zero-order correlations among the studied variables, and Cronbach alpha values for internal consistency. As seen in Table 1, aligned with original and adaptation studies, Cronbach alpha values for the subscales of the JBLI-TR varied from .75 to .88. Furthermore, there was no spuriously high correlation between any of the variables.

Table 1. Descriptive statistics, zero-order correlations among the variables and cronbach alpha values

Variables	Mean	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. General health	36.90	5.89	.80	-																
2. Quality of relations	27.63	5.06	.88	.44*	-															
3. Positive orientation	40.00	5.12	.80	.55*	.57*	-														
4. Depression	17.34	4.85	.77	-.47*	-.60*	-.62*	-													
5. Spiritual support	25.37	3.79	.75	.27*	.37*	.31*	-.39*	-												
6. Friendship/intimacy	20.57	3.17	.83	.40*	.50*	.50*	-.46*	.36*	-											
7. Career	18.85	3.84	.84	.34*	.42*	.45*	-.54*	.35*	.43*	-										
8. Sleep disturbance	16.58	5.22	-	-.45*	-.45*	-.54*	.55*	-.28*	-.34*	-.38*	-									
9. Support from others	7.77	2.91	-	.09	.08	.12*	-.02	.15*	.15*	.14*	-.03	-								
10. Time on TV	6.46	2.98	-	-.10*	-.02	-.09*	.04	-.04	-.08	-.09*	.07	.05	-							
11. SDL	5.08	3.37	-	.17*	.14*	.21*	-.05	.15*	.12*	.09	-.10*	.26*	.09	-						
12. STwC	7.90	2.95	-	-06	.00	-.02	-.06	-.08	.08	.11*	-.03	.16*	.17*	.09	-					
13. Gender	1.27	0.44	-	.04	.13*	.01	-.14*	-.09	.04	.06	-.16*	-.27*	.03	.08	-.00	-				
14. Age	33.58	4.75	-	-.01	-.05	-.04	-.04	-.03	.01	.08	-.00	.07	.17*	.01*	.15*	.18*	-			
15. Educational status	2.67	0.92	-	-.05	.05	-.03	-.21*	-.02	.14*	.23*	-.04	-.09	.05	-.16*	.16*	.22*	.13*	-		
16. Number of children	1.93	0.81	-	.06	.00	.06	.06	.08	-.03	-.06	-.00	.11*	.05	.16*	.05	-.07	.35*	-.43*	-	
17. Employment status	2.45	0.53	-	-.06	.02	-.04	-.13*	-.06	.10*	.23*	-.03	-.08	.14*	-.09	.21*	.07	.17*	.49*	-.25	-

Note. SDL= Support from Distance Learning, STwC= Spent Time with Children; * $p < .05$

Results of Model Fit

The fit indices of the hypothesized model were chi-square: $\chi^2 = (46) = 246.23$ and $p < .01$, Comparative Fit Index (CFI) = .91, Tucker-Lewis index (TLI) = .75, Root Mean Square Error of Approximation (RMSEA) = .10 and Standardized Root Mean Square Residual (SRMR) = .08. Many of the model fit indices of the hypothesized model were not acceptable. The fit indices of the final path model were chi-square: χ^2 (59) = 157.95 and $p < .01$, CFI = .97, TLI = .93, RMSEA = .05 with a 90% CI of [.04, .07] and SRMR = .05. The fit statistics of the final model indicated good model fit based on the historical criteria (Kline, 2011).

Effects from Exogenous Variables

Table 2. The sizes of total, direct and indirect effects of exogenous variables to endogenous variables in the selected model

Exogenous Variables	Endogenous Variables											
	GH	QR	PO	D	SS	F	C	SD	SO	TTV	SDL	STwC
Gender	-	.20*	-	-	-	-	-	-	-.45*	-	-	-
	-.14*	-.13*	-.14*	-.09*	.06*	-.20*	-.14*	-.11*	-	-	-	-.15*
	-.14*	**.07**	**-.14***	**-.09***	**.06***	**-.20***	**-.14***	**-.11***	**-.45***			**-.15***
Age	-	-.02*	-	-	-	-	-	-	-	.04*	-	.03*
	.01*	.01*	.00*	.01*	-	.01*	.01*	.02*	-	-	-	-
	.01*	**.01**	**.00***	**.01***		**.01***	**.01***	**.02***		**.04***		**.03***
Educational Status	-	-	-	-.27*	.17*	-	-	-.14*	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
				-.27*	**.17***			**-.14***				
Number of Children	-	-	-	-	-	-	-	-	.20*	-	.18*	-
	.08*	.10*	.09*	.07*	-.03*	.12*	.09*	.03*	-	-	-	.07*
	.08*	**.10***	**.09***	**.07***	**-.03***	**.12***	**.09***	**.03***	**.20***		**.18***	**.07***
Employment status	-	-	-	-	-.17	-	-	-	-	.19*	-	.14*
	.05*	.03*	.03	.06*	-	.04*	.05*	.09*	-	-	-	-
	.05*	**.03***	**.03**	**.06***	**-.17***	**.04***	**.05***	**.09***		**.19***		**.14***

Note. SO= Support from Others, TTV: =Time on TV, SDL= Support from Distance Learning, STwC= Spent Time with Children, GH= General Health, QR= Quality of Relations, PO= Positive Orientation, D=Depression, SS= Spiritual Support, F= Friendship, C=Career, SD= Sleep Disturbance.

Direct effects in regular text, total *indirect* effects in italics, **total effects** in bold. The symbol - means the effect is not in the model;

*$p < .05$; all effects are standardized effects.

Gender

Parent gender had significant total effects on general health (.-14), positive orientation (-.14), depression (-.09), spiritual support (.06), friendship (-.20), career (-.14), sleep disturbance (-.11) and SO (-.45) (see Table 2 for standardized effects). All of these significant effects were indirect effects as were specified in Figure 2. Also, gender directly affected SO (.45, $p < .05$), this effect led to mediating roles of SO. The specific indirect path from gender to life balance components was either a) gender SO to life balance components or b) gender to SO to STwC to life balance components. Thus, the indirect effects of gender on the life balance components were primarily mediated by SO and secondarily mediated by STwC. Furthermore, from gender to quality of relations; there was a significant direct path (.20, $p < .05$) (see Table 2 for standardized effects), and significant total indirect effects through SO and STwC (-.13, $p < .05$) (see Figure 2). However, the direct component was positive and the indirect component was negative. Thus, the total effect of .07 from gender to quality of relations was not significant. The overall finding was that gender indirectly affected seven of the life balance components, but directly affected the eighth component (e.g, quality of relations). The SO played major, and STwC played minor mediator roles in those effects.

Age

Parent age had total indirect effects on all of the life balance components except the quality of relations and spiritual support but the effects were either insignificant or very small in size (see Table 2 for standardized effects). Parent age directly affected the quality of relations only, with a direct component of -.02 ($p < .05$). Parent age directly affected the TTV (.04, $p < .05$) and STwC (.03, $p < .05$). These two direct effects led to significant total indirect effects from age to some of the life balance components (see Table 2).

However, the aforementioned effects were very small. The main finding was that parent age slightly affected all of the life balance components, and TTV and STwC played minor mediator roles in those effects.

Educational Status

Parent educational status had significant total effects on depression (-.27), spiritual support (-.17), and sleep disturbance (-.14) (see Table 2 for standardized effects). All of these effects were entirely direct effects as specified in the model (see Figure 2). This means that there was no indirect effect from educational status to any of the life balance components, and none of the self-rated variables played mediating roles.

Number of Children

The number of children had significant total effects on general health (.08), quality of relations (.10), positive orientation (.09), depression (.07), spiritual support (-.03), friendship (.12), career (.09) and sleep disturbance (.03) (see Table 2 for standardized effects). All of these effects were entirely indirect effects. The main finding was that both SO and SDL played important mediator roles and STwC played minor mediator roles on these indirect effects.

Employment Status

Employment status had significant total effects on general health (.05), quality of relations (.03), depression (.06), spiritual support (-.17), friendship (.04), career (.05) and sleep disturbance (.09) (see Table 2 for standardized effects). The -.17 effects on spiritual support were entirely direct and all other effects were indirect effects. The TTV and STwC played major roles on these indirect effects (see Figure 2). The effect of .03 on the quality of relations was not significant (see Table 2). Employment status had significant direct effects on TTV (.19) and STwC (.14), and these direct effects led to mediating roles of TTV and STwC.

Effects on Endogenous Variables

Table 3. The sizes of total, direct and indirect effects of endogenous variables to endogenous variables in the selected model

Endogenous Variables	Endogenous Variables											
	GH	QR	PO	D	SS	F	C	SD	SO	TTV	SDL	STwC
SO	.19*	.24*	.20*	.13*	-.13*	.35*	.18*	.12*	-	-	-	.34*
	.11*	.06*	.12*	.06*	-	.10*	.12*	.12*	-	-	-	-
	.30*	**.30***	**.32***	**.19***	**-.13***	**.45***	**.30***	**.24***	**-**	**-**	**-**	**.34***
TTV	-	-	-.10*	.17*	-	-	-	.23*	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	-	**-**	**-10***	**.17***	**-**	**-**	**-**	**.23***	**-**	**-**	**-**	**-**
SDL	.15*	.18*	.11*	.15*	-	.16*	.17*	-.11*	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	15*	**.18***	**.11***	**.15***	**-**	**.16***	**.17***	**-.11***	**-**	**-**	**-**	**-**
STwC	.33*	.17*	.33*	.19*	-	.30*	.37*	.34*	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-
	.33*	**.17***	**.33***	**.19***	**-**	**.30***	**.37***	**.34***	**-**	**-**	**-**	**-**

Note. See notes to Table 2.

Support from others (SO)

The model specifies that SO was significantly affected by gender (-.45) and the number of children (.20). Both effects were direct because SO did not have any indirect effects specified in the model (see Table 2 & Figure 2). The effects of all other exogenous variables were not significant.

Time on TV (TTV)

The model specifies that TTV was significantly affected by age (.04) and employment status (.19) (see Table 2 for standardized effects). Both effects were direct because TTV did not have any indirect effects specified in the model (see Figure 2). The effects of all other exogenous variables were not significant.

Support from distance learning (SDL)

The model specifies that SDL was significantly affected by the number of children only (.18) (see Table 2 for standardized effects). This effect was direct because SDL did not have any indirect effects specified in the model (see Figure 2). The effects of all other exogenous variables were not significant.

Spending Time with Children (STwC)

The model specifies that STwC was significantly affected by gender (-.15), age (.03), the number of children (.07), employment status (.14) and SO (.34) (see Table 2 for standardized effects). The effect of age, employment status and SO were direct effects and the effects of gender and number of children were indirect effects mediated by SO (see Figure 2).

General Health

The model specifies that general health was significantly affected by all exogenous variables except educational status (see Table 2 for standardized effects). All effects were indirect effects mediated by SO and STwC. General health was also affected by SO (.30), SDL (.15), and STwC (.33) (see Table 3 for standardized effects). The effects from SDL and STwC were direct, and the effect from SO was partially direct (.19, *p* < .05) and partially indirect (.11, *p* < .05). The indirect effect was mediated by STwC.

Quality of Relations

The model specifies that the quality of relations was significantly affected by the number of children (.10) and employment status (.03) (see Table 2 for standardized effects). Both effects were indirect effects mediated by SO and STwC. Quality of relations was also affected by SO (.30), SDL (.18), and STwC (.33) (see Table 3). The effects from SDL and STwC were direct, and the effect from SO was partially direct (.24, *p* < .05) and partially indirect (.06, *p* < .05). The indirect effect was mediated by STwC.

Positive Orientation

The model specifies that positive orientation was significantly affected by gender and number of children (see Table 2 for standardized effects). Both effects were indirect effects mediated by SO and STwC. Positive orientation was also affected by SO (.32), TTV (-.10), SDL (.11) and STwC (.33) (see Table 3 for standardized effects). The effects from TTV, SDL, and STwC were direct, and the effect from SO was partially direct (.20, *p* < .05) and partially indirect (.12, *p* < .05). The indirect effect was mediated by STwC (see Figure 2).

Depression

The model specifies that depression was significantly affected by all exogenous variables. The effect from educational status was the direct effect, and all other effects were indirect effects mediated by SO and STwC (see Figure 2). Depression was also affected by SO (.19), TTV (.17), SDL (.15) and STwC (.19) (see Table 3 for standardized effects). The effects from TTV, SDL, and STwC were direct, and the effect from SO was partially direct (.13, *p* < .05) and partially indirect (.06, *p* < .05). The indirect effect was mediated by STwC.

Spiritual Support

The model specifies that spiritual support was significantly affected by all exogenous variables except age (see Table 2 for standardized effects). The effects from educational status and employment status were direct, and the other effects were indirect effects mediated by SO and STwC. Spiritual support was also affected by SO with a direct component of -.13 (*p* < .05) (see Table 3 for standardized effects).

Friendship

The model specifies that friendship was significantly affected by all exogenous variables except educational status (see Table 2 for standardized effects). All effects were indirect effects and mediated by SO, STwC, or SDL (see Figure 2). Friendship was also affected by SO (.35), SDL (.16), and STwC (.30) (see Table 3 for standardized effects). The effects from SDL and STwC were direct, and the effect from SO was

partially direct (.35, $p < .05$) and partially indirect (.10, $p < .05$). The indirect effect was mediated by STwC.

Career

The model specifies that a career was significantly affected by all exogenous variables except educational status (see Table 2 for standardized effects). All effects were indirect effects and mediated by SO, STwC, or SDL (see Figure 2). Career was also affected by SO (.30), SDL (.17), and STwC (.37) (see Table 3 for standardized effects). The effects from SDL and STwC were direct, and the effect from SO was partially direct (.18, $p < .05$) and partially indirect (.12, $p < .05$). The indirect effect was mediated by STwC.

Sleep Disturbance

The model specifies that sleep disturbance was significantly affected by all exogenous variables except educational status (see Table 2 for standardized effects). The effect from educational status was the direct effect, and all other effects were indirect effects and mediated by SO, STwC, TTV, or SDL (see Figure 2). Sleep disturbance was also affected by SO (.24), TTV (.23), SDL (-.11) and STwC (.34) (see Table 3 for standardized effects). The effect from SO was partially direct (.12, $p < .05$) and partially indirect (.12, $p < .05$). The indirect effect was mediated by STwC. The other three effects were entirely direct (see Figure 2).

Conculusion and Discussion

The COVID-19 pandemic has significantly impacted not only parents, children, teachers, and health professionals, but also schools, hospitals, and various other governmental and private institutions and workplaces (Guan et al., 2020; ILO, 2020; Pisano et al., 2020; Satcher et al., 2020; UNICEF, 2020). Changes in life balance have been indiscriminate, affecting both parents and children alike. Parents, in particular, have shouldered substantial burdens. Consequently, this study aimed to understand how the life balance of parents with children aged 0-6 years old was affected during the COVID-19 pandemic in Türkiye.

The findings of this study revealed notable direct and indirect effects of both independent and mediator variables on parents' life balance. All independent variables, except for the number of children at home, had a direct impact on at least one area of life balance. Regarding indirect effects, both gender and the number of children influenced all areas, while age and employment status affected all areas except for spiritual support.

Gender directly affected the quality of relationships, with the results indicating that fathers in the study experienced higher satisfaction in their relationships. This could be attributed to the additional time fathers spent with their loved ones (e.g., children, partners, and parents) due to lockdowns and flexible working hours at home. Another contributing factor might be cultural; expectations from mothers and fathers differ in Turkish culture. Since mothers typically assume a larger share of responsibility for children's physical and emotional needs, they had less time to cultivate relationships with others. For instance, recent data published by the Economist (2020) highlighted that mothers in England devoted more time to housework and childcare during the lockdown. Similarly, Chan et al. (2007) noted that, during the SARS outbreak, mothers experienced more disruptions in their daily routines and work lives. Additionally, as Davis et al. (2014) suggested, gender-based societal expectations might have influenced life balance.

Conversely, gender also exhibited an indirect effect on Quality of Relationships (QR) through support from others. In essence, when mothers received support from others (e.g., grandparents, nursemaids), their quality of relationships improved. The total effect of gender on support from others (.45) also indicated that fathers received less support, which indirectly diminished their general health, quality of relationships, positive orientation, career satisfaction, and friendships during the COVID-19 pandemic. Moreover, receiving support from others directly influenced all life balance areas.

Considering the employment status of the participants, nearly half reported that both parents were employed. Therefore, acquiring help was crucial both before and during the pandemic, especially for families relying on daycare for their children. Researchers have also advocated for family participation in preschool education to enable families to monitor their children's development in various areas and

provide support at home (Berger, 2008; Cabus & Ariës, 2017; Duran & Ömeroğlu, 2022; Galindo & Sheldon, 2012; Konca et al., 2023; Simsar, 2021b; Simsar et al., 2022; Wilder, 2014). This is particularly important for low SES families, as they often lack sufficient time for parental involvement (Erdoğan & Demirkasımoğlu, 2010).

The discussion also highlighted a significant discovery regarding the indirect impacts of the presence of a specific number of children in the household on achieving a balanced life. This variable did not affect any area directly. However, support from others and support from distance learning (EIN and EIN TV) mediated the relationships between life balance and the number of children. When the number of children increased, participants got more help from others. As a result, the balance in the friendship area increased. However, spiritual support decreased. Even though the indirect effect of the number of children was small on spiritual support, the finding indicated that stressor life events like COVID-19 could impact parents' spirituality. For example, Maton (1989) stated that stressors and depression had a negative effect on spiritual support. In terms of the indirect effect on friendship, quality of relationships, positive orientation, career, and global health; one may think that when the number of children increased, life balance could decrease. However, when parents got support from others and distance learning, their friendship, quality of relationships, positive orientation, career, and health were affected positively. In other words, the burdens due to home school and childcare during the pandemic turned into positive via support from others and distance learning. In this manner, EIN TV and the policies followed by the government eased the burden of families to a lesser extent. This finding was consistent with Schembri (2020) stating couples in the 21st-century struggle with stressful life events, work-life imbalance, and child care. The author pointed out that parents need social support and help from others to balance their life and overcome stressful life events. Likewise, recent studies by ILO (2020) and Pisano et al. (2020) also recommended that to reduce stress and anxiety, external support is needed for working parents, especially for mothers, who assume new roles during a pandemic such as, teacher, housekeeper, and playmate.

Age emerged as an additional independent variable that exerted both direct and indirect influences on the life balance. Age affected the quality of relationships directly. This finding was consistent with previous studies (Knoke et al., 2010) stating the quality of relationships and marriage satisfaction declines as couples or partners get older. Knoke et al. (2010) also stated that the decrease in quality of the relationship is expected to start in the middle age, around the age of 39. The average age of participants in the current study was 33. Therefore, the direct effect was small; on the other hand, they were close to middle age and we could say their relationships could be affected more by age in the near future. Age also affected life areas indirectly, except spiritual support, via STwC and TTV. For example, when parents spend more time with their children, their general health increased. In other words, one of the positive aspects of this pandemic was that families had more time to spend with their children. This finding was similar to findings in Dotti-Sani and Treas (2016) study. Authors stated that the average time parents spent with their kids increased almost two and a half times from 1965 to 2012. As a result, this affected the parent-children relationship and indirectly their health, because they felt happier after spending more time with their loved ones (Abela, 2020).

We also investigated how participants' level of education affected their life balance. This variable was the only one that did not have indirect effects and affected three life balance areas directly. The results indicated that when participants' level of education increased their depression and sleep disturbance decreased and spiritual support increased. There were studies (see Chatterjee et al., 2020; Ho et al., 2020) showing that psychological symptoms increased during the pandemic in different countries. However, the current study showed that education was a significant factor correlated the level of depression. One explanation for this could be that people with a higher education level obtain more rational and realistic information about the COVID-19. Participants with lower levels of education may have researched information about the virus less, and the information they access may be from less reputable sources such as social media and television. Moreover, parents from lower educational backgrounds may have a harder time handling educational support needed by their children to remain in step with their peers. Hence, these factors may have triggered psychological symptoms, such as depression and anxiety as stated by Güngör

et al. (2020). In another study, Ross and Mirowsky (2006) also found that depression decreased as the level of education increased. In addition researchers (Mirowsky & Ross, 2003; McFarland & Wagner, 2015) theorized that positive relationship between education and depressive symptoms represented a causal connection.

Spiritual support was identified as another aspect of life balance that experienced an impact.The results from the present study indicated that as the level of education increased, the spiritual support increased as well. This finding was consistent with the previous studies (Bowers, 2009; Frisk, 2012; Mart & Kesicioglu, 2020). Bowers (2009) conducted research on education and spiritual internalization. The author found that participants who had graduate degrees internalized spirituality more than participants who had high school and bachelor degrees. Frisk (2012) also stated that if the level of education increased, the spirituality increased as well. This finding showed that parents with a higher level of education fed their spirituality during the pandemic. As a result, they reported a higher level of spiritual support.

The final independent variable that had direct and indirect effects on life balance were employment status. Many people all over the world are facing unemployment in the COVID-19 pandemic. The results of the current study showed that employment status directly affected spiritual support. As the number of people working at home increased, spirituality decreased. There is a dearth of research on this finding in the literature. Most of the studies investigated the relationship between income and religion as well as spirituality and job satisfaction. In a study, Paul (2009) stated that as the wealth of countries and people increase, religiosity decreases. Based on these findings, we interpret the results as follows. In families where only one parent worked or neither of them worked, individuals receive support from their spiritual beliefs in order to overcome the difficult living conditions and imbalance. In this manner, unemployed couples from our study got support from their spiritual beliefs to cope with difficulties during the pandemic lockdowns and curfews. Furthermore, employment status affected all other life balance areas positively via STwC and TTV. One of the remarkable effects here is when employed participants' perception based on the STwC and TTV increased, their level of depression increased as well. When parents spent time with their kids, the positive aspects of life balance (e.g., global health, positive orientation, quality of relationships, and Friendship) increased. However, they had to spend more time with the kids compared to the pre-pandemic, and this increased depression symptoms. In other words, some parents had to work and could not find daycare and some parents allowed their kids to spend more time on TV since children were not allowed to go outside. They may have felt guilty, which may have triggered their depression symptoms (Strasburger & Wilson, 2002; Strauss, 2018).

One of the major limitations of this study is the cross-sectional design. Thus, it is difficult to know if demographic and self-rated variables are a precursor to life balance (as the model implies). There likely is a reciprocal and dynamic relation between these variables. Nevertheless, a cross-sectional design limits the contribution of this study which would be much strengthened by a longitudinal approach. Another limitation was the convenience sampling method. It could be assumed that parents who responded to the survey were less stressed than non-responders and therefore more willing to engage in an additional voluntary task. Additionally, due to lockdown rules during COVID-19, we failed to directly communicate with the parents, hereby; we were unable to use a random sampling method. Further research is recommended with the random sampling method. Last, the findings of the study may not be generalized in general population or other cultures. As it can be a limitation in any study, since we relied on self-report measures, there could be self-report biases in terms of measurement scores.

Despite the aforementioned limitations, this study was timely in exploring a topic that has largely been neglected in research on the psychological effects of the COVID-19 pandemic on children and parents, particularly concerning the life balance of parents. It contributes to the literature on parental support for home-based child education and offers insights into practices that can be implemented during the pandemic.

Our findings suggest that the increased time parents spend with their children during the pandemic has enhanced the quality of parent-child relationships. From this standpoint, the time fathers spend

engaging with their children at home in activities such as reading books, painting, and building towers with blocks, is likely to positively influence the life balance of both father and child. Moreover, the support that mothers receive from caregivers or grandparents in child-rearing and household chores has a positive impact on mothers' life balance, emphasizing the significance of such support in enhancing relationship quality during the pandemic.

Additionally, we observed that the EIN and EIN TV programs, introduced by the Turkish MoNE to support home-based child education, are notably beneficial for large families. In this context, it is advisable to enhance and diversify the content of EIN programs with activities that children can undertake at home with their families, beyond the pandemic situation. Provision of technological support, such as phones and tablets, enabling access to applications for children in disadvantaged regions, is also recommended.

Similar to other studies (Chatterjee et al., 2020; Ho et al., 2020; Kalkan et al., 2022, Mart & Kesicioglu, 2020; Pisano et al., 2020; Toran & Özden, 2022), our research suggests that external support should be extended to working parents to alleviate stress and anxiety, especially for mothers who assume multiple roles such as teacher, cleaner, and playmate during the pandemic. In this regard, teachers can offer academic support by maintaining communication with parents and providing tailored assistance for the children in their classrooms. Furthermore, concerns about job security during the pandemic have also been shown to adversely affect life balance. Therefore, it is recommended that policymakers develop new strategies for employers and introduce adjustments and necessary support measures regarding employment and job termination for working mothers and fathers.

Throughout human history, pandemics have inflicted great losses, particularly in terms of human life, and COVID-19 emerged as a collective challenge for all governments and humanity. The closure of schools and daycare centers and the shift to part-time work for many in both the government and private sectors resulted in families spending more time at home with their children, attempting to maintain a balance in their lives amidst the new norms. This adaptation to the "new normal" highlighted the potential for job loss and underscored the realization that education is not confined to schools and physical environments. The current study indicates that the keys to fostering resilience and balance in family life during such times include maintaining good relationships, health, friendship, positive orientation, a satisfying career, spiritual well-being, and stable mental health.

Declarations

Authors' Declarations

Publisher's Declarations

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Leading in times of uncertainty: Early childhood directors navigating the COVID-19 pandemic

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Abstract: Early childhood (EC) directors played a critical role in the successful operation of childcare centers during the COVID-19 Pandemic. Directors were responsible for adhering to health and safety protocols and caring for the well-being of their staff, children, and families. Due to the need to remain open for other first responders' families, Directors were challenged with fluctuating numbers of staff and children, and in other cases, they were tasked with transitioning their programs online to serve children. This study examines 10 US EC Directors' perspectives and leadership experiences during the Pandemic. From interviews with the participants, themes emerged to illustrate how EC Directors utilized adaptive leadership skills and strengths-based leadership. Findings from this study are beneficial not only to understand how EC Directors led during the Pandemic, but also which skills, resources, and supports are necessary for future times of crises and challenging times. This article offers recommendations for researchers, policymakers, and other decision-makers on how best to support EC Directors in future times of uncertainty.

Introduction

Leadership in early childhood education and care (ECEC) plays a critical role in delivering high-quality care and education for young children. Effective ECEC leadership establishes the foundation for the entire program by cultivating a positive culture that promotes growth and learning for all involved (Kirby et al., 2021). ECEC leaders are regarded as gatekeepers of quality since they are mainly in charge of creating an environment where children feel safe, respected and motivated to learn as well as building strong relationships with program staff and families and advocating for early childhood field through solid communication, and strong organizational and interpersonal skills (Movahedazarhouligh et al., 2022).

The COVID-19 pandemic as one of the greatest threats in recent human history as the virus spread rapidly worldwide, affecting the lives and livelihoods of billions. Particularly in the ECEC field, the pandemic dramatically impacted every aspect of the field (Jalongo, 2022). Everything from having to implement new health and safety precautions and procedures to teacher-child interactions, lack of teachers and staff due to illness, to the most extreme impacts where facilities had to either close for short periods or worse, having to close forever (Logan et al., 2021). The pandemic was a learning experience for the field, especially for the early childhood center directors (EC Directors). They were forced to solve novel problems with rapidly changing, and oftentimes insufficient, information and support from local, state, and federal agencies (Jalongo, 2022; Kirby et al., 2021; Logan et al., 2021).

This qualitative study aimed to describe how early childhood directors in one Southeastern State in the United States (US) managed the pandemic by adapting their leadership practices to ensure center operations, play and learning, and care continued. There is currently a dearth of literature specifically looking at directors' leadership and lived experiences during the pandemic and this study seeks to add to the body of literature. Understanding directors' leadership practices during this time can be valuable to

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policymakers, researchers, higher education faculty, and other early childhood directors. The themes that emerged from the data are not only helpful in illustrating how participants were adaptable and resilient during the pandemic but may also give insight into how directors might lead during future emergencies or crises (i.e. the aftermath of a natural disaster).

The COVID-19 pandemic was stressful to everyone in the early childhood field, but directors experienced notable stressors (Jalongo, 2022). For example, the planning, organizing, and enforcing new health protocols were added to the work of directors. This meant they were responsible for making sure a family kept a sick child home or were responsible for finding a replacement for a sick teacher or staff member. Directors were also responsible for gathering and distributing personal protective equipment (PPE) and ensuring staff wore them and followed protocols for disinfecting the environment. The addition of these adaptations greatly impacted the responsibilities of directors, likely leading to higher levels of stress and symptoms of burnout (Jalongo, 2022).

Bigras et al. (2021) evaluated the level of well-being of early childhood managers during the winter of 2021 during the pandemic. Three hundred twenty-eight managers completed a survey about perceived stress, burnout symptoms, self-compassion, and depressive symptoms. Eighty percent of participants reported experiencing average or high levels of stress, and all participants indicated feeling low levels of accomplishment at work – a possible indicator of burnout (Bigras et al., 2021). Interestingly, most respondents indicated they practiced average or high levels of self-compassion. Researchers suggested that social support, opportunities to reflect and share within a team, and engaging in self-care activities are ways professionals can practice self-compassion in other stressful times.

The COVID-19 pandemic also highlighted the critical need for trauma-informed supervision, particularly for center directors, as they were forced to deal with personal trauma and that of their staff and children and families they serve (Nagasawa, 2022). For example, Logan et al (2021) found that early childhood directors from Australia were aware of the trauma their staff was experiencing and that they needed greater access to and understanding of trauma-informed practices and resources for the future. Similarly, in Nagasawa's (2022) study of childcare directors within New York City, the researcher found that participants realized they were not adequately prepared to handle the amount of trauma the pandemic brought to their childcare programs.

During the pandemic, directors had to quickly adjust their leadership strategies to meet new and challenging circumstances, such as transitioning to online learning and dealing with increased stress and uncertainty. This shift in leadership style exemplifies adaptive leadership. The implementation of adaptive leadership enables leaders to create creative solutions based on current and sometimes unpredictable demands. Leaders must reconfigure, adapt, and brainstorm creative solutions to problems (Linsky & Lawrence, 2011). Tollman et al. (2021) note adaptive leaders are receptive to input, prepare for inevitable change, and are skilled at adapting to problems. Heifetz et al. (2009) identify four main principles of adaptive leadership. First, adaptive leaders need to have emotional intelligence in order to recognize their own feelings and those of others in order to build trust that will foster quality relationships. Second, adaptive leaders foster a culture of honesty and implement policies and practices best for the organization. Next, adaptive leaders are open to learning new things and discovering new strategies and techniques that will lead to the growth and development of the organization. Finally, adaptive leaders have a deep sense of character, are transparent, and creative.

Additionally, center directors relied on strengths-based leadership as it helped to motivate, uplift, and build resilience with their teachers and staff. For example, directors had to identify and use the strengths of their staff to create effective and safe learning environments, create opportunities for teachers to collaborate and problem-solve, and emphasize the positive aspects of the situation to build team morale and motivation. This type of leadership promotes efficiency, productivity, and advancement by concentrating on the constant development of its employees' strengths (Rath & Conchie, 2008). It also enhances the emotional commitment of team members by using positive psychology in leadership, which suggests that strength is the most remarkable element of employees' growth and development (Ding & Yu,

2020).

To our understanding, this is the first study, specifically the leadership experiences of early childhood directors during the COVID-19 pandemic. While technical reports and resources are available for strengths-based leadership in ECEC (see the National Center on Parent, Family, and Community Engagement's (2020) *Guidance for Supervisors: Using a Strengths-based Approach*), research studies are lacking. Strengths-based leadership has been examined in other disciplines, such as education in general (Mcnae, 2015; Orr & Cleveland-Innes, 2015; Ting & Yang, 2021), psychology (MacKie, 2014), management (Akter et al., 2021) and healthcare (Lamb et al., 2014; Spiva et al., 2021) to name a few. Strength-based leadership has resulted in positive outcomes, including organizational innovation and transformation, uncovering and validating experiences that stakeholders bring to leadership learning (Orr & Cleveland-Innes, 2015), fostering leadership competencies and skill development, promoting the organization's resiliency (Spiva et al., 2021) and execute a significant influence on sustainable employment along with nurturing personal wellness (Akter et al., 2021). Mcnae (2015) suggests that viewing leadership through a strength-based framework enhanced confidence by acknowledging positive leadership attributes and providing a forum to discuss complex issues within individual leadership contexts. MacKie (2014) also states that strength-based leadership is a significant predictor of the ultimate degree of change in leadership behavior and may influence the development of transformational leaders.

Conceptual Framework

Given the myriad ongoing demands center directors routinely face, we opted to employ Bolman and Deal's (2013) four frames model of organizations as the conceptual framework for this study. This model offers a multifaceted lens to analyze and understand the intricate dynamics of organizational functioning. The four frames encompass:

Structural Frame: This pertains to how the parts of an organization are organized and structured. Examining the structural frame provides insights into the formal hierarchies, roles, and processes that shape the leadership landscape of early childhood education.

Human Resource Frame: Focusing on how people interact with each other and the organization, the human resource frame delves into the interpersonal dynamics, communication channels, and the overall human element in the context of early childhood leadership.

Political Frame: This frame explores the dynamics of attaining power within the organization, either through coalition-building or authoritative means. Understanding the political frame is essential for comprehending the influence and decision-making processes within the realm of leadership.

Symbolic Frame: Centered around cultural activities, the symbolic frame sheds light on the values, beliefs, and cultural aspects that shape the identity of the leadership environment. This frame considers the symbolic significance attached to actions, rituals, and traditions.

The integration of these four frames into our study's conceptual framework provides a holistic approach to understanding the complexity of implementing, overseeing, and evaluating initiatives and programs in the field of early childhood and allows for a nuanced exploration of the challenges and opportunities inherent in the diverse tasks undertaken by directors during the pandemic.

Purpose of the Study

This study aimed to understand how center directors navigated the global pandemic. More specifically, this study focused on exploring challenges directors navigated to provide educational and developmental services to young children and their families, the leadership practices they utilized to overcome those hardships and the lessons they learned that will guide their future practices. The following research questions guided this study:

- How did the ECEC directors perceive leading their programs during the pandemic?

- What strength-based leadership practices did the directors utilize to face the pandemic challenges?

- How will their lived experiences as a program director during the pandemic guide their future practices?

Method

A qualitative research design was used to explore participants' perceptions of their experiences providing educational and developmental services to young children and their families during the COVID-19 pandemic and the leadership practices used to overcome hardships. The open exploratory nature of the study included key characteristics of qualitative research such as (a) the researcher serving as the data collection instrument through a focused interview protocol, (b) deductive and inductive logic in data analysis, and (c) multiple interviews to obtain a variety of participant perspectives (Creswell & Poth, 2018). Specifically, the approach included a targeted purposive sample of participants (Miles et al., 2013) who were interviewed to develop themes and subthemes related to their experiences. The first author conducted individual interviews with a subset of center directors from one Southeastern State in the US. The interviews occurred at a single point in time during 2021.

This qualitative research study employs Bolman and Deal's (2013) four-frame model of organizations as the conceptual framework presented above. The four frames offer a comprehensive lens for understanding the multifaceted dynamics inherent in the administration of special education programs. This frame is chosen for its suitability in examining the organizational perspectives within the context of early childhood leadership during the pandemic. By emphasizing different facets, the framework aligns with the complexity of challenges faced by leaders, allowing for a nuanced exploration of the complexities involved in implementing, overseeing, and evaluating initiatives and programs by directors during the pandemic.

Participant and Setting

Participants in this study included ten (n=10) early childhood directors who were all females, between 33-53 years of age, provided services in birth through age five centers, and were primarily white. The inclusion criteria for the participants included (a) having served as a program director during the COVID-19 pandemic. For this study, we defined EC program directors as "program-level agents in leadership and administration positions who are in charge of providing early education and development services to young children from birth through 5 years of age and their families in local program settings (e.g., Child Care centers, Head Start/Early Head Start, School District Preschool)". No specific leadership training requirements were expected to be able to participate in this study. Table 1 summarizes the characteristics of the participants in this study.

Table 1. Characteristics of Participants

Participant	Education	Age	Race	Program Served*	Program Geographical location (Urban, suburban, rural)	Years of Experience as EC director	Gender	Type of the program (public, private)
1	Master	39	White	3-5	Urban	17	F	Private
2	Master	35	African American	0-3	Suburban	17	F	Private
3	Master	33	White	0-5	Suburban	10	F	Private
4	Bachelor	43	White	0-5	Rural	21	F	Public
5	Master	33	White	0-5	Urban	15	F	Public
6	Master	57	White	0-5	Urban	21	F	Private
7	EC certificate	44	White	0-5	Rural	26	F	Private
8	Bachelor	36	White	0-5	Suburban	13	F	Public
9	Bachelor	53	White	0-5	Rural	20	F	Private
10	Master	48	African American	0-5	Rural	18	F	Private

Note. *3-5 serves children three years old to five years old; 0-3 serves children birth to age three; 0-5 serves children birth to age five

Procedure

Once University Institutional Review Board (IRB) approval was granted, participants were recruited through a recruitment flyer that included introductory information about the study's aims and scope and an embedded survey. The recruitment survey specifically asked the participants if they were a director of a center that provided educational and developmental services to children 0-5 and their families as program directors in local program settings (e.g., Child Care, Head Start/Early Head Start, School District Preschool-K) during the COVID-19 pandemic and if they were willing to participate in the study. The recruitment survey was shared with the State's local early childhood service providers and program coordinators at one higher education institution, including a leadership preparation program for ECEC professionals. A total of 41 professionals completed the recruitment survey, out of which 26 met the inclusion criteria and were contacted via emails and follow-up phone calls to participate in the semi-structured individual interviews. Ten center directors responded to the interview invitation, completed the consent forms, and were scheduled for one-on-one Zoom interviews due to the COVID-19 restrictions. Permission to participate in the study was obtained through verbal and written consent of the participants.

Interview Development and Process

The first author developed the interview protocol. Once the protocol was finalized, the interviews were conducted by the first author in a casual, conversational manner via Zoom, and participants were encouraged to discuss their lived experiences as directors during the pandemic, the challenges they went through, and the strength-based leadership practices they utilized to overcome those challenges (see Table 2 for interview questions). The interviews were digitally audio-recorded, while the researcher took notes as a backup for content analysis. The interviews lasted 40 to 50 minutes. Specific prompts related to the interview questions were provided when necessary. To establish member checks, multiple strategies were implemented. First, at the end of each interview, the interviewer summarized the major points participants made to ensure she understood the major points raised and to seek clarification if needed. The interviewer also frequently rephrased participants' comments throughout the process to ensure the data were accurate. Second, participants were offered a copy of the interview transcript for review, although none chose to do so. These strategies ensured that the data accurately reflected participants' perceptions.

Table 2. Interview questions

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1. Please describe your program.
   - What early learning and developmental services do you provide?
   - Size of the program?
   - Size of the staff? Pre Covid vs Covid
   - Geographical Location (urban, suburban, rural)
   - Type of the program: private, public
2. What was it like to lead a program during Covid-19 pandemic?
   - Any shifts in shifts in your professional philosophy as a director in the field?
   - Any shifts in your leadership style?
   - Any shifts in your service provision?
   - Any shifts in your program logistics?
   - Any other shifts that are worth mentioning?
3. What were the main challenges you faced as a director during the pandemic? Why?
4. What did you do to overcome those hardships?
5. If you were asked to identify any strength-based leadership practices that helped you as a program director during the pandemic, what would it (they) be?
6. Are you planning to carry on any of those strength-based leadership practices post Covid?
7. If we were to experience another pandemic, what would you do differently?
8. What were the "lessons learned" out of this past years' experience for you as a program director?
9. From your perspective, what are the "lessons learned" for the field?
10. What informal support did (e.g., peer support, tips and tricks) benefit you in dealing with the challenges? What kind of informal support do you wish you had access to?
11. To deal with such adversities, what supports (system-level: local, state, federal, individual, etc.) should be in place to help you do your job effectively? What kind of formal support do you wish you had access to?
12. Any additional comments that we did not ask you, but you think need to be shared?

Data Analysis

Data analysis was explored through the lens of a constructivist paradigm (Guido et al., 2010). In this paradigm, themes emerge as the phenomenon is uncovered, and interconnections between the narrative interviews of participants are identified through a reflective process (Suter, 2012). The recorded conversations were transcribed by one of the researchers. Transcription and notes were used in the content analysis of the data.

Data Analysis Procedures

The organization of the data and systematic analysis were carried out in line with the procedures delineated by Braun and Clarke (2006) and following the quality indicators of qualitative studies proposed by Brantlinger et al. (2005). An inductive approach was used for the data analysis. First, the interviews' recording was transcribed, and an analysis of the descriptive content by reading and rereading the data was performed. Any initial ideas taken from the text were also noted during this first step. Second, the interview's representative topics were categorized based on the developed units of meaning (Willig, 2013). Third, specific topic categories were defined around each of the broad categories. Finally, each topic that had emerged was defined, and the most representative verbatim statements were selected for each. Credibility procedures, such as peer review, were used to ensure that the coding of the topics was consistent. The initial set of codes from the interviews was created by one researcher, who then met with a second researcher to discuss the initial coding frame. The researchers met regularly throughout the coding process to discuss emerging codes and reach a final consensus. Written field notes were used to examine the trustworthiness of the data throughout the study. In addition, a doctoral-level researcher familiar with qualitative research analysis volunteered to review summaries, confirm their accuracy, and provide corrections via member check (Creswell & Poth, 2018). Table 3 presents category systems developed during the content analysis and outlines a summary of the emerged themes and subthemes.

Table 3. Summary of themes and subthemes and the number of occurrences

Themes	Subthemes	Frequency
Not Leadership Philosophy but Leadership Actions	Managing vs planning	8
	Flexibility and autonomy	7
	Professional recognition	5
Staffing, inconsistencies, and trauma	Teacher shortages	7
	Resignations	4
	Enrollment impact	6
Communication, connection, and confidence	States' unclear communication	7
	States' inflexible policies	6
	Building connections	7
	Collaborative leadership	4
	Reflective leadership	2
	Proactive mindset	6
Proactivity, advocacy, and professionalism	Acknowledging staff	5
	Recognition	6
	Attracting talent	8
Professional partnership, transparency, and funding	Peer connections	7
	Peer support	6
	Parental support	5
	Funding concerns	7

Findings

The results reflect the views of participants regarding their lived experiences as early childhood program directors during the COVID-19 pandemic. Concerning the research questions, six main codes were identified. The results are organized starting with the code, *not leadership philosophy, but leadership actions* followed by the code related to *staffing challenges and trauma*. Next, *communication, connection, and confidence* are discussed, followed by the remaining codes, including *proactivity, advocacy and professionalism*,

and professional partnerships.

Not Leadership Philosophy but Leadership Actions

Through the interviews, directors shared that leading their programs through a pandemic did not necessarily change their leadership philosophy but their leadership actions. They suggested their leadership actions changed from doing their best to meet the developmental and educational needs of the children and their families to barely meeting the fundamental needs and preserving, slowing down, and making difficult decisions. A common struggle for participants was the unknown nature of the pandemic and the uncertainty of daily life and tasks. As Participant Four explained:

> In the beginning, it was just not knowing. I mean, we were at the forefront of this pandemic when everyone else was shutting down around us. We were still here and trying to serve families and everything, and it was hard because nobody really knew what was going on but having us be forefront and actively caring for these children was kind of stressful not just for me but my staff because they were all concerned about getting sick and what they were going to take home to their families.

Participants believed the core of their leadership philosophy was about supporting children's learning and development and their families. However, being an EC director during the pandemic, they went through different learning curves and had to learn, change, or update daily. Many directors (n=8) mentioned that their leadership included more of managing the day, instead of planning for the future. Participant Seven stated:

> So obviously, being a program director during the pandemic was completely different from anything I've ever experienced. Not with the way we had to, you know, adapt to lower numbers of children and hours being or the many shifts that we had to make to our program's logistics, but just the overall unknown! It was like kind of dark and felt like I couldn't see a foot ahead! It felt like I had to take cautious baby steps.

To many of the directors (n=7), the increased accountability, flexibility, and collaborations within their programs helped them navigate and lead more confidently through the pandemic and achieve some positive outcomes. According to one participant: "When something like this gets thrown at you, you have to be able to switch gears and go the other direction real quick." However, with the flexibility required, some participants (n=6) noted how the State's division of child development and early learning was not allowing for enough local-level autonomy to help with the kind of decision-making needed at the time. Not receiving in-time communication from State officials made it difficult for the center directors to properly guide their programs, creating logistical challenges, including reimbursement issues for many of them. As Participant One stated:

> It was complicated to start the 2021 school year because as far as these programs, which are regulated by State, we had to push our start date back twice because we did not get communication from [States division for early learning] until late August about what would be allowed. We were relatively quick to shift our focus and our service delivery once the pandemic started. I think we had two weeks with no services, and then we shifted right into remote learning, which really required extremely high levels of support and meetings with teachers. So that made it very difficult because if we couldn't okay a program to continue providing virtual instruction and virtual options, we would not be reimbursed for that.

Participants shared how they were stretched as leaders to look at things in many different ways, which caused them to have a lot more confidence in their leadership abilities. Five participants explained that leading their programs through the pandemic created opportunities for them to experiment with being creative, collaborative, and understanding toward their staff. These were traits they had not exercised intentionally before the pandemic, and often, they were not aware of such absence. According to one of the directors:

> The biggest change was in my leadership style or steps and the lens I started to look at myself as a leader. Probably as even if I wasn't previously flexible, during the pandemic, I learned to become even more so because you have to see the issues from different angles out of necessity. After all, your service provisions depend on it. But the philosophy was still the same and still there; I wanted to do my best for my kids and their families in a totally new and, let's say, unknown and kind of scary time.

Five directors also brought up the notion of starting to question themselves as professionals since they witnessed the differences between the field of ECEC and public education in terms of responsibility,

respect, and risk-taking. According to Participant Ten:

> The public schools were not allowed to be open anymore, yet childcare facilities were required or were asked to remain open. It made us feel like we were not essential, even though that was the opposite. We were because how can public schools be allowed not to be open, but then we had to stay open? And it was just the back and forth of why we aren't as important as teachers in the public school system, and we should be…, you know! So, does that mean we were not as important as the public-school staff? So, I think it hurt us professionally.

Learning about virtual aspects of doing their job, COVID-19 health check routines for staff, parents, and visitors, lack of parents' presence in the buildings, and loss of parental involvement were among the other logistic shifts mentioned by the participants.

Staffing Challenges and Addressing Trauma

When asked about the main challenges the participants faced during the pandemic, all the directors' first response was staffing. Seven directors mentioned they had to take care of the staff morale and could not hire qualified staff or substitute teachers when faced with their regular staff leaving, resigning, or going on sick leave. Many teachers were not ready to return when virtual school ended, resulting in many unqualified people applying for jobs. Five directors talked about their experiences interviewing many candidates who showed up to keep their unemployment rather than get into a job. In the U.S., unemployed people must actively apply for jobs in order to keep their unemployment benefits. As Participant One commented:

> It's been a struggle to try to find people and to be able to find people who can work for what I was able to pay and also get quality people to show up… like I wasn't finding quality candidates coming in. To keep unemployment, all you have to do is to show that you're looking for a job, and that is as simple as applying because it's much more affordable if people are making more money staying home, and that was across the board, and we also had the no show up for interviews. I would say between 50% and 70% of people that applied and were scheduled never showed up for an interview.

Similarly, Participant Eight explained how many childcare teachers resigned in order to apply for teaching positions in elementary school settings, which pay more. They shared:

> We're still dealing with the staff issues. I mean, continuing to have staff who resign. You know…, it's typical this time of year to have staff who begin leaving from private sites to go to public sites because they can pay more later. But this year, we had that added layer of the base, getting that additional funding and offering higher pay. So, now we're seeing that staff are leaving private sites and public sites to go to other sites. So, it's hurting, and I'm really concerned about next year…what staffing could look like, and I'm worried we may have to close some of our pre-K classrooms because we don't have staff for them.

Addressing trauma and changes the children and families were experiencing was another common challenge shared by participants. Participants had to ensure teachers were addressing children's fears and questions about the new protocols in place. As Participant One explained:

> It was very hard for children to understand why we wear masks or why they couldn't play with their friends anymore or couldn't cuddle up in a specific corner. Just what that is, you know, talking to children one and two years old was really hard to explain and help them understand why we're washing hands so much while we're disinfecting. Even more, getting used to the new way of teaching and our new routines and transitions was a question mark for many of our kids. There were many question marks and dealing with all that in addition to what we were already dealing with was overwhelming.

Three participants shared they started doing mental health and trauma training, which covered self-care, self-help skills, how to teach children to cope with trauma, and some open-ended conversations they can have with children. According to these directors, the training provided them with practical tips and tools that they could use. For example, Participant Five shared:

> The pandemic did show us that when children do come back to us, how we needed to kind of be equipped and prepared to help them, try to understand and still make those connections with them even though our environment has changed significantly, and the mental health trainings that we received, and were supported to provide to our families, and staff were a great tool in helping us, and families do so. We definitely need more of that as we are all healing.

Communication, Connection, and Confidence

When the directors were asked about their strengths-based leadership practices to lead their programs through the pandemic, they used myriad terms and definitions. Mostly, they mentioned the use of "effective communication." According to six participants, effective communication developed an open forum and made it a priority for all voices to be heard, helping the directors become more accommodating and making adaptations easier. As Participant Nine explained, "I think the increased communication is really what has got us through this because without communication having increased to the level that it did and just transparency, it was not possible to take things under control." Participant Three described how effective communication helped her staff deal with the challenges the pandemic created. She shared:

> A lot of times, sites that lost a teacher wouldn't tell us about it until the moment we knew that we needed to get special approval for that. But now they're calling us ahead of time saying, "hey, I've got this person I know they're leaving. I don't know what I'm going to do…" and so, we're able to kind of brainstorm topics and reach out to [state division for early learning] and say, "hey, here's our situation, here are the efforts that have been made, here's why we can't find a teacher. We need this person to be approved and have this time window."

Participants also described "collaborative leadership" or "collaborative partnership," which included providing guidance and support for one another to collaborate, communicate and create a safe space where they were supported to approach things and solicit ideas and opinions of all stakeholders involved. Collaborative leadership also helped these directors delegate their responsibilities and experience much more progress in their daily agenda. According to Participant Two:

> I think the teamwork brought us closer together, it came up as a tool for increased quality, and even though we felt like an outcast compared to the public school system, we felt kind of elevating each other, and we showed compassion for one another. It also helped me with executing more to my staff and colleagues, and that taught me patience along the road.

Interestingly, seven participants mentioned the confidence they gained in themselves and their staff from that leading through this pandemic. The directors stated that working together as a team through the pandemic created a special bond and connection between them and their teachers and staff and prepared them to deal with unknown situations like the pandemic. Participant Seven acknowledged:

> You don't know what's coming up now, and so it's like a whole lot of unknown, and so I guess I have more confidence in my ability, and my confidence in my teachers and staff has increased because we've already done it. Hopefully, we don't have to walk through anything like this again, but we're seeing the light at the end of the tunnel now, not an individual but as a team!

Proactivity, Advocacy, and Professionalism

As the participants reflected on the lessons they learned throughout the pandemic, nine of them highlighted the issues they had with the State's Division for Early Learning inconsistencies in communication. They talked about learning to become more proactive and prepared instead of waiting to hear from the state officials. Such waiting created confusion and frustration for the participants. As Participant Four mentioned:

> I told myself don't wait on feedback. Don't wait for guidance! Have a plan in place…a plan A, B, or C, and then probably even a date. I found that when we waited on guidance, we ended up having to scramble, and we already knew this is what we'll do if they allow it out and we'll do them over, but I was just sitting in waiting on guidance from them. That was not productive for me, my kids, or my program!

Similarly, Participant Eight pointed out how they had to slow down and focus on the day ahead. She shared:

> I started realizing that I just needed to know day by day. I think we took a lot of things day by day and then week by week, and to know that we may not be doing exactly the same thing as we would in the classroom, but we're somehow still making a difference was reassuring.

In the U.S., there was a stark difference in how public school teachers and childcare workers were recognized and supported during the pandemic. This led several participants to reflect on how they began advocating for the ECEC field. Six directors became more involved in advocacy for the field. Some participants engaged with state-level advocacy campaigns to advocate for higher wages for childcare

professionals, while others advocated for the same recognition for childcare professionals that public school teachers received. Participant Two described her advocacy efforts with State advocacy campaigns:

> So, I think one of the lessons that I've learned is that with the right avenues, there is a way to speak up and advocate for my teachers, my families, and my field. I think the pandemic has given us more opportunities to know where to look, or it's made us more willing to share because I believe many of these organizations have been around for a while. They've been doing stuff and sending emails, but when I'm feeling overwhelmed because I can't find someone who will work for $10 an hour, which is what I can afford to pay them, then when I get an email from the [a state advocacy campaign for low wages in EC education], I'm like yes, yeah! Sign up because this is such a need. So, I think the lesson has been that there are ways to be heard.

Participant Four described the need for recognizing childcare teachers as essential workers the same way public school teachers were recognized. She explained:

> There's been a lot of talk in recent years about childcare teachers or EC teachers versus public school teachers, as the school teams tend to be the ones who get most of the recognition, but I think through Covid, there have been some type of acknowledgment that we are also professional, and people and families started to look at as an academic and educational program. We need to act and remember this through our education, our support, and through just the way that we do our day-to-day operations.

Participants believed that by acknowledging ECEC teachers as essential workers who deserved higher wages could lead to greater recruitment and retention of childcare teachers. As Participant One summarized this by saying:

> We talk a lot about teachers' shortages in EC or public schools, but to me, we do not have a teacher shortage! We have a shortage of a system that recognizes us as professionals with fair compensation, salaries, and work conditions. Although there is a ton of research out there on what benefits we are making to these kids, their families, and our communities, we do have a shortage of policymakers and governments who are willing to take all this evidence into account and step up.

Professional Partnerships

The pandemic led to participants connecting and supporting each other as they navigated similar challenges. These partnerships were described by many participants as they discussed peer support, EC director coalitions across the state, and smaller partnerships between local childcare centers. These professional partnerships continued after the pandemic. For many participants, being able to talk to colleagues locally and across the State was emotionally and professionally beneficial. Participant Eight stated:

> So, one of the informal supports I've enjoyed was the partnership of the lead directors for [a state's county]. We started having weekly meetings, which we still do, where it's just kind of like everyone can pop in and say what they need and how they do things, like a peer mentors circle with the other directors, where we hear stories from other directors, and if we can support one another. It is a beautiful kind of peer support and comes as a huge benefit.

Six directors reflected on how they benefited from the social media support groups (local, national, and international) that gave them ideas and uplifting encouragement from other providers to overcome their challenges. The constant nature of the posts kept them motivated to persevere and learn about pandemic-related initiatives both locally and across other states. Finally, four directors reflected on the support they received from the parents they served. Parents expressed appreciation and recognition for working as partners with the childcare directors and teachers. This appreciation fostered parent-professional relationships in times of need. Participant Seven shared:

> Well, I guess the parental support was amazing. I mean, of course, you've had some that did not agree or always were very negative about things. Still, the parental support from the majority was absolutely astonishing for the center as a whole because it lifted the teachers' spirits. It was very uplifting when we saw parents realize and were understanding of the hardship that was going on and were hands-on to support us. It was like it takes a village… you know!

Discussion

Interviews with participants suggest the Pandemic forced them to adapt and grow as leaders during unprecedented and uncertain times. Findings show that at the beginning of COVID-19, EC directors had to adapt their leadership actions to reevaluate and prioritize their focus on operating their centers, ensuring

everyone's health and safety by implementing new procedures and practices, and juggling staff issues with dwindling funding and resources. In other words, directors had to triage their normal tasks and operations to keep their doors open. As new information emerged from federal and state levels, directors had to brainstorm solutions and strategies to remain open and operational. However, the cycle of rapidly changing information created an uncertain and stressful environment (Dunn, 2020). Being able to adapt quickly to rapidly changing information and resources required participants to use different leadership skills to run their centers.

Adjusting Leadership Practices and Communal Coping

For center directors, maintaining organizational leadership during the pandemic took creativity and flexibility. Perceptions of participants from the current study illustrate how they relied on adaptive leadership strategies. A common theme from the data suggested participants had to be creative with daily tasks and operations, problem-solving (e.g. teacher retention, health and safety protocols), and had to be prepared for unavoidable change (i.e. constant updates from local and State agencies). Heifetz et al. (2009) note it is a practical approach to organizational leadership and problem-solving that embraces change, experimentation, and innovation. Participants also described their use of strengths-based leadership during COVID-19. These practices included being collaborative, relying on peer support, recognizing the needs of their staff, and being proactive. These findings echo findings from Pedroso et al. (2021) interviews with school principals about their leadership practices during the COVID-19 pandemic. Whether intentional or not, educational leaders implemented strengths-based leadership during uncertain times. For some participants in this study, this led to greater confidence in their ability to lead, which continues to shape their leadership practices.

While center directors in this study noted they gained confidence in their leadership skills through adaptive leadership, they also spoke to the unavoidable burnout they and their teachers experienced. Participants noted how they sought support from other directors who were experiencing the same challenges as they were. This strategy illustrates the notion of "communal coping" which happens when multiple people experiencing the same stress or issue come together to "act upon it and build shared resolve" (Afifi et al, 2020, p. 425). Through this relationship, people feel joint ownership of the stressor, can communicate about it, and create a shared action to address it (Nagasawa, 2022).

Implication for Practice

Adaptive leadership is not well known in the ECEC field, but was certainly practiced during the Pandemic. While research on adaptive leadership in ECEC is lacking, studies have been published on its use in primary and secondary school settings (Bagwell, 2020; Haron et al., 2022; Linsky & Lawrence, 2011). These studies spotlight how school principals who use adaptive leadership build resilience in their school staff, lead adaptively, and distribute leadership responsibilities to use the expertise and creativity of others. The same skills can be used by childcare center directors during times of crisis or change. Institutes of higher education, local, and state ECEC organizations should consider offering training and resources on adaptive leadership and strengths-based leadership to directors to ensure they are better equipped when the inevitable next crisis or emergency occurs.

Furthermore, we recognize the critical issue of burnout in the field and this was a prominent issue for participants in this study. Participants relied on communal coping as a way to handle challenges they were facing during the pandemic. For example, participants created professional partnerships with each other and with families while also connecting on social media with a broader audience. While participants in this study organized themselves informally, we recommend that local or state agencies offer formal avenues for communal coping to happen for center directors under their purview. Not only does this provide a sense of security among professionals, but it also creates a place where they can learn from one another about how to solve the issue at hand. Communal coping has been researched as a tool to mitigate burnout and stress for early childhood through secondary teachers and professionals (see Barajas-Gonzalez, 2021; Craw & Bevan, 2022; Nagasawa & Tarrant, 2020; King et al., 2023; Rodriguez et al., 2018). These studies explored the use of communal coping with teachers who experienced natural disasters,

discrimination, COVID-19, and burnout. This strategy is inexpensive and shown to create safe spaces where people who experience the same challenge or hardship can connect, strategize to navigate or overcome the challenge, and address their trauma.

Trauma-Informed Care and Leadership

Participants in this study discussed their role in providing trauma-informed care for the children and families. Additionally, participants had to use leadership strategies grounded in trauma-informed care, like acknowledging and caring for teachers' mental health and well-being as well as their own. It is critical that center directors be equipped to provide trauma-informed care and leadership no matter the situation. Our findings are similar to Petriwskyj's (2013) study exploring early childhood educators' and directors' reflections on natural disasters. Both study's participants spoke of the need for community resources, supporting child and family trauma, and the need for mental health services. In King et al.'s (2023) study, researchers aimed to address the trauma teachers faced during Pandemic by launching an intervention to promote resiliency and create a network of trauma-informed education professionals. Their intervention was developed to enhance trauma-informed professionals and to address the indirect trauma and secondary traumatic stress they experienced being in a "helping profession" (King et al., 2023). Participants in the current study described the need for similar interventions in the future.

Implication for Practice

Building on the National Association for the Education of Young Children's Power to the Profession *Unifying Framework for the Early Childhood Education Profession* (2020), we recommend institutes of higher education, professional development providers, and government agencies support and empower directors to be prepared to support children and families regardless of the circumstances. We further argue that explicit trauma-informed training and support be included by these entities to ensure leaders provide trauma-informed care and practices for children, families, and their staff. Lastly, we recommend center directors receive support and training on local emergencies they may experience in their geographical location. For example, the participants in our study live in a state prone to hurricanes. Local ECEC agencies and governments need to provide specific training related to local emergencies and subsequent trauma their community may experience.

Limitations

Several limitations should be considered when interpreting the current study's findings. A primary concern is associated with the use of a convenience sampling method, where participants were volunteers from various ECEC programs. Consequently, the characteristics of the participants in this study may not accurately reflect the broader population. Given the convenience sampling method, our participants were more experienced directors, meaning they possibly were more equipped to deal with emergency situations during COVID-19 than more novice directors might have been. Moreover, the respondents were drawn from a state-wide population, and given the small sample size and inherent bias in convenience sampling, generalizing findings from our sample to the broader population being studied becomes challenging. Another limitation pertains to the representation of gender and ethnicity among participants. Although the gender and ethnicity of participants align with the demographics of the ECEC workforce, it is important to acknowledge the absence of representation for other gender and ethnic groups (males and others) in this study. Future studies should aim to address these limitations by employing larger sample sizes and diverse sampling methods. Furthermore, research exploring EC leaders' perceptions, needs, and perspectives on job-related challenges and barriers to implementing quality leadership would provide valuable insights for shaping the direction of leadership development in the field.

Conclusion

The COVID-19 pandemic presented many challenges for center directors. Participants in this study were required to adjust their leadership skills and strategies to maintain their centers, support their staff, and meet the needs of the children and families they serve. They experienced delays in communication

from the State and navigated difficult financial circumstances that sometimes led to terminating their teachers and staff or having to close their centers indefinitely. The challenges participants in this study faced are not unique and represent challenges experienced by ECEC professionals and other education professionals worldwide. Directors should be commended for their flexibility, innovation, and resiliency to keep their centers functioning. While the pandemic has ended, lessons were learned that will be useful to professionals when other catastrophic events occur in the future, whether globally, nationally, or locally. By reflecting on and listening to directors, we can determine the support needed to navigate future complex challenges.

Declarations

Authors' Declarations

Publisher's Declarations

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We didn't know it was that bad: Unearthing parent perspectives on Universal Pre-K policy

Maria Mavrides Calderon[1]

Abstract: Families are the ultimate recipients of the effects of policy, but seldom get a seat at the policymaking table. This study investigated how parents perceive the impacts of unequal teacher compensation policies on New York City's (NYC) Universal Pre-K (UPK) expansion. Utilizing Bronfenbrenner's (1979) ecological systems theory and Schneider and Ingram's (1993) theory of social construction and policy design to create a rich conceptual framework, this qualitative study analyzed parents' voices through document and social media discourse analysis expanding from 2014 to 2021, and semi-structured interviews (n=15). Participants reflected the demographic diversity found in NYC, the largest school system in the country. The data analysis occurred in three sequential stages: (a) content analysis of documents, (b) thematic analysis of interview data, and (c) compilation of findings from these analyses to draw comprehensive conclusions. Findings revealed that while parents had limited engagement with policy, they were able to articulate the detrimental effects of compensation policies—particularly the effect of teacher turnover on their daily lives—with a disproportional effect on parents of racially minoritized backgrounds or living in low-income neighborhoods. The rich interviews unearthed the dissonance between the policy's intent and its effect on perpetuating racial and socio-economic biases. Recommendations for advocacy and engagement are provided.

Introduction

There is bipartisan support for access to high-quality early childhood education in the United States (US) (First Five Years Fund, 2022). This rare agreement acknowledges the importance of early education in the lives of children and families. American parents at large favor expanding preschool in their states (First Five Years Fund, 2022); however, this interest is not matched with actual implementations across the nation, with few states having successfully deployed UPK offerings to all children in their state. According to the National Institute for Early Education Research (NIEER), at least five million more seats would be needed to institute universal preschool nationwide, with only 17% of 3-year-olds being served (Friedman-Krauss et al., 2021). Consequently, many states and districts in the US are seeking to develop a universal approach to preschool education. As states and cities push for preschool expansion, Pre-K policies often include a mandate for parent involvement (Wilinski & Morley, 2019). Even President Obama's Race to the Top–Early Learning Challenge (RTT-ELC) prioritized states that demonstrated a goal to "involve parents as partners and decision-makers" (Center for the Study of Social Policy, n.d.; U.S. Department of Education, 2011). However, in most instances, those mandates conceptualize that involvement using traditional frameworks, like that of Epstein (2010), which included involvement with parent-school communication, participation at school, parent engagement in learning at home, and even parent involvement in school decision-making and school-community connections. Notably absent in this framework is parent engagement and involvement in shaping policies, like teacher compensation policies. Wilinski and Morley (2019) found that even when preschool expansion narratives situate parent participation as active decision-makers, fostering "parent leadership and voice" policies designed to support families are, in reality, limited

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to traditional parent volunteer roles.

Why are Parent Perspectives Needed?

Parent involvement in policy is crucial, as they are the ultimate recipients of policies that directly impact their children's learning environment(s). Despite being the primary stakeholders, parents often find themselves in a position where they have limited opportunities to effectively react to policies that shape their children's education. True parent involvement goes beyond mere compliance with established policies; it necessitates an active role in the policymaking process itself. This is particularly pertinent in the context of UPK expansions, where parents should be well-informed about the implications of policy implementation within classrooms and the educational system at large. To foster genuine collaboration between parents and policymakers, there is a pressing need for transparent communication, inclusive decision-making processes, and platforms that empower parents to contribute meaningfully to the development and evaluation of education policies. Only through active engagement can parents ensure that policies align with the diverse needs of students and address any potential biases that may inadvertently shape educational practices. Under this premise, this study aims to investigate how parents experience and view policy, and its effects and opportunities, in one of the largest UPK expansions in the US: NYC's Pre-K for All. The challenges parents have encountered are important to understand as the US and other countries seek to develop a national UPK policy (Herman et al., 2013; Shapiro, 2019).

The New York City Case

In 2014, NYC took a significant step forward by expanding its UPK program, greatly enhancing access to early education for all 4-year-olds. The aggressive implementation of this landmark policy required Mayor de Blasio's administration to rely on centers already providing early childhood services: community-based organizations (CBOs), Head Start centers, and independent child care centers that offered tuition-based services for younger students (i.e., toddler rooms in addition to publicly funded services). Employing what is commonly referred to as a "mixed delivery system," the City allocated 60% of its UPK seats to non-public school centers, known as New York City Early Education Centers (NYCEECs), while the remaining 40% were established within public schools throughout NYC.

Non-public school centers remain independently operated as vendors of the Department of Education (DOE). However, they must meet a comprehensive set of program standards that include rigorous instruction, teacher preparation, professional development, and family engagement (New York City Department of Education, 2016). The intention was to create structurally similar experiences for children attending UPK in public or non-public Pre-K classrooms. All teachers at public Pre-K programs were already required to hold a New York State teaching certificate, and all non-public school teachers must earn one within three years of being hired (Reid et al., 2019).

While this implementation expanded Pre-K access to all families irrespective of their income, it neglected to provide equal salaries and work conditions between similarly qualified non-public school lead UPK teachers and their unionized public-school counterparts. In some cases, UPK non-public school teachers earned $30,000 less than their public-school counterparts. This disparity resulted in a massive turnover in non-public school centers that resulted in regulatory violations, classroom closures, and in general, a sustainability crisis among non-public early childhood centers in NYC (Day Care Council of New York, 2016). Currently, the salaries of UPK teachers are based on their years of experience in UPK rather than their prior years of experience teaching in early childhood education, resulting in lower salaries than their public-school counterparts with equivalent years of service. In addition, due to the lack of certified teachers willing to work for non-public early childhood centers, most teachers working in these settings are uncertified. Uncertified teachers, which have amounted to 50% of all teachers teaching in non-public school settings, have yet to be subject to any regulatory oversight regarding compensation or work conditions, often resulting in exploitative conditions (Mavrides Calderon, 2022). In general, work conditions and access to resources between non-public and public UPK classrooms are still heavily divided by race and the income level of families attending those centers (Latham et al., 2021). Fuller and Leibovitz (2022, 2021) found that the children of White and Asian backgrounds benefited disproportionately from

the deployment of NYC's UPK. This discrepancy was primarily attributed to structural differences in the neighborhood centers attended by these children in comparison to UPK centers available to Black and Latinx children.

In the case of the NYC UPK expansion, disparities in compensation and work conditions across the system, and the resulting teacher turnover, affected the experience of children and families attending non-public settings. The author aimed to capture the perspectives and experiences of parents[2] attending non-public early childhood settings as part of NYC's early childhood ecological system, acknowledging that families ultimately feel the brunt of policies that result in imbalances in the large early childhood educational system.

Purpose and Significance

The purpose of this study was to understand how parents experience and make sense of the effects of policy, particularly teacher compensation policy, on their daily lives. More specifically, this study focused on exploring the lived experiences of parents as the ultimate recipients of policy, which, in the case of NYC, resulted in massive teacher turnover. By understanding how policy is perceived and experienced by parents, this study aims to provide recommendations for parent engagement in the policymaking process. The following research questions guided this study:

- How did families understand policy, including compensation policy, as supportive of their children's learning?
- How did families perceive the effects of policy on their daily lives?
- How did families react to policy awareness and possibilities for advocacy?

This study contributes to the early childhood education field by providing evidence, in the form of parent interviews, supporting the need for deeper parent engagement at the policymaking table, particularly in large-scale UPK implementations. As previously articulated, parent involvement in education policy is urgently needed. Currently, parents (and families) are often at the margins of the policymaking table, which is evident in the drought of literature focusing on parents' understanding of and impact on early childhood policy. The existing literature focuses mostly on K-12 parent awareness or reaction to policies related to accountability and school climate (Munn, 1998; Özdemir et al., 2021). A few studies investigated teacher turnover (Cassidy et al., 2011; Harris et al., 2019). In particular, Cassidy et al. (2011) explored parents' reactions to staffing shortages in preschools. This analysis focused on classroom quality and child outcomes, without linking them directly to the policies underlying the turnover. Furthermore, there is no literature focusing on preschool parents' reactions to or understanding of policy in large-scale implementations, and how these affect them and their children's learning. This study seeks to address this gap.

Theoretical Framing

This study intertwined Bronfenbrenner's (1979) ecological systems theory and Schneider and Ingram's (1993, 2007) social construction and policy design theory to frame the data analysis and interpretation of results. (Please see Figure 1 for a graphic depiction of the conceptual framework.) Utilizing an ecological approach honors the complex influence of policy impacts on schools, teachers, and ultimately, families. As this study is part of a larger project looking at teachers, directors, and policymakers' reactions to policy (Mavrides Calderon, 2022), this ecological lens unearthed how parents perceive policy enacted at the system level and its impact on all the concentric systems of a child attending early childhood centers in NYC. Any immediate relationships or organizations the child interacts with, such as their family, peer group, or school setting, relate to the microsystem in the child's experience (Ashiabi & O'Neal, 2008). Of particular interest for the current study is the analysis of the exosystem, which describes influences outside the microsystems, such as social policy decisions. While a child is not directly involved with his or her exosystem, the system influences the family or school and, indirectly, the child's experience (Mavrides

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[2] Recruitment included guardians; however, all participants self-reported as parents.
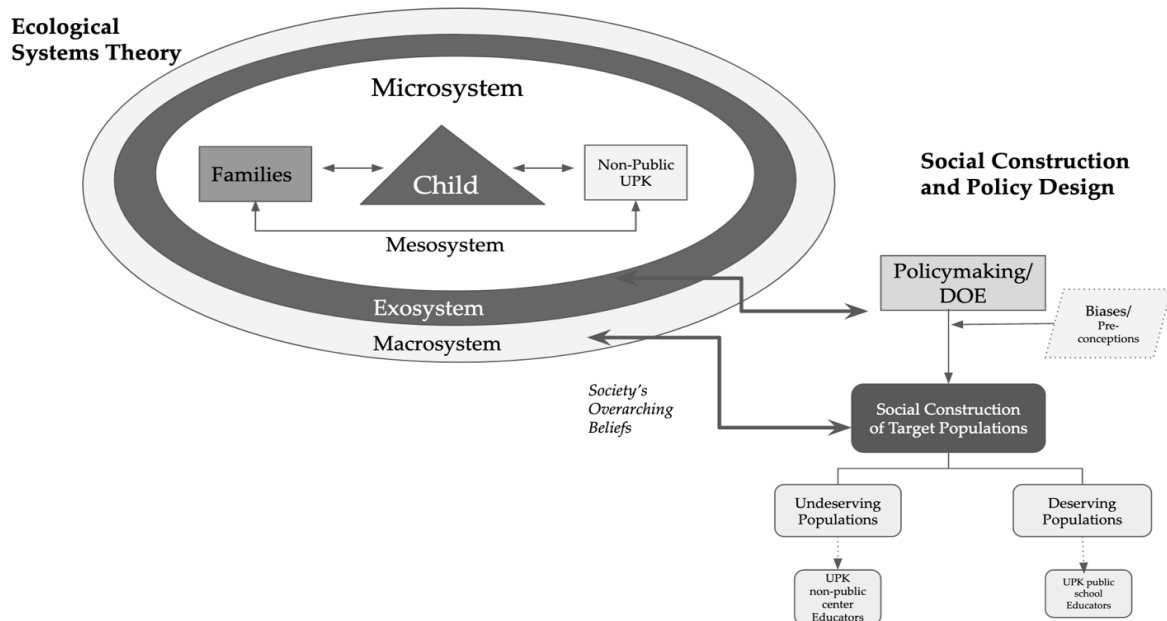
Calderon, 2022).

Figure 1. Conceptual framework (Mavrides Calderon, 2022)

All these systems operate within the larger framework of societal culture and beliefs, known as the macrosystem, establishing a dynamic interplay that ultimately shapes the child (Marshall, 2004). This study examines how NYC's UPK policies align or diverge from the broader societal beliefs concerning the role and significance of educators and families in non-public school centers within the overarching context of educational policy. Building on Bronfenbrenner's (1979) theory of reciprocal influences among variables, this study explores how policy influences (exosystem) and beliefs (macrosystem) regarding non-public school centers (and who works and attends them) may impact the micro and mesosystem of parents attending UPK in such centers (Mavrides Calderon, 2022).

This framework was used to examine whether the policies established by NYC, situated in the exosystem, exert an influence on the interconnected systems within the families and children's ecology. In this way, the exosystem of government policies, like Pre-K for All, can potentially affect schools in terms of teacher retention, child care arrangements, job attendance, and prosperity. This framework guided our purpose and analysis, as the researcher aimed to assemble the ecological puzzle of relationships affected by NYC's UPK expansion policy.

Schneider and Ingram's (1993) social construction and policy design theory directly relates to the exosystem and macrosystem in our model, as it influences not only policy in the exosystem, but also cultural beliefs about early childhood educators at the macrosystem, which ultimately reach the microsystem of children and families attending non-public school centers. Schneider and Ingram's (1993) theory highlights the role that social constructions of target populations play in policy design and implementation. A crucial component of this theory is that policymakers bring their own biases to constructing policy, prioritizing some groups over others as "deserving" or "undeserving" of certain benefits or burdens. As such, "Policy influencers can rectify or exacerbate existing racial inequities through social constructions that reflect implicit bias and racialized assumptions or stereotypes about target groups and become embedded in policy design" (Jabbar et al., 2022, p. 489).

The proposed argument suggests that policymakers in NYC have formulated compensation policies with a bias against early childhood non-public school teachers, a group predominantly composed of women of color (84%) (NYC Administration for Children's Services, 2019). This bias is evident in the perceived notion that these educators are less deserving of fair compensation compared to their

counterparts in UPK located in public schools, who are predominantly white (60%). Consequently, parents attending those centers, predominantly Black and Latinx families, are viewed as less deserving of policies resulting in stable and consistent care. To explore the reasons behind these conceptualizations, we must look to the historical perceptions of early childhood educators as babysitters or caregivers rather than educators doing a job for "unskilled" women. This assumption is heavily charged with racial and gender bias, as confirmed by Shpancer et al. (2008) and the work of Tuominen (2008). Tuominen (2008) clarified these ideas as she stated:

> Women of color (Asian/Pacific, black, and Hispanic) are more highly concentrated in lower-paid and lower-status care work occupations conceptualized as non-nurturant, reproductive labor. This conceptual dichotomizing of care work by scholars contributes to the invisibility and the further devaluation of care work performed by women of color (p.152).

By exploring the research questions with an ecological lens, supplemented by Schneider and Ingram's (1993) analytical interrogation of power dynamics, this study took a critical multi-theoretical approach to recognize the complexities of how policy was designed (Young & Diem, 2017) and its effect on racially and socio-economically marginalized families.

Method

This study was part of a larger project (Mavrides Calderon, 2022) that included an ecological view (Bronfenbrenner, 1979) of the UPK policy effects by analyzing directors', teachers', and parents' perspectives on compensation policies. The author utilized a qualitative approach to illuminate the participants'(parents) lived experiences. To gain deeper insights into the intricate interplay between policy design, implementation, and the interconnected realities of stakeholders involved in the Pre-K for All expansion, this study embraced an exploratory case study methodology, as advocated by Yin (2014). The case study methodology was chosen because it enabled the author to create "an extensive and in-depth description of some complex social phenomenon" (Yin, 2014, p.5). Document discourse analysis and semi-structured interviews were selected as complementary data collection methods. The document discourse analysis investigated how parents' perspectives were portrayed by the media, social media, and presented in City Hall hearings, while interviews unearthed parents' voices as they conceptualized the effects of policy on their daily lives. The selection of these two distinct qualitative data sources was supported by Morse (2003), who suggested that this approach aims to triangulate individual data sources to form a complete whole, enriching the overall robustness of a study. Johnson et al. (2007) suggested that these methods could be used "in parallel or sequence but are not integrated until inferences are being made" (p. 119). Following Johnson et al. (2007), this study analyzed documents and interviews sequentially, integrating findings at the last stage of the analysis.

Data Collection

Document collection included material from 2014 to 2021 covering 40 media articles, City Hall hearings, transcripts related to compensation policy in NYC's UPK, and advocacy documents. Documents were selected if they mentioned salary or compensation for teachers working at UPK non-public school centers. Six years of tweets related to compensation policies were captured, including posts created by the Department of Education, advocates, teachers, and families, for a total of 240 Twitter posts. Twitter (re-named X as of 2023) is a very popular microblogging social media platform with over 175 million registered users, who can post messages of up to 280 characters (Twitter, 2022). The availability, short format, and immediacy of distribution make Tweets ideal for capturing important and authentic perspectives from those posting. In addition, Twitter was chosen as the social media platform for this study due to its ease of use, ability to capture retroactive data, and potential to catalyze activism and the voices of typically racially or socio-economically marginalized groups. Boyd (2010) and Zappavigna (2012) have explored the potential of this platform for social activism, and others like Keller (2012) and Konnelly (2015) have documented the use of Twitter as a platform for social movements.

After Institutional Research Board approval was granted, fifteen parents whose children were

enrolled in a non-public school center UPK were recruited from across the NYC to provide an ecological perspective on the effects of work and compensation policies on their personal lives. Participants were recruited through flyers in community-based organizations, recreational centers, emails sent by family workers and center directors, and social media postings. All participants provided written consent. Interviews were semi-structured and conducted via Zoom. Twenty parents responded to the recruitment call, and 15 met the recruitment criteria. Parents interviewed represented a variety of settings and demographics; all parents identified as female. (Please see Table 1 for participant data.) Eighty-five percent of all parent participants attended school at a center located in a low- or low-medium-income neighborhood, which mirrors the distribution of non-public school centers in the NYC early childhood system. Average parent interviews lasted 47 minutes. The author conducted all the interviews. Three interviews were conducted in Spanish at the participants' request. Participants received a copy of their transcript and consolidated findings as part of the study's member-checking procedures.

Table 1. Participant demographics

Pseudonym	Ethnicity	Child attends	Borough	Grade
Gina	Latine	CBO	Bronx	Pre-K
Raisa	Latine	CBO	Bronx	Pre-K
Edina	Latine	CBO	Bronx	Pre-K
Lily	Asian American	CBO	Queens	Pre-K
Silvia	White	CBO	Brooklyn	Pre-K
Maria	Latine	CBO/Head Start	Brooklyn	Pre-K
Jo	African American	CBO/Head Start	Bronx	Pre-K
Miriam	Latine	CBO/Head Start	Manhattan	Pre-K
Lola	African American	CBO/Head Start	Staten Island	Pre-K
Jessica	Latine	CBO/Head Start	Bronx	Pre-K
Elizabeth	African American	CBO/Head Start	Brooklyn	Pre-K
Julie	White	Independent Center	Manhattan	Pre-K
Linda	African American	Independent Center	Manhattan	Pre-K
April	White	Independent Center	Manhattan	3K/Pre-K
Jenny	Asian American	Independent Center	Queens	Pre-K

Data Analysis

Given the qualitative nature of the study, data analysis utilized a constructivist paradigm as the study's methodology aimed at "meaning-making, sense-making activities" (Lincoln & Guba, 2013, p. 40), understanding that social, cultural, and historical experiences shape people's perceptions about the world (Crotty, 1998). Data analysis was conducted by the author with a secondary coder, a doctoral student. To check for inter-coder reliability, the two researchers used Dedoose, a qualitative analysis software to code 25% of all data. Once a consistent level of agreement (over 99%) was reached, coding of the remainder of the data was continued by the author. Trustworthiness was addressed by including the following: (1) a secondary coder to arrive to intercoder agreement, (2) member-checking of the interview transcripts as well as the consolidated findings, and (3) methodological triangulation. Having multiple data sources allowed for triangulation to support the validity of the qualitative conclusions (Creswell & Clark, 2017). The analysis unfolded in three distinct phases following Morse (2003) and Johnson et al. (2007): first, a content analysis of documents; second, a thematic analysis of interview data; and finally, the synthesis of insights derived from these analyses to formulate comprehensive conclusions (Please see Figure 2 for the flow of the study's analysis.).
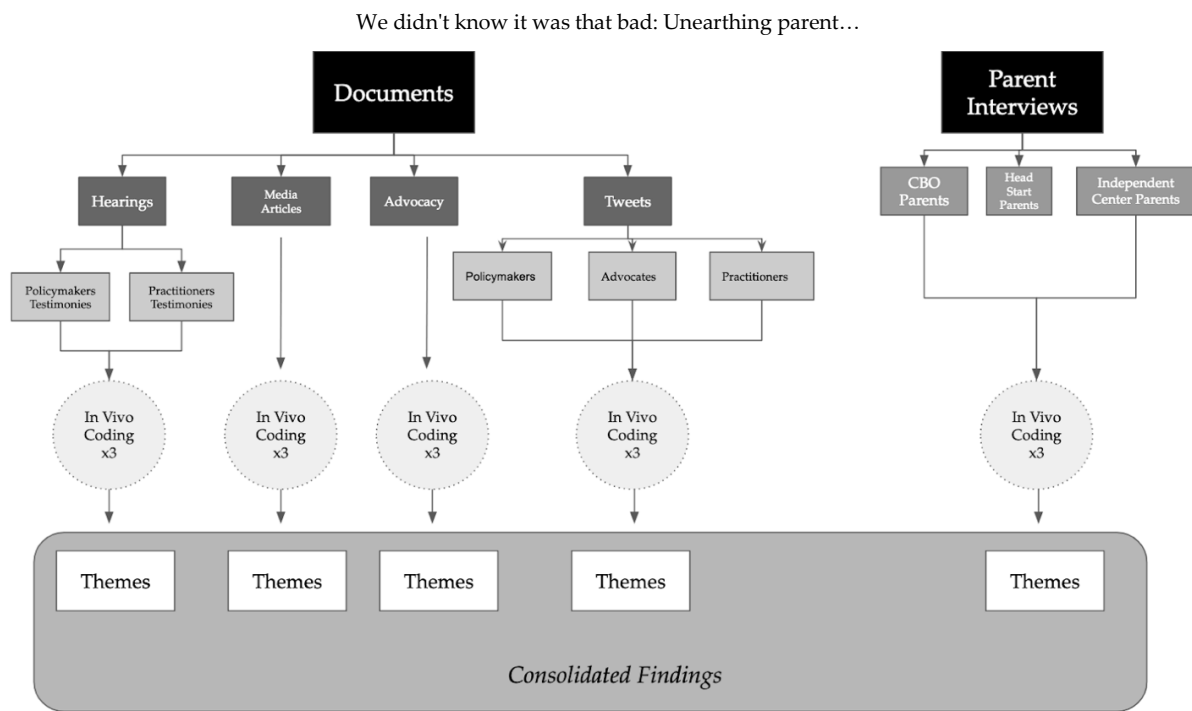
Figure 2. Flow of the analysis

Document Analysis

The document analysis followed a specific order, where documents were categorized by their type to facilitate a comparative analysis. This approach allowed for a detailed examination of the discourse among different groups: policymakers (comprising hearings and social media), advocates (encompassing advocacy documents, hearings, and social media), and educators on the ground (including hearings and social media). This structured approach applied Bronfenbrenner's (1979) ecological lens looking at the varying perspectives and discussions surrounding UPK's implementation effect on non-public school centers, including its impact on parents and families. In addition, the analysis focused on the discourse surrounding NYC's UPK expansion and other early childhood education policies from the social construction and policy design theory point of view (how stakeholders are defined and privileged in the development of the policies). Coding was done iteratively to "manage, filter, highlight and focus the salient features into themes" (Saldaña & Miles, 2013, p.7) using in-vivo coding. Twenty-four in-vivo codes were initially found and later collapsed into themes. Patterns were identified based on established definitions as described by Saldaña and Miles (2013). These patterns included elements such as similarity, difference, frequency, sequence, correspondence, and causation. Ten themes were identified: *distribution of power and resources, resistance and advocacy, dissonance between rhetoric and reality, policy origins, crisis, equity, effects on children and families, sustainability, lack of transparency, and funding.*

Interview Analysis

The interview analysis took place following the completion of the document analysis. Initially, in-vivo coding was conducted using the codes established during the document analysis. However, for the interview analysis, these codes were adjusted to align with the discourse gathered from the participants. It's worth noting that further refinements were made to these codes following the third round of coding to better capture the topics discussed by interviewees. Three codes unique to the interview discourse were added to the ones found in the document analysis: *educator's commitment, pandemic, and adaptations.* A total of 18 in-vivo codes were identified. Subsequently, these codes were condensed and analyzed to uncover overarching patterns, ultimately leading to the emergence of nine distinct themes: *distribution of power and resources, resistance and advocacy, policy origins, crisis, equity, effects on classrooms, effects on children and families, sustainability, and lack of transparency.*

To refine the data analysis, participant interviews were systematically categorized based on both

setting and geographical location, recognizing that these differences serve as proxies for socio-economic and racial distinctions. The chosen settings included community-based organizations (CBOs) lacking Head Start-sponsored classrooms, Head Starts (both directly administered and under the Department of Education), and independent centers (facilities hosting UPK classrooms alongside private tuition classrooms). This detailed breakdown played a vital role in examining variations in experiences across these categories, especially when viewed through the framework proposed by Schneider and Ingram (1993). (Please see Table 1 for the breakdown of participants by setting and geographical location).

Mixing of Findings

Once the analysis of the documents and interviews were completed separately, they were compared and contrasted to provide an in-depth look at this study's inquiry, as suggested by Johnson et al. (2007). Eight final themes depicted in Figure 3 arose from the previously identified themes in the documents (10) and interviews (9). Guided by the conceptual framework described previously, the analysis aimed at answering the research questions. Each part of the analysis contributed to the findings and informed the interrelations between stakeholders and policymakers. Additionally, since the data was organized into subcategories based on both setting and geographical location, the analysis also examined patterns within these specific subcategories to gain further insights.
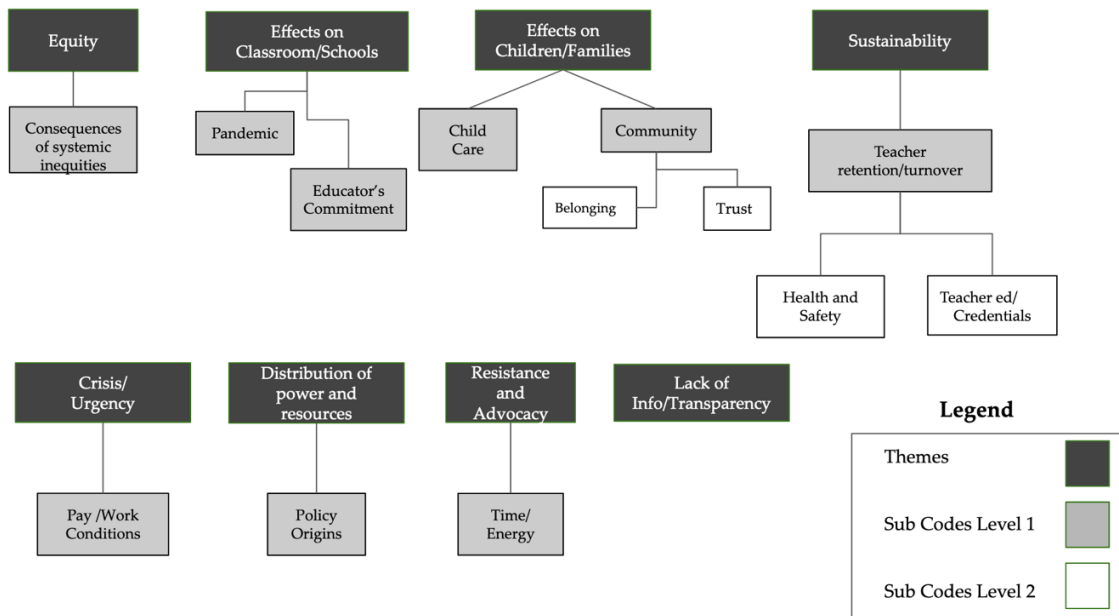

Figure 3. Final codes and subcodes

Findings

Overall, the study found that the policies surrounding NYC's UPK expansion–particularly, the disparity in teacher compensation policies–affect all levels of the ecological system in early childhood education, including (most importantly) children and families. Additionally, the study highlighted policymakers' perceptions of parents as being recipients of policies that conceptualize them as less deserving than parents attending UPK at public schools. This perception aligns with Schneider and Ingram's (1993) policy conceptualization as dynamic and dependent on policymakers' biases.

Parents' Policy Awareness and Understandings

Interviews revealed that while parents were unaware of the policies and guidelines impacting their schools or centers, they were able to articulate the effects of the policies on their daily lives. Parents were aware of the inability of schools to retain teachers but lacked the information to provide the context of reasons for the turnover. Silvia shared during her interview: "I see the revolving door, but I couldn't tell

you why. No one told us. You tend to think the worst. Is this school so bad that the teachers are leaving?" This lack of awareness could be confirmed in the document analysis, which tangentially included reports from parents, and minimally included discourse about parents from the policymakers. When parents were mentioned in City Hall hearings, advocacy documents, or the media, they were referred to as passive policy receptors unaware of the consequences of such policies' implementation. This finding highlights the power dynamics in policy creation and the need for intentional involvement and information sharing between all stakeholders in the larger ecological system of early childhood in NYC.

Not surprisingly, parents were mainly isolated from learning about teacher compensation issues. Only three parents attending Head Start centers mentioned the salary disparities between teachers working at non-public and public-school schools as a cause for the turnover they experienced. Parents' discourse around disparities referred to resource distribution in their schools, in contrast with the resources available to public schools. Many parents mentioned the physical infrastructure and materials available to those attending public schools and the lack of those resources in their non-public early childhood centers. Elizabeth, a mother with children attending both a CBO and public-school kindergarten, explained this disparity:

> It's night and day, really. My [older] son gets specials and the building is new. The center here is in a NYCHA [public housing] building, so my kid says he sees roaches sometimes. The teachers are lovely in both places, though.

Moreover, this perception reflected the perceived contrast between the DOE's response to the pandemic between public school and non-public school centers. Many mentioned how their children did not receive devices for online learning as opposed to siblings attending public school. Gina, a parent from the Bronx, explained: "My daughter has two electronics from the DOE, and the [child attending the center] has none. The teacher tried to give him an old phone. I didn't say anything again. It's like-it's like going through the battle without your guns." Contrarily, parents expressed their gratitude as centers opened in person in June of 2020, while public schools did so in September of that year. As Lily, a parent, articulated:

> I loved the school mostly because the school opened in the summer of the pandemic. I had to go to work, and I knew it was rushed. But I had a place to send my kid, and I could go to work. Like my niece had no place to go. I told them, "you see, Head Starts are the best." I know it was scary, and teachers didn't want to come. Some got COVID there, but I needed to go to work.

On the other hand, NYC's reclassification of teachers working at non-public school centers as "essential workers", a move aimed at justifying the early opening of these centers, was frowned upon by teachers working at these centers (Shapiro, 2021). The mandated early opening exacerbated the distinctions outlined by Tajfel (1970) as "intergroup discrimination" between two groups – teachers at non-public school centers and public-school teachers. This reinforced the perception among the public that these centers primarily functioned as child care facilities, rather than educational and care centers, perpetuating existing stigmas. Consequently, the public's discourse about these centers shifted during the pandemic, aligning more with a narrative convenient for parents returning to work, rather than acknowledging the challenges faced by those working in centers lacking proper support and safety guidelines. It is noteworthy that this narrative contradicts the discourse presented by NYC, as revealed through document analysis, particularly in relation to their conceptualization of the UPK expansion as a way to provide education, beyond child care. Uninformed about the intricacies of policy, and its long-term impact on teachers, parents interpreted this policy as beneficial to their children's education.

Articulating the Effects of Policy

Naturally, parents were primarily concerned with their firsthand experiences in the classroom and the impact of external factors, such as teacher turnover, classroom closures, and the pandemic, on their ability to ensure quality care and education for their children. Their attention was directed more towards these practical aspects than the policy mandates affecting the centers. For example, all parents were very explicit in articulating the effect of teacher turnover in their daily lives, with those in low-income neighborhoods experiencing the most disruptive effects. Edina, an immigrant mother, explained:

> I don't know what is happening [in the classroom], but my girl doesn't get used to it because the teacher is never the

same. And now there is another one that doesn't speak Spanish, and that makes her more stressed. She can't ask her things. I'm worried that we can't stay if this revolving door continues. And I need to work.

Adverse experiences mentioned by parents included the lack of teacher consistency affecting parents' ability to get to work on time, either because of children's inability to separate in the mornings or because afterschool programs–and even in some cases, school days–were canceled due to inappropriate staffing. Jessica, a mother from the Bronx who has been with the same center for two consecutive years, explained:

> It's definitely affected my work life. I felt a lot worse about leaving my child in the afterschool program…when I have to work late regularly; it's very challenging for me, knowing that my child is with someone they aren't comfortable with yet, same thing in the morning. It's very challenging for me to leave my child in the classroom. It's really just a struggle because my child really struggles to separate in the morning, and it's just been a really difficult experience in terms of relating with teachers. In particular, for example…it has been very difficult to try to talk to teachers just because they can't keep the teachers.

Beyond the emotional toll for parents and children readjusting to new staff in a classroom, parents articulated safety concerns. Many mentioned asking every week, "Who is the teacher in my child's classroom today?" as leadership often scrambled to find temporary solutions to maintain the mandated child-to-teacher ratio in the classroom. This lack of familiarity with teachers meant that information was often limited for teachers and parents alike. For children with health needs, this was particularly worrisome. Jessica explained:

> Things that I've communicated to my child's original teachers really haven't been passed along. I feel as if I have to go and re-communicate information that really should have been kept on file for my child, like in the past, just the lack of organization due to the change in teachers. My child, for example, has a severe peanut allergy, and while yes, it's probably in some files for the student, I do feel obligated to go and make sure everyone is aware of it. Like, his original teacher was aware of it and thus was on the lookout, but I'm always afraid that with a new teacher, they might not be....Might not know my child as well, and there might be a slip-up that results in major consequences for my child. If he gets sick, who is going to take care of him?

Furthermore, given that most participants attended schools in low-income neighborhoods, parents expressed concern about the effects of missing work on their ability to provide for their families. Surprisingly, most parents did not mention how turnover may affect the quality of their child's instruction and learning, but focused on how care may be disrupted by teacher turnover and school leadership being distracted by staffing issues. The focus on the access and availability of care, rather than on what children are learning, could be attributed again to how parents view these centers as child-minding rather than learning centers; a misconception that often permeates how the public perceives the early childhood field. This conceptualization may be reinforced by the lack of visibility regarding what happened in the classroom daily, given the pandemic restrictions (e.g., parents being unable to enter the classroom).

Other effects mentioned by participants (n=4) included their inability to build relationships with teachers and leaders, at the expense of a sense of community and belonging, and the lack of follow-up on special education referrals. Raisa, a mother of a child applying to receive speech therapy, explained:

> I know she needs to get evaluated. The other teacher had a talk with me about it. We had a plan. I know she doesn't have words. But the teacher left and now that is on hold, until they can track my child and write the [IEP or special needs services] goals. The director says they are hiring, but it is taking time, and the assistant can't do this. They don't have people to do this. More wait, more delay!

Raisa's narrative was representative of the state of frustration reported by parents. In general, parents often describe this revolving door as "unsettling" for their children and their families.

Reaction to Policy

As previously mentioned, most parents were unaware of the disparities in compensation, work conditions, or lack of pandemic support for non-public school Pre-K teachers. When parents were made aware of the current policies, particularly those regarding compensation for UPK teachers, many had a guttural reaction toward those policies due to racism and institutionalized bias. Silvia, a mother of a 4-year-old, stated:

> I mean, children get there at eight o'clock in the morning. So, that means that they [teachers] have to be there at the latest seven o'clock to prepare their day, their lessons, and their classrooms. So, that means that they have pretty much…They're working pretty much 10 to 12 hours a day, and that's for 12 months, and it's the same pay, or less? That's not fair at all. So it is…It's upsetting. And I think that something has to be done about that. We didn't know it was that bad.

This realization was most evident among parents attending racially diverse settings in low-income neighborhoods, with many questioning policymakers' conceptualization of their centers and teachers as "less than" public school teachers. Linda, a mother from Harlem, believed that the NYC's UPK compensation policies were crafted with consideration of the makeup of her school:

> I don't even think there's a white person in that school. I think like, I'm really trying to think, but all I've ever met were women of color and, and in that whole facility. Um, so I'm, uh, I'm not surprised, you know, to be honest, I'm not surprised, you know? That they thought they can pay them less.

Jo, a mother from the Bronx, supported the idea that there are systemic issues in education that contribute to compensation disparities:

> I think in part, it's a question of bias, and injustice towards already vulnerable communities, in that those with power believe that they can pay teachers less, and provide a lower quality of life for teachers, and allow, create an inferior working environment for the students, because of the racial difference within our schools.

When asked for possible actionable items to reject unfair policies, many parents mentioned the need to advocate for better compensation for their center's teachers. However, some acknowledged that their connection to their centers, as opposed to other educational settings like elementary schools, was short given that many children attend these centers for only two years (3-K and Pre-K), and therefore, their commitment may not be viewed as a good investment of their time and energy. Jenny, a mother from Queens, explains:

> I would like to be part of something to change things. But this is [my daughter's] last year and then we go to kindergarten. Like if they change something, by the time that changes, how does that affect my kid? I don't have another kid coming to this school.

Furthermore, parents acknowledged the limitations in time and energy to take on advocacy. A parent at an independent center explained: "I would like to help if there are meetings. But I work, and I have another girl. I don't have time. I feel bad because I know it is unfair, but if I don't work, I don't eat." Parents in Head Start were exceptions to this perception. Perhaps the presence of family workers in Head Start facilitated the organization and awareness among parents attending these centers. Many parents with older children also reported participating in previous advocacy campaigns in 2019 that resulted in some improvements for certified teachers. Their participation, however, was prompted by the leadership of each center. Miriam stated how she participated in the past:

> When we went to City Hall before the pandemic, Ms. [Director] got us a bus and we met before. She explained the problems and what we needed to demand. We got posters, and we made them. It was like a field trip but with a purpose. We had time to prepare, and we felt like it was important and needed. We haven't had that in a while.

Miriam's narrative confirms the importance of leadership in not only creating community, but also in mobilizing parents for advocacy. The pandemic and the challenges it presented drew leaders' focus away from compensation advocacy, to pivot to other more pressing issues, like reopenings and dealing with post-pandemic trauma (Logan et al., 2021; Nagasawa, 2022). Mavrides Calderon (2022) also found that, in general, advocacy surrounding disparities in NYC decreased after 2019, and was non-existent for at least the next two years.

Nonetheless, parents expressed a general desire to understand how policy is crafted, and some were eager to participate actively in future advocacy campaigns. Lola, a Head Start mother, reinforced this idea:

> I think having legislative changes to make sure this doesn't happen in the future is very important. I also, before this interview, I wasn't really fully aware of the reasoning for the teacher turnover. So, I wasn't specifically aware of this salary disparity that you've pointed out to me, and I feel like it's really important to make sure parents are educated on this matter and are aware of the issues that are going on in this school so that they're able to fight for justice for the teachers so that their students are getting—their children are getting appropriate access to education, so that our schools are better, that our schools have a just future.

Given that NYC's UPK intended to reduce the inequities in educational access, the rich testimonials analyzed in this study present a profound dissonance between the policy's intent and its effect on perpetuating racial and socio-economic biases.

Discussion and Conclusion

Understanding that the case of NYC is limited in scope, it is particularly relevant as many other states in the United States, and across the world, are planning on or considering implementing UPK. One important lesson learned in the NYC case is that access is important, as are policies that support equitable opportunities and quality for all children and families in the system. The rapid expansion and lack of a quick response to the issues of compensation disparity impacted the quality of the experience for parents. This finding is consistent with Bushouse (2009), Karch (2013), and Kirp (2007), who confirmed that quality and access to state investment in early childhood education are difficult to achieve because of the inherent political pressure of offering access to all, versus pacing the access to provide higher quality consistently to students as the program scales. Unfortunately, this study found that dislocations caused by the rapid expansion in one part of the early childhood education ecological system (teachers) have consequences for children and families.

Alarmingly, the repercussions are not proportionally distributed, with parents using centers in low-income neighborhoods (which, in NYC, tend to be also the centers with a more significant proportion of Black and Latinx families) feeling the brunt of the consequences of unequal policies, leading to teacher turnover, leadership distractions, and overall, a greater sense of dissatisfaction. Unsurprisingly, the adverse consequences of high teacher turnover are magnified in areas with higher incidences of poverty, areas in which many of the children who are enrolled in non-public Pre-K centers live. Paradoxically, children living in poor communities disproportionately benefit from the enrichment of a high-quality preschool environment. Beyond the effect on children's education, the sustainability of non-public school centers is paramount as these centers specifically cater to working parents. The negative impact of working parents being unable to find affordable and adequate child care has been documented extensively (Burgess et al., 2016). While public school Pre-K programs are free, they do not meet the needs of maternal employment among low-income families who need care after school hours (Fitzpatrick, 2010). Marshall et al. (2013) found that "almost one in four employed [low-income] mothers had irregular work schedules, and almost half worked hours other than the standard nine-to-five schedule" (p. 809). The shorter school day and the limited after-school offerings provided by public school UPKs fail to address the needs of working families in lower-income communities, unlike Head Starts, CBOs, or independent child care centers. This underscores the importance of non-public school UPKs in communities where working parents need additional child care hours. This intrinsic tie between the sustainability of non-public early childhood centers and supporting families who need it most makes the call for equal policies even more urgent.

In addition, this study's findings highlight how non-public school center families are conceptualized by policymakers in what Schneider and Ingram (1993) coined as an "undeserving" population. The interviews of families in this study exemplify these negative conceptualizations, portraying the impact of unequal policies between two target populations–public and non-public school centers–and their families. Furthermore, one of the goals of NYC's UPK was to close "race and income-based achievement gaps." This study provides evidence that brings into question this goal, as the current policies, inadvertently or not, perpetuate racial injustices in one of the most segregated school districts in the nation (Kucsera, 2014; Potter, 2016). This segregation manifests itself in a high degree of residential segregation, with 61% of students in Pre-K for All enrolled in a program within 0.5 miles of their home address (Latham et al., 2021), signaling historical structural inequities in urban populations (Gomez-Velez, 2015; Valentino, 2018).

The American news cycle is full of examples of destructive parent influence on policy focused on eroding any democratic progress (Gilbert, 2023; Jedeed, 2022). Their influence on policy development should not be underestimated. Knowing this, it is time that positive, democratic parental action is galvanized. This study points out the need to create mechanisms for families to learn about the policies

affecting their children's school experience. The document analysis in this study found that policymakers view parents as inactive stakeholders; the recipients, not creators, of policy. There is some truth to this perception, as Mavrides Calderon (2022) found that non-public early childhood directors, advocates, and to a lesser extent teachers, have expressed deep concern regarding the survival of their programs, which were threatened by teacher turnover, Department of Health violations (due to lack of staffing), and enrollment. Meanwhile, parents did not report these concerns and appeared immune to the degree of the crisis on the ground.

Nonetheless, in this environment, it was clear that children and families were inevitably affected. We must stop sheltering parents from the realities of policy effects; instead, we should catalyze families' advocacy for a unified front to demand fair conditions. Recognizing that families hold significant voting power, they can have a great influence on how policy is conceptualized. Head Start presents a great family involvement model that could be leveraged to incorporate advocacy education. This model includes investing in staff in charge of parent engagement, and a shared decision/governance partnership between the parents' Policy Council and the school, impacting many aspects of the centers' functioning (Administration for Children and Families, 2021). Future studies should explore this and other mechanisms to bring families to the policymaking table. Ultimately, crafting policies should be a thoughtful process that prioritizes inclusion, specifically incorporating the voices and perspectives of those most directly impacted by these policies: children and their families.

Limitations

The findings of the current study highlight the complexity of the policymaking process. As such, there were a few limitations in this study. While the qualitative nature of the study seeks to highlight the voices of selected participants, a larger sample size would have provided additional quantitative data to further triangulate this study. Surprisingly, participants were eager to be involved, facilitating a smooth recruitment process. However, most participants were based in four of the five boroughs in NYC; Staten Island, the most conservative and least diverse borough of the City, was represented by only one participant. Future studies should aim to include the experiences of all parents in NYC, including those with more conservative views.

Declarations

Author's Declarations

Publisher's Declarations

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Silent and oral reading methods on improving English reading comprehension among generation alpha pupils

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Abstract: Reading comprehension enables each child to make meaning of the world. Therefore, it is important to develop this during the child's primary years in school. Using ex post facto design, this study investigated the effects of reading methods on English reading comprehension of randomly selected 75 Grade 2 pupils in a private school in the Philippines. The scores of pupils who read two comparable narrative passages in oral and silent were compared. Paired t-test results revealed a significant difference between oral reading and silent reading. Silent reading had a greater positive effect on the comprehension of the pupils. Likewise, it was the most preferred reading method among the respondents. Focus group discussion with English teachers results suggested that silent reading was preferred specifically because it helps in understanding the story better, remembering words, and concentrating given its quiet and peaceful nature. It is recommended that teachers employ sustained silent reading classroom practices such as: Silent Reading Activity (SRA) Reading Laboratory, Genuine Love for Reading activities through the Four-pronged approach and Drop Everything and Read time. These methods will help to support the reading needs and preference of the generation alpha pupils and to further strengthen the positive effects of silent reading on improving their reading comprehension.

Introduction

Reading comprehension is an important part of learning since it adds meaning to what is reading. It is the ultimate goal in all aspects of reading development (Trainin et al., 2015). Reading comprehension is the manner by which a reader makes meaning from text. Rather than trying to interpret words or phrases on their own, it seeks to fully comprehend the text's content (Klingner et al., 2015). Reading comprehension is affected by different factors, such as the reader's (a) prior knowledge, (b) working memory, and (c) language processes-basic reading skills, decoding, vocabulary, sensitivity to the form of the text, inferencing, and motivation (Barth et al., 2016; Kendeou et al., 2014; Nation, 2019; Sanford, 2015; Syahfutra, 2017; Zorella, 2017). It also involves strategic processes, such as: metacognition and comprehension monitoring (Nobles & Ortega-Dela Cruz, 2020). According to Miller (2023), once teachers are aware of the components of comprehension and the ways in which reader, text, and context interact to produce meaning, they will be better able to instruct students in comprehending. With this, developing reading comprehension during the primary years is essential to make the pupils better understand the world and make meaning of the things around them. Accordingly, reading comprehension is one of the foundations which leads to career and academic success (Antilla, 2013; Brown, 2014; Leahy & Fitzpatrick, 2017). It should be considered as the top priority of curriculum developers and educators, especially from kinder to third grade. Children who fail to develop reading comprehension during their primary years are most likely to encounter difficulties throughout their school years and will continue until adulthood (Brown, 2017; Moats, 2001; Mol & Bus, 2011). First grade pupils who have reading difficulties will have a 90 per cent probability of having academic difficulties when they are already in fourth grade, and third grade pupils

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who have reading difficulties have only 25 per cent probability of being able to catch up with their lessons when they are already in high school (Moats, 2001). However, children can overcome their reading difficulties if they receive appropriate treatment at early ages (Garner et al., 2013, Spear-Swerling, 2016).

The need to solve this ongoing issue with reading comprehension is emphasized by the Philippine Department of Education (DepEd, 2019), particularly in light of the nation's low 2018 Programme for International Student Assessment (PISA) ranking. The PISA is a student assessment of 15-year-old learners across 79 countries done by the Organization for Economic Co-operation and Development (OECD) as part of the Quality Basic Education reform plan and a step towards globalizing the quality of Philippine basic education (DepEd, 2019). Based on the 2022 PISA results, Filipino students obtained an average score of 347 points in overall reading literacy, which was significantly lower than the OECD average of 487 points. The Filipino students were five to six years behind in reading compared to their 15-year-old counterparts from most of the participating countries (Bautista, 2023). The PISA results also reflect the learners' below average performance in the National Achievement Test in the area of reading comprehension (DepEd, 2019). The finding that is indeed reflected in the case of Generation Alpha pupils in one of the private schools in the Philippines.

Generation Alpha kids were born from the year 2010 to 2025 and are children of millennials (Carter, 2016). They are the first generation entirely born within the 21st century. They are also known as the iGeneration, generation connected or dot-com kids, and they use smartphones and tablets naturally. These children were born along with smartphones, tablets, fast broadband, applications, and all things touch screen. They learn and gain knowledge by doing things (Jha, 2020). The Australian futurist Mark McCrindle, who originally used the term "Generation Alpha" in 2008, predicts that this generation will be the most diverse ever (McCrindle, 2016). According to a research study by National Coalition on School Diversity, students in diverse learning environments are exposed to more complex conversation than students in more homogenous environments, which aids in the development of critical thinking (Ayscue et al., 2017). Another definition for Generation Alpha is that they will have the oldest parents of any generation as well as being the iPads as their first babysitters (McCrindle, 2016).

Because of their reliance on a touch-screen device, their reading and verbal communication appear to be problematic (Taylor & Hattingh, 2019). This is particularly true to the case of Generation Alpha pupils in a private school in the Philippines. These pupils were found to be struggling in reading, especially comprehending the text that they read. This is manifested in their formative assessments, summative assessments, and the Scientific Research Associates (SRA) Reading Laboratory kit, specifically when they read and are asked to follow the directions. There is a disconnect between the directions and the answers which is a clear indicator that there is lack of comprehension. Through SRA Reading Laboratory Kit, which is a reading comprehension program placement test, most Generation Alpha pupils were found to have a first-grade level reading comprehension and some with primer and pre-primer levels of reading comprehension performance. They are able to listen to and to read the text, but they have difficulties making meaning of it. With these, grade-school teachers are given the challenge to seek ways on how to develop and improve the pupils' reading comprehension skills. As teachers help young readers develop their comprehension skills, there is a higher probability for them to take a step ahead from the stage of learning to read to the stage of reading to learn.

There are different reading methods that can aid in reading comprehension of pupils, namely: oral reading aloud and silent reading. The first reading method is oral reading. According to Jacobs (2016), reading aloud is a form of communication between a well-equipped reader and a set of audience. It is the act of reading out loud any written text which mostly happens in situations such as: reading a report, reporting the minutes of a meeting, reading instructions, and reading something from a newspaper (Ninsuwan, 2015). It requires the reader to read in a slow pace, read the words in proper order, read without repetition, and read with the correct pronunciation of words (Jacobs, 2016). Furthermore, reading aloud has been found to have an association with literacy ability, especially to children. It helps them in: (a) letter recognition, (b) print and sound correspondence, (c) proper way of reading, (d) learning print concepts, (e)

written language registry, (f) structure of stories, and (g) syntax and grammar, which can aid them to succeed in reading (Batini et al., 2018). Wright (2019) emphasized that reading aloud is more than just saying words; it is the spoken words from written texts that give power and help the audience to connect what is in the written text to their own lives. Therefore, oral reading is a way of making sense and making meaning of what a person is reading (Goodman et al., 2016).

The second reading method is silent reading. Billah (2015) defined silent reading as a form of recreational or independent reading while the reader is in a relaxed mood. It is believed to improve an individual's understanding because it promotes deep concentration of reading a written text. It focuses more on the content of the text which they can apply in real life (Billah, 2015). To promote silent reading and make use of it in the classroom, SSR stands for Sustained Silent Reading and known as Self-Selected Reading (SSR) has been implemented. It is a school-based reading program where pupils voluntarily read silently within a given period. It assumes that pupils learn to read by reading constantly without requiring them to do so and help them develop a genuine love for reading (Ascencio, 2018; Nuha, 2019; Stone, 2013).

Teachers are concerned about which reading strategies could have a major impact on the reading comprehension of this generation of students in light of the research on reading techniques., and how can English teachers apply this technique to enhance their students' reading comprehension? These are the queries that our investigation sought to answer.

Generally, this study aimed to analyse the effects of reading methods on reading comprehension of Generation Alpha pupils. It specifically: (i) described the Generation Alpha pupils' attitude towards reading; (ii) analysed the difference in the pupils' reading comprehension scores between the oral and silent reading methods; (iii) discussed the reading method preference of the pupils; (iv) examined the challenges faced by Grade 2 school teachers in teaching reading and reading comprehension in English; and (v) recommended methods to improve reading comprehension of this generational group of pupils.

Method

Research Design

The study employed a classroom-based, causal-comparative design to analyse the effects of different reading methods on the reading comprehension of Generation Alpha pupils. A causal-comparative design, also known as ex post facto research, is a research design that seeks to find relationships between independent and dependent variables after an action or event has occurred (Salkind, 2010).

Research Participants

Seventy-five (i.e., 38 girls and 37 boys) pupils from one of the private schools in the Philippines were chosen at random to participate in the study as respondents. The school was purposefully selected since reading is one of the main focus of its curriculum and is measured and strengthened through SRA Reading Laboratory, a reading program which employs a step-by-step procedure in developing one's reading comprehension. This is an independent work by the pupils (silent reading) and done once a week as part of the classroom routine. Aside from SRA Reading Laboratoty, it also has Genuine Love for Reading (GLR), a form of teaching done when teacher does a story read aloud to the pupils and have them do small group activities that test their comprehension of the story.

The respondents represented 81 per cent of the total Grade 2 pupil population enrolled in the private school for the school year 2018-2019. The sample size was determined using the Sample Size Calculator of qualtrics.com using 96 per cent confidence level and five per cent margin of error. The pupils were chosen randomly through draw lots of 75 number codes out of 96 number codes written on a sheet of paper. This was done after administering the reading comprehension tests to all Grade 2 pupils. The papers of the randomly selected pupils were the ones used for data analysis.

This group of Grade 2 pupils has an average age of seven to eight years of age. They were born between 2010 and 2011. They are Generation Alpha who belong to iGeneration, the first-ever group of

learners who grow up surrounded by technology (Jha, 2020). This generational group of Grade 2 pupils have a four-period reading class each week as part of the English curriculum of the school. They are exposed to different reading comprehension exercises such as: Genuine Love for Reading, a storytelling aloud practices with small group activities which address and seek to improve reading comprehension and SRA Reading Laboratory kit which addresses the reading comprehension needs of the students based on their reading capabilities. They also use English as their first language and use it in reading written texts and in oral communication.

In addition to pupils, the study also included four English teachers (i.e., two male and two female) who participated in the focus group discussion. The first teacher is a graduate of nursing and a licensed teacher teaching for almost 10 years. The second teacher is an teaching graduate major in English and a licensed teacher teaching for almost 10 years. The third teacher is a Mathematics and Science Teaching graduate and a licensed teacher teaching for three years. And lastly, the fourth teacher is a teaching graduate major in English and a licensed teacher teaching for three years.

Ethical Considerations

For the recruitment of respondents, the researcher wrote a formal letter to seek permission to conduct the study. The researcher requested permission from the school to access the official list of the pupils. Verbal assent from the pupils and consent from the parents and teachers were requested. The consent form provided the description of the nature, purpose, form of participation of the child, risks (if there is any), benefits of the study, and privacy protection and confidentiality was also discussed with the participants. It was sent to the parents of each participant two weeks prior to the conduct of the study.

Consent forms were collected from the reading teachers a week after release. The majority of the parents gave their consent, while a few did not due to privacy concerns and special reasons such as their child's learning ability and behavioral concerns. With this, only the participants who gave informed consent were the ones included in the study.

Instruments

The different two reading methods studied were silent and oral reading. Reading comprehension was determined from the pupils' scores on two reading comprehension tests taken from the two reading passages which were selected from Qualitative Reading Analysis 4.

The Grade 2 pupils read each passage using one of the two reading methods. They read passage one first, "Mouse in a House", which was followed by passage two, "Marva Finds a Friend". Passage one was read aloud, while passage two was read silently. This minimized the effect of passage difficulty or passage reading in order to measure the reading comprehension of the pupils.

After reading the two passages and answering the reading tests for the passages read, the pupils were asked to complete a feedback form about their preferred reading method between the two and the reason behind their choice.

A focus group discussion (FGD) with eight Grade 2 pupils was also done to let the pupils share their experience during the reading activity and to also share their thoughts about the reading methods used. It further supported the results from the feedback forms which they also answered. Another FGD with the English teachers was also conducted to ask for their personal experiences and the challenges they faced in teaching reading, the profiles of the pupils in terms of their general behaviour and attitude towards reading as well as their performance in reading comprehension activities in the class.

Selection of Passages

Two passages were selected from Level One narrative section of Qualitative Reading Inventory-4, fourth edition of Leslie and Caldwell (2006). It was piloted with approximately 1000 students and has a technical manual in its Section 16 that addresses alternate-form reliability, inter-scorer reliability, reliability of diagnostic judgments, concurrent validity, construct validity and classification validity (Leslie &

Caldwell, 2006). It focuses on assessment of specific questions regarding word identification, fluency, and comprehension which are made for Grade 1 and Grade 2 readers. Narrative passages were chosen since Grade 2 pupils are encouraged to develop a genuine love for reading through reading short stories. Each was followed by a reading comprehension test consisting of similarly formatted five-item multiple choice comprehension test, five-item sequencing of events list, and two-item short response tests that were valued at two points each for inferential and evaluative comprehension.

Passage one, Mouse in a House, contains 254 words and tells a story about a mouse who lives in a house owned by an old man. The second passage, Marva Finds a Friend, contains 264 words and tells a story about a lost cat who was found by a young girl.

Feedback Form

The feedback form was a sheet of paper given to each pupil after completing the two reading tests. It has four questions that asked the pupils to write down whether the reading method they used helped them in their comprehension, to rank the two reading methods based on which reading method they prefer and find helpful, and to explain briefly the reason for their choice. The feedback form helped to understand the effects of the reading methods, to determine the reading method preferred by the pupils, and to determine which reading method was found useful by the pupils in understanding a given text. Below are the four questions that were asked in the feedback form:

1. Did oral reading help you better understand the story, Mouse in a House? Yes or No

2. Did silent reading help you better understand the story, Marva Finds a Friend? Yes or No

3. Which reading method helped you better understand the stories? Rank the two reading methods used with 1 being the most helpful to you and 2 being the least helpful. ____Oral Reading _____Silent Reading

4. Explain your answer in number 3. Why do you think your chosen no. 1 is the most helpful to you in understanding the story?

Data Analysis

The data collected consist of the comprehension scores of the students which were taken from the reading comprehension tests designed for each of the two reading passages, from the feedback forms, from the FGD of both the pupils and the teachers. A paired t-test was used to test the differences in the pupils' reading comprehension between the reading methods. The mean score for each reading method was used to test the differences in the pupils' reading comprehension. To ascertain which approach the students preferred, the percentages of their answers on the feedback form were also computed. The reasons behind their preference for the reading method they had selected were cited using a descriptive analysis. Focus group notes from students and interview notes from teacher interviews were analyzed using a qualitative method known as thematic analysis.

Findings

Generation Alpha Pupils' Attitude towards Reading

Results of the FGD conducted with the English teachers provided the following five themes to describe the Grade 2 pupils in terms of their attitude towards reading:

Excitement, curiosity, and impatience towards reading

Teachers agreed that pupils show curiosity and excitement when presented with something new. They scream and shout out of joy that they will learn a new thing. On a positive note, this excitement and curiosity allow the pupils to explore and discover.

Love to read, but struggle in comprehension

Reading, simply reading, is not a major problem for most of the Grade 2 pupils. Teachers agreed

with this. However, they observed that pupils do know how to read words, sentences, and even short stories, but find it difficult to make meaning out of the text they read. They are known to be "word callers" who can read whole words yet struggle with comprehension skills. When asked to analyse and discuss about the text, they have trouble to explain, thus leading to poor performance in reading comprehension exercises. Reading comprehension can be categorized into three areas: literal comprehension, inferential comprehension, and evaluative comprehension. Literal comprehension is the one found by the Grade 2 pupils to be the easiest among the three. It is the lowest among the comprehension skills. Pupils are tasked to note details and sequence events which is considered a lower level of comprehension. When it comes to the other two areas, the pupils find it difficult to meet the expectations. Moreover, teachers observed that they do better in literal comprehension in English than in Filipino or vernacular because the Filipino language is not their mother tongue.

Love listening to stories, rather than reading the story by themselves

Teachers agreed that the majority of the pupils like listening to stories, rather than reading the stories on their own. They show interest on how the teacher animates the story through facial expressions and change of tone of voice while reading. When stories are read aloud to them, it was observed that they were able to retain information about the story and get high scores on the reading test given after story reading. However, when asked to read on their own, they easily get distracted, and they tend to be always in a hurry leading to poor comprehension of the story read. Aside from distraction and rush, one factor that affects the pupils' independent reading was their own reading skill. They still find difficulty in reading some words; thus, they lose confidence, or if not, they do not fully understand the story. Furthermore, some pupils tend to just skim the text and just look for answers which leads to missing the whole sense and purpose of the text. This is the importance of listening that teachers must take into account given that listening is the first language skills that children develop and is the most commonly used form of communication (Alkaaf & Al-Bulushi, 2017).

To further describe the profile of the pupils, the following themes identified the pupils' attitude towards reading:

Love to read

It is apparent that the pupils like reading. They believe that reading is a key to gaining more knowledge which will make them smarter. It was also mentioned that reading allow them to be aware of what is happening around them. They also find reading as a fun activity to do and a way to make themselves feel good.

Moreover, pupils are fond of reading interactive books and chapter books that tackle their varied interests, such as: school life as shown in Diary of a Wimpy Kid by Jeff Kinnel, fairytale books, and history books. In fact, this generation of pupils being 'digital natives' are the most materially endowed and technological-infused demographic up to date (McCrindle, 2016). They also find these books to be somehow touching their feelings and emotions. This helps them as Generation Alphas are super direct and confident about expressing themselves and their opinion (Ziatdinov & Cilliers, 2022).

Thought of answering reading comprehension exercises is scary

Most of the pupils verbalized that answering tests after reading a story is scary. This is due to their fear of getting a bad grade. They are anxious that they may get a wrong answer. They are not confident enough that they will do well. Much of this anxiety undoubtedly comes from their millennial parents who strive for perfection (Breckenridge, 2021).

This is supported by Guzman (2013) who found varying attitudes towards reading among grade school pupils. The pupils showed slightly positive feeling towards reading, but also had negative opinions toward it. They like reading and feel happy when they do it but consider the activity a form of work than fun which makes them behave negatively toward academic reading. They view it as an activity of those pupils who just want to get good grades.

The result of the FGD supports the premise of the study that pupils can read words and stories and have a positive attitude towards reading, but they do struggle in comprehension which was further verified by their SRA placement test results. Most of them were placed in the pre-primer and primer level characterized by picture to word recognition, while the remaining ones were in First Grade reading comprehension level characterized by simple and short comprehension texts focusing mainly on vocabulary building and literal comprehension. Furthermore, their performance in reading comprehension exercises can also be attributed to their general observable behaviour of impatience and lack of interest in doing independent reading.

Effects of reading methods on pupils' reading comprehension

Results of paired t-test revealed significant differences in the pupils' performance in reading comprehension between silent reading and oral reading methods (Table 1). In particular, pupils performed better when they read silently (10.51 +/- 2.04) as opposed to when they read out loud (9.71 +/- 2.41). A statistically significant increase of 0.80 (95 per cent CI, 1.37 to 2.97 points indicates that silent reading helped pupils better understand reading passages. The t-statistic was 2.71, with df=74 (p < .05).

Table 1. Pupils' reading comprehension differences between silent reading and oral reading

	Silent Reading	Oral Reading
Mean	10.5	9.71
Variance	4.17	5.83
Observations	75	75
Pearson Correlation	0.35	
Hypothesized Mean Difference	0	
df	74	
t Stat	2.71	
P(T<=t) one-tail	0.00	
t Critical one-tail	1.66	
P(T<=t) two-tail	0.00	
t Critical two-tail	1.99	

Reading method preference among Generation Alpha pupils

The following discussions were based on the data obtained from the feedback forms. The results were presented according to each preferred reading method. Result showed that most of the pupils preferred silent reading. Fifty-six pupils or 75 per cent of them responded that they preferred silent reading because it helps them understand the story better, remember words, and avoid distracting other readers. They also perceived silent reading as a quiet and peaceful way to read. This shows that pupils prefer a quiet environment whenever they read. This generation of learners love open-book environment as they are connected to a borderless world, they are really consumers of information. Other cited reasons include: (i) silent reading helps in keeping their focus and concentration; (ii) an aid to read a given text faster; (iii) to understand the text and words easier; and (iv) to read properly. While reading better, hearing oneself when reading, not getting confused, correcting mistakes through repetition, not getting shy, not getting disturbed, and not making much noise were less cited reasons why pupils prefer silent reading.

The pupils agreed that silent reading works well for them. They prefer such reading method for a variety of reasons. First, they like it, because they do not need to talk, and they do not have to shout. Second, they like silence when they read because it makes them concentrate more and it does not lead them to confusion. Third, they get to be more focused on the words that they are reading. And lastly, they are able to read faster when they read silently. All these reasons contribute to better understanding the story compared to when they read out loud.

On the other hand, most of them agreed that they get lost in words or miss some words whenever they read aloud, thus leading to poor comprehension. Elaborating on the pupils' reading method preference, most pupils agreed that silent reading was the most preferred reading method with oral reading as the second. This result shows that most pupils believe that silent reading is an effective method for understanding the reading passages. Likewise, silent reading also aids in increased listening, word

recognition, fluency, vocabulary, and reading comprehension. It is also observed as similarly effective as guided repeated oral reading in developing fluency and comprehension (Gray, 2012). Schimmel and Ness (2017) also found in their study involving fourth graders that silent reading has a strong impact in retell measures specifically for narrative passages which support the claim of the pupils that this reading method helps them remember the words from the text they read. Contrariwise, only 19 pupils or 25 per cent of the Grade 2 pupils preferred oral reading because it serves as an aid for them to hear and listen to and further understand the story.

Challenges faced by English teachers in teaching reading and reading comprehension

The Grade 2 teachers have identified a variety of challenges that they encounter when teaching reading. One of which is the comparison on how they learned how to read and comprehend when they were still young and the way that pupils are learning today. The difference in approach due to changing times has been identified as a challenge since teachers expect that their pupils will learn in the same way that they learned during their time. Due to this, frustrations that hinder learning arise. According to Lee and Schallert (2016), teaching has changed significantly through the years. Schools today are far different from the schools in the past. The changes had effects on opportunities and challenges in teaching, likewise on the attitude, knowledge and sets of skills to be taught and developed. It had a great effect on what teachers at present should do taking into consideration the generation of learners today and the new trends in education, such as: increase in diversity of learners, increase in instructional technology, greater accountability in education, and increased professionalism of teachers.

The second challenge is teaching the children "syntax" which is defined as the arrangement of words or phrases to create well-formed sentences in a language or simply a set of rules followed within a certain language. Al-Mekhlafi and Nagaratnam (2011) found in their study involving English as Foreign Language (EFL) students that both teachers and students encounter difficulties in teaching and learning syntax or grammar, with students experiencing the greater difficulty. Perceived difficulties are explicit grammar teaching, transfer of declarative knowledge into procedural knowledge, use of grammatical terminology, error correction, problem-solving activities, use of authentic texts for grammar instruction, and use of spoken and written communication activities.

The third challenge is the difference in terms of age among the pupils in the grade level. Some are too young, and some are just on level which makes it difficult to address the age- appropriateness of the materials being used in teaching reading. This also relates to the developmental stages that each child undergoes as s/he grows up and each differs based on his or her age. Children do not learn at the same pace and same way, some are fast, and some are slow, some are independent, some need guidance as how naturalists view learning and learners who have their own timetable for learning (Ortega-Dela Cruz, 2020).

Lastly, the varied preferences of the pupils. Some like to watch, some like to play, and some like to read. Therefore, those who like reading are the ones easier to teach, while those who are not become very challenging because of their lack of interest. Moreover, they only read what they like and lose interest on those that are required. Thus, this limits them to learn more reading and reading comprehension skills (Bećirović et al., 2018).

Methods on improving reading comprehension: suggested sustained silent reading programs

Based on the results of the study, different teaching methods involving silent reading were hereby suggested to improve reading comprehension:

SRA Reading Laboratory. This is a sustained silent reading activity. This can help the pupils improve their comprehension through the different power builders fit for the reading level of each pupil. Through this, pupils are trained to develop the habit of reading independently, answer comprehension questions on their own, and check their own answers and find out where mistakes are made which can help them to evaluate their own performance. SRA Reading Laboratory enables pupils to employ different reading comprehension strategies such as: surveying, using context clues, questioning and reading, and using background knowledge which develop reading proficiency (Nabor & Ortega-Dela Cruz, 2022).

Genuine Love for Reading (GLR) through the 4-pronged Approach. This approach can be done in a more consistent manner through a week-long encounter. A short story integrated to various lessons in different subjects will be introduced during the start of a unit for a grammar lesson and will read aloud. This will allow pupils to read the story properly because of the pattern of reading observed from the teacher. After which, the pupils will be tasked to do silent reading of the same story and will be asked to answer literal comprehension questions which mainly consist of the story elements and sequencing, both comprehension skills. In another session, pupils will take on different activities to develop their inferential and evaluative comprehension. GLR is a good way to develop vocabulary, comprehension, and writing skills (Palasan, 2018).

Drop Everything and Read Time. This is a sustained silent reading activity in which pupils are encouraged to bring their favourite book. Studies show that reading preference has a great impact on improving one's reading ability (Bouchamma et al., 2013; Nurhalimah, 2018; Safitri, 2020). To have a deeper experience, the pupils can share to class their learnings from the reading material they read. They can also make up their own comprehension questions that their classmates can answer. In this activity, pupils with different reading abilities can be catered and can freely read on their own without judgment. It encourages pupils to do independent reading and to reflect on what they have read.

To further strengthen the time used in this activity, Serravallo (2017) suggested some activities that can address the issue of student engagement and motivation during DEAR time. First, a whole-class or small group lessons that offer strategies for focus and attention. And second, book talks to recommend and make the pupils interested to seek more authors or genres which can be integrated to the classroom activities. Integration of stories in daily life, be it at home or in school can be done using silent reading techniques. Through this, pupils will get more exposed to different forms of text, make connections, and make meaning of the text and make meaning of the world around them.

Discussion and Conclusion

For Alpha children, knowledge is acquired by doing and experiencing (Ziatdinov & Cilliers, 2022). These enable them to seek for materials that would help them learn reading skills, especially if the ones presented to them are their favourites or interests. They do not stop until their needs are fulfilled. However, these immediately go away and arereplaced by impatience. Due to their high emotions, they tend to seek for the ending and lose interest in experiencing the process from beginning until the end. When reading content is offered, they expect an immediate result because they seek instant gratification. Thus, the purpose of the material is defeated and just turns into waste. Objectives are not fully met leading to non-mastery of the material or the skill which teachers want them to have. These characteristics may be attributed to their age level and their generation. This is particularly true to the Generation Alpha as they have grown up with iPads in hand and never live without a smartphone and the ability to transfer a thought online in seconds (McCrindle, 2016). They are considered to be the most transformative generation ever (Nagy & Kölcsey, 2017). And with this, they are known to be the generation who likes outcomes to be as fast as the blink of an eye, because they grew up in a fast-paced world reinforced by gadgets, media, and internet, also known as the digital natives (McCrindle, 2016). Although they absorb tons of new information every day, igeneration struggle with content-area reading for many reasons such as the challenges of vocabulary, density of information, concepts, unfamiliar structures among others (Akhavan, 2014).

According to Tovani (2023), reading a text is both an interactive and complex process which involves decoding, word recognition, encoding, and information retrieval. True competent readers can attune themselves to a variety of sources of information to make meaning out of the text they read which is the most important among all the reading skills. These readers are able to bring out a reader's rudder which is a metacognitive component of reading comprehension characterized by the reader's ability to assess how well he/she reads. Oftentimes, pupils lack reader's rudder because teachers misalign reading assessments to comprehension skills being assessed.

Pupils may know how to read, but in order to achieve comprehension, they must develop the

following: text structure understanding, vocabulary comprehension, use of prior knowledge, and ability to focus on comprehension (Moore, 2014; Sanford, 2015; Syahfutra, 2017) rather than decoding, and the value placed on completing the task. In terms of the methods, silent reading had the greater positive effect on the comprehension performance between the two reading methods used (Ali, 2012; Bacus et al., 2015; Suk, 2017). As found in literature, students exposed to silent reading techniques and who often do sustain silent reading are able to improve their vocabulary and fluency, therefore improving comprehension. Moreover, they are able to recall properly which also reinforces comprehension (Noland, 2014).

These results support the study of Fraumeni-McBride (2017) who found that students had higher comprehension levels both when they could choose their own books and when they read silently. Silent reading was found effective in increasing students' reading attitudes and other areas of students' reading achievement (Cho, 2017; Nabor & Ortega-Dela Cruz, 2022). This study indicates that silent reading helps the pupil's reading comprehension by enabling the pupil's ability to concentrate and make meaning of the words that they read.

Despite some studies conducted that showed the significant positive effects of reading aloud on the reading comprehension of elementary stage students (Al-Mansour, 2011), this study showed that silent reading can also be a good method to improve the pupils' reading comprehension. Silent reading which is often considered as a form of school-based recreational reading and a tool where students learn to read by reading silently, was more often cited by the pupils in this study as a way to understand the story better not only read better and as a tool to remember words, furthermore, to show respect to other readers.

Moreover, sustained silent reading (SSR) can propel pupils to read because it was found to have a positive influence on pupils' reading involvement by increasing it and it makes pupils place a high value on the importance of reading (Bacus et al., 2015). This is supported by a study conducted by Krashen and Mason (2017) where students exhibited better reading comprehension and vocabulary growth and developed positive attitude towards reading after exposure to sustained silent reading programs. The positive effects are even more strengthened when students are allowed to choose their own reading materials (Bouchamma et al., 2013; Nurhalimah, 2018; Safitri, 2020).

Addressing the objectives of the study in sequence, it can be concluded that teaching reading and reading comprehension to Generation Alpha pupils is quite a challenging task due to a variety of factors affecting it. However, pupils showed fondness over reading and show enthusiasm towards learning new things through stories read-aloud to them and through stories they independently read. Though there is an observed fondness over reading, pupils were observed to be struggling in comprehension. They find it difficult to make meaning out of the texts they read.

Teachers can take from these results that despite the comprehension performance differences using the two reading methods, most pupils in fact find silent reading to be beneficial to them. Although such finding may be individually specific, there is now a bigger venue for teachers and curriculum developers to devise or create teaching strategies and methodologies using silent reading method that would address the reading and reading comprehension needs of the pupils. Additionally, pupils should use silent reading method when reading different kinds of texts in order to maximize its positive effects and improve their comprehension performance.

Truly, reading comprehension has been an essential skill that each pupil needs to achieve success in reading and have a better understanding of the world around him/her. It allows an individual to make meaning and make sense of each word in a text and make sense of what is happening. Therefore, at a very young age, it should be developed and improved and be given priority in each classroom. According to English teachers and educational institutions teaching reading comprehension to young children as early as primary school is one of the reading curriculum's main goals.

Reading comprehension success is achieved through practice supported and guided by methods and strategies aligned with the needs of the learners (Guieb & Ortega-Dela Cruz, 2017; Lopez & Ortega-Dela Cruz, 2022; Nobles & Ortega-Dela Cruz, 2020). Using silent reading techniques may not directly affect

the pupils' reading comprehension skills, but the way it enhances focus and concentration may help pupils better understand the text they are reading and make meaning and connections out of it.

Strengthening silent reading classroom practices such as SRA Reading Laboratory, GLR, and Drop Everything and Read time (DEAR), likewise providing a variety of reading materials in the classroom where pupils can choose from should be done. Moreover, exposing children to stories at an early age and making reading materials available for them should be prioritized to support the development of each child's comprehension ability. A solid home-school collaboration is greatly needed to establish a firm reading foundation for all pupils given that teachers and parents are all reading teachers.

Furthermore, the study's conclusions might add to the body of knowledge already available on early childhood education, particularly in terms of suggesting strategies for improving primary pupils' reading comprehension. This necessitates ongoing assistance from educational leaders and legislators in regard to teacher preparation for creating and implementing innovative teaching strategies based on the interests and need of the learners.

This study focused on two reading methods only: reading aloud and silent reading and the effects of each to reading comprehension of Grade 2 pupils in a private school in the Philippines. It did not determine the specific effect of each method, rather it determined if there is a relationship between reading comprehension and each reading method. It is advised that future researchers carry out additional research on the methods and strategies to enhance basic education students' reading comprehension in light of the study's limitations. The efficacy of each reading method will be examined using bigger sample sets and additional statistical testing. Additionally, it is advised to look into the efficacy of the existing classroom practices like the GLR and SRA Reading Laboratory, which both employ sustained silent reading to reading comprehension. The future researchers should also look into the distinctions between reading comprehension and listening comprehension and how they affect pupils' comprehension abilities.

Given the diversity and the generation of children at present, there are a lot of strategies to explore and apply which will tailor fit the needs of the pupils. A teacher who is willing and who is devoted to making the pupils learn will most likely succeed to develop the reading and reading comprehension skills of his/her pupils. Teaching reading is a challenge, but with the proper alignment to learner context, needs, and appropriate teaching methods given the pupils' reading preference, success in reading comprehension can be achieved.

Declarations

Authors' Declarations

Publisher's Declarations

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Documenting the development and achievements of early and preschool children: Different curricular approaches

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Abstract: The public education policy of an individual country determines, among other things, the ways of documenting the educational process and children's outcomes. This paper explores the opinion of preschool teachers about documenting children's development. The sample included preschool teachers from two systems, or two different curricular approaches. One exists in the Republic of Croatia (curriculum based on the competence framework) and other in Bosnia and Herzegovina (curriculum based on normative outcomes). The measuring instrument *Questionnaire of Preschool Teachers' Opinions on Monitoring the Psycho-physical Status of Children* (α= .847), was constructed for research purposes. The *Questionnaire* was based on relevant literature and insights into existing educational practices. On a dichotomously structured 4-level scale, preschool teachers estimated that the most important purpose of documenting children's development is the planning of developmental incentives (M=3.63; SD= 0.495). They agree that monitoring should be continuous throughout the entire academic year (M=3.53; SD= 0.666). Likewise, preschool teachers are less inclined to one-time assessments of a children's psycho-physical status, considering "a testing" unlikely to provide a realistic image of their development (M=1.88; SD=0.797). No correlation was found between preschool teachers' age, length of service, and level of education. Using the *t-test* of independent samples, a mild/weak, but statistically significant difference in the preschool teachers' assessment between the subsamples was determined.

Introduction

It is possible to analyze the quality of an early and preschool education institution (hereafter ECEC) through the structure determined by the public education policy of a particular country, the quality of the educational process and the achieved outcomes of children (European Union, 2019). (Self)evaluation, as a part of the continuous development process, should be one of the fundamental features of ECEC pedagogical quality. Documentation is one of the tools of (self)assessment. At the same time, it can also be a way of monitoring and encouraging the development of children, the educational process and preschool teachers.

Documenting can be interpreted as the process of collecting and classifying various materials that describe events and/or monitor a process. Pedagogical documentation assumes a process that should include continuous spiral monitoring, evaluation and planning of the structural and process dimensions of ECEC in relation to the expected and desired outcome. It should be (and is distinguished by this) focused on development, and not only description and/or evaluation of the process i.e., the outcome. Documentation that only "describes" situations and developments, although it can significantly contribute to understanding, basically has no long-term strength and most often does not lead to quality changes. Quality, that is, "strong" documentation is the one that initiates the reflective development of practice and is the starting point for further action (Feraris, 2013).

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The method and purpose of documentation are mainly determined by the national educational curriculum as a framework of public education policy. Analysis of contemporary curricula in the world (Pribišev Beleslin, 2019) shows that, in terms of structure and outcomes, it is possible to single out three basic approaches: curricula based on areas of development and outcomes (e.g., United Kingdom, Bosnia and Herzegovina); curricula directed towards areas of study (e.g., France, Finland, Hungary, Portugal, Croatia) and curricula based on principles and cultural postulates (e.g., New Zealand, Australia, Ireland, Sweden, Japan...).

Curricular document, at the level of public educational policy and at the level of ECEC institution, as a rule, refer to the desired achievements and expectations of the individual (Jokić & Ristić Dedić, 2018). The *Global Agenda 2030* (United Nations, 2015; UNESCO, 2016) puts learning outcomes at the center of the international education monitoring framework. Learning outcomes are related to the quality of the educational process and the relationships between the stakeholders of that process, as well as the professional competencies of preschool teachers (Visković, 2021; Wood & Hedges, 2016). Some research indicates that the outcomes are best if they combine pedagogical aspects, a stimulating social and material environment with set high and achievable goals (Mullis et al., 2020). Structuring of the environment (material and social) should be directed towards the next phase of children's development so that the stimulating contents are interesting, but not (too) demanding (Vujičić, 2021). The predictor of such planning, and indirectly of documentation, should be an action of observation. Bećirović-Karabegović (2014) states that the observation of educational practice should be daily, complete and continuous, but also unobtrusive. It should not be focused only on the description of the social situation, but should also problematize the children's perspective, their learning, development and well-being (Heiskanen, 2019). Organizing the environment and incentives should be based on the children's observed interests and (self)evaluation of the practice. Pedagogical documentation should be one of the (self) evaluation tools.

Wood and Hedges (2016) point to three framework curricular approaches to determining expected educational outcomes. The first curricular approach advocates normatively defined measurable outcomes, mainly according to school requirements. The second curricular approach is focused on outcomes that expect the creation of socially and economically responsible citizens, while the third approach is based on a work-practical concept that maintains openness to the previous two approaches. The third approach at the same time advocates learning as a research process adapted to children's interests, but also focusing on content that has social importance, while not expecting a linear educational process or rigid normative outcomes. The same authors while exploring the association of educational quality and practice dynamic that respects children's interests and encourages social interactions, actually emphasize the role of practitioners - preschool teachers who encourage different learning strategies appropriate to children's interests and abilities. Such educational process is based on play and social interactions, but also on prescribed, partially (relatively) mandatory contents.

Authors like Al-Mogbel (2014), Bergen (2002), Rauf and Bakar (2019), San et al. (2021) emphasize how children in institutional ECEC can be victims of teaching that is not adapted to their age, interests and potential of preschool level. They indicate the importance of learning through play as an incentive for the complete development of children. Analyzing the ECEC practice, Puaad and Yunus (2021) problematize the representation of free, self-organized children's play, devoid of (excessive) didacticism. Karlsen and Lekhal (2019), based on the conducted study, state that preschool teachers intervene in children's activities almost a third of the time during children's daily stay in kindergarten. Teaching and/or helping limits children's free play and learning time. At the same time, Funke et al. (2018) investigated the extent to which structured play activities can support children's cognitive development. The study suggests that the integration of activities in the structure of the process, with mathematical and language concepts positively affects the overall development of children. The same authors believe how children's involvement in structured activities can facilitate initial school achievements. At the same time, children's statements confirm that understanding is better if the integration of means and activities is enabled. Also, it was observed that open access activities have a positive effect on group dynamics. The connection between cognitively oriented preschool curricula and initial educational achievements has also been observed by

other researches (Barnett & Ackerman, 2020). However, Goswami (2015) indicates that partially focused activities result in partial outcomes. Zambrana et al. (2020) believe that the effect of targeted structured activities is (relatively) weak and is limited to primary education.

Nevertheless, standardized normative assessments of children's cognitive status indicate that children who were involved in preschool institutions achieve better results than those who were cared for only by parents/guardians (Vandell et al., 2010). Rosicka and O'Connor (2020) link the monitoring of children's achievements to learning outcomes to ensure the accuracy of achievements. They emphasize the importance of "checklists" for monitoring learning outcomes, and believe that "checklists" provide an accurate image of children's achievements - what children can and do know, but also signal a "gap". Thus, the preschool teacher can use them as an aid in designing learning and teaching activities and provide evidence of children's achievements. These findings are also confirmed by research of Rahman et al. (2020), who favor formative assessments as a useful practice. They believe that this enables early recognition of difficulties and provides the foundations for future learning. Formative assessment is also promoted through the MELQO instrument (UNESCO, 2017), which assesses social skills and two components of executive function (memory and (self)regulation), as well as motor skills and pre-academic skills of children. Ćwikla (2021) shows formative assessments as an important element in the development of children's (self)regulation, and believes that formative assessment, as feedback, directs children's actions. Contrary to these attitudes, the approaches of social pedagogy interpret learning and documentation as a social construction of all stakeholders in the process. Expressing the personal perception of each stakeholder in the process (experts-practitioners, children, parents/guardians) enables a comprehensive understanding of child development and the triangulation of perspectives as a starting point for development (Feraris, 2013).

The aforementioned research questions children's achievements and ways of monitoring and documenting outcomes. Slunjski (2020) believes that the process of documenting children's development is, as a rule, an extensive research and reflexive process for which there is no single recipe. It changes and develops together with the curriculum, the stakeholders of the educational process and their relationship. In accordance with the curriculum and personal pedagogical paradigms and professional competencies, preschool teachers use different strategies for collecting, documenting, organizing, synthesizing and interpreting information that serves to assess children's development and achievements. They are looking for appropriate ways of gathering information, identifying potential and encouraging the development of children in the context of the environment they belong to (Bosnia and Herzegovina, Council of Ministers, Agency for Preschool, Primary school and Secondary Education, 2021). In addition to prescribed methods of monitoring and documentation, preschool teachers sometimes try to initiate and/or accelerate children's development. They are focused on the observed interests and potentials of children, on developmental areas and/or on (normative) outcomes. This is how they develop a personal reflective practice. However, Biffi (2019) warns that reflective practice is not enough by itself, because reflection does not necessarily encourage action and development, and (most often) assumes only one perspective – the one of preschool teacher.

Merewether and Fleet (2021) believe that children's achievements cannot be assessed through "moments of appearance" but only through systematic monitoring of development, including the visibility of children's perspectives. That is why preschool teachers should move away from repetitive practice and open a dialogue with each child. The involvement of children in the analysis and construction of personal development is advocated by authors who recognize participatory pedagogical documentation as a social construct of all stakeholders in the process, including all children equally (Biff et al., 2021). Thus, in addition to the analysis and construction of incentives for the play environment and learning, children's (self)awareness is also developed along with the complete construction of an affirmative identity.

Following the above, it is justified to adhere to the position of Lindh and Mansikka (2022), who consider that four types of documentation are recognizable in ECEC practice:

- Reproductive documentation that makes the practice visible, but does not develop it or have a

clear pedagogical purpose.

- Indicative documentation as a developmental pedagogical process includes the reflection of professional employees in relation to the defined goals. However, the goals are focused on contents and activities, so reflection is only an assessment of what has been done.
- Developmental pedagogical documentation is focused on areas of learning and/or competence development. Reflection is the basis for planning future, pedagogically purposeful preschool teacher activities. The problem is the inactive role of children in the process.
- Participatory pedagogical documentation is part of participatory pedagogical practice, which implies the active participation of all stakeholders in the process. Reflection contributes to the process, and the expected outcomes are not narrowly determined. The pedagogical process is developmental, focused on the well-being of each individual within the community culture.

Institutional ECEC in Croatia and Bosnia and Herzegovina

Institutional ECEC in Croatia is regulated by the *Preschool Education Act* (Ministry of Science and Education of Republic of Croatia, 2023) and ECEC *State Pedagogical Standard* (Croatian Parliament, 2008). While the *Preschool Education Act* (Ministry of Science and Education of Republic of Croatia, 2023) provides general guidelines (method of establishing, functioning and managing ECEC institutions), the *State Pedagogical Standard* (Croatian Parliament, 2008) defines the technical working conditions (spatial, material and structural conditions). The ECEC *National Curriculum* (Ministry of Science and Education of Republic of Croatia, 2015) provides framework guidelines for implementing, monitoring and documenting the educational process and development, as well as children's achievement. Play is recognized as a high-quality way of learning, and the development of an individual's basic competencies is the expected outcome of the educational process. Documenting is interpreted as a research process that enables understanding as a starting point for pedagogical support for child development. A culture of inclusion is fully advocated. It is important to note that, unfortunately, the *Regulation on Forms and Content of Pedagogical Documentation and Records of Children in Kindergarten* (Ministry of Education and Sports of Republic of Croatia, 2001) remained unchanged.

In educational practice, the process is documented factually, following the given forms. Thus, preschool teachers resort to normative teaching (Puaad & Yunus, 2021) and intervening in children's activities (Karlsen & Lekhal, 2019). Participatory documentation is most often absent, and only the preschool teacher's perspective is visible, which, according to modern paradigms, is not sufficient for reflective development (Biffi, 2019; Merewether & Fleet, 2021). Individual monitoring of children's development and achievements is a personal choice of preschool teacher. Although during their stay in kindergarten, there is no formative assessment of development, before starting primary school, the psycho-physical status of an individual child is assessed normatively.

Education policy in Bosnia and Herzegovina is the responsibility of the counties, and each county has its own specificities. In the Herzegovina-Neretva County (where the research was conducted), it is mandatory to monitor the achievements of every child according to *Preschool Education Act* (Republic of Bosnia and Herzegovina, Herzegovina-Neretva County, 2000). The ECEC curriculum directs pedagogical practice to follow five developmental areas, each of which follows three components. Each is determined by outcomes and associated indicators. The indicators direct educators to the didactic means that will be offered to children so that, through directed and playful activities, they adopt the prescribed outcomes (Ćwikla, 2021). Each child's achievements are assessed every three months according to indicators corresponding to the concept of "checklists" (Rahman et al., 2020; Rosicka & O'Connor, 2020). Accuracy is ensured by keeping development maps (children's work, photos of activities and achievements, transcripts of conversations).

An insight into the educational policy through which it is possible to determine pedagogical practice in the ECEC institutions of these two neighboring countries - Croatia and Bosnia and Herzegovina - reveals differences in the curricular approach. The ECEC curriculum in Croatia is based on a competence framework, and before entering primary school, the psycho-physical status of children is normatively

assessed. In Bosnia and Herzegovina, the curriculum defines areas and learning outcomes while formative assessment is carried out regularly. Consequently, differences are also recognizable in the documentation of children's development.

The belief that quality documentation of children's development and achievements is one of several dimensions of the quality of pedagogical practice, points to the need to research preschool teachers' opinions about existing documentation practices (Visković, 2021). This problem is recognized in the relationship between educational policy and practice, this problem is recognized, but there is a lack of research. Therefore, this paper investigates the perspective of preschool teachers on the ways and the very purpose of documenting the development and achievements of preschool children and their (dis)agreement with public education policy. The research includes preschool teachers from two neighboring counties, located right next to the border of these two countries, and preschool teachers occasionally collaborate.

The aim of this empirical non-experimental research was to determine whether there are differences in assessment according to subsamples. It is questionable whether the assessments of the participants in this study are related to demographic variables, public education policy, and/or personal experiences.

It is assumed that there is no statistically significant connection between the demographic characteristics of the participants (age, level of education, number of children in the group, length of work experience) and their assessment of the importance, methods of monitoring and documenting children's achievements.

It is assumed that there are statistically significant differences in the ways of monitoring and documenting children's achievements between preschool teachers in Bosnia and Herzegovina (who work according to a curriculum based on defined outcomes) and preschool teachers in the Republic of Croatia (whose curriculum is based on a competency framework).

Method

The research was conducted during the Spring of 2022. The *Questionnaire* was offered to preschool teachers during organized vocational training (form of legally mandatory lifelong learning in both countries), so it is possible to assume that those preschool teachers who are interested in personal professional development participated. The purpose of the research was explained to the potential participants and, in accordance with the ethics code, informed consent was provided and participants were free to withdraw from the research.

The collected data were processed using the statistical program *Statistical Program for Social Scientists 20* (SPSS 20). For the purposes of general description, central tendency measures (arithmetic mean, mode) and dispersion measures (standard deviation, frequencies) were calculated. The reliability of the instrument was determined using the *Cronbach alpha coefficient*. The normality of the distribution was determined using the *Kolmogorov-Smirnov test*. Using the *t-test*, the existence of a statistically significant difference in assessment between subsamples was investigated. Effect size was investigated using *Cohen's d coefficient.* Correlation was considered using *Pearson's correlation coefficient*. One-way analysis of variance ANOVA was used to examine the possible difference in assessment in relation to the level of education, founders and place of work (employer's center).

Sample

The sample (N=198) included 127 preschool teachers (64.1% of the sample) from Bosnia and Herzegovina (Herzegovina-Neretva County), and 71 (35.9% of the sample) preschool teachers from Croatia (Split-Dalmatia County). The research participants have an average of 40.3 years of life (SD=10.33), ranging from 23 to 64 years, and 12.96 years (SD=10.14) work experience in ECEC institution.

The public education policy in both countries identically determines the founders of ECEC institutions. This sample includes 141 preschool teachers (71.2%) who work in kindergartens founded by a

local self-government unit, while 36 preschool teachers (18.2%) work in kindergartens founded by a physical or legal entity. The religious community employs 21 (10.6%) preschool teachers (Table 1).

Statistically significant difference between the samples in relation to the State (local self-government unit) as the founder of the kindergarten (χ^2 = 129.54; p≤ .000) and the center of the employer (χ^2 = 123.08; p≤ .000). The sample is representative in relation to the structure of the participants, but not the size of the population of preschool teachers from both countries (Croatian Bureau of Statistics, 2022; Federal Bureau of Statistics FB & H, 2021).

Table 1. Structure of the sample according to the country, the founder of the institution and the employers' stationary

	Founder of the ECEC institution			Employers' Stationary		
	Local Self-government Unit	Natural or Legal Person	Religious Community	City (more than 5000 citizens)	Town (2000-5000 citizens)	Small town (less than 2000 citizens)
Bosnia and Herzegovina	77	29	21	86	29	12
Croatia	62	7	2	51	16	4

Instrument

The measuring instrument, the *Questionnaire on Preschool Teachers' Opinion on Documenting the Psychophysical Status of Children* (Q-PTODPSC), was constructed for the purposes of this research. It is based on a theoretical analysis of relevant literature and insights into existing practice. The structure obtains two parts: *Independent Socio-demographic Variables*, and *A Scale for Assessing the Way and Purpose of Documenting Children's Development and Achievements*. The *Scale* has 38 items. Assessment was possible on a dichotomously structured 4-point scale without a zero point. Internal consistency reliability was satisfied (Cronbach α = .847).

Results and Analysis

The majority of preschool teachers in both countries assess the optimal working conditions with regard to spatial and material conditions and the number of children in the group, which are in accordance with valid state pedagogical standards (Table 2). Using χ^2, a statistically significant difference in assessment frequencies between subsamples was determined (χ^2 = 12.918; df=2; p= .002).

Table 2. Assessment of working conditions according to the *standard,* according to the countries

	Worse	Appropriate	Better
Bosnia and Herzegovina	29	87	11
Croatia	33	31	7
Total	62 31.3%	118 59.6%	18 9.1%

Evaluating the usefulness of documentation, the preschool teachers in the sample attach the greatest importance to documentation as a starting point for planning development incentives (M=3.63; SD=0.50), especially for individualized plans for children with developmental difficulties (M=3.53; SD=0.602). They think that monitoring children's development should be continuous (M=3.53; SD=0.666). The data collected in the documentation process are important for individual conversations with parents (M=3.51; SD=0.585). Participants believe that monitoring children's development is one of the indicators of the quality of the educational process (M=3.52; SD=0.602).

Preschool teachers in the sample are not prone to one-time normative assessments of children's psycho-physical status (M=1.88; SD=0.797). They doubt whether only the strengths of the child should be documented (M=2.15; SD=0.827), and they are inclined to the opinion that areas where the child is developmentally delayed should be encouraged (M=3.43; SD=0.527). They do not agree with the claim that the preschool teacher cannot monitor and document children's development during the educational process (M=2.02; SD=0.846) as well as with the claim that the preschool teacher cannot independently notice the strengths of each child (M=2.12; SD=0.838).

The estimated values between the subsamples were compared using the *t-test* of independent samples. For the majority of assessment items (N=24), a statistically significant difference in assessment was determined (Table 3). The effect of influence is greatest for assessing the importance of continuous monitoring of children's development (t=-6.14; p≤ .000; d= .907), which is necessary for planning development incentives (t=-6.41; p≤ .000; d = .905). Also, the impact effect is large for the assessment of the importance of the preschool teacher's role for the development of (self)assessment skills (t=-5.71; p≤ .000; d= .856) and for the assessment of the development map as an appropriate way of monitoring children's development (t=- 5.08; p≤ .000; d= .774). A statistically significant difference was also observed for the assessment of the monitoring of children's development as an indicator of the quality of the educational process (t=-4.39; p≤ .000; d= .657). The smallest effect of influence, but statistically significant, was determined for the role of the preschool teacher in determining the lowest expected achievements of the child (t=2.37; p= .019; d= .336).

Table 3. The difference in the assessment of the importance of ways of monitoring and documenting children's development according to subsamples (Bosnia and Herzegovina - Republic of Croatia) and subsamples according to both countries

Items	State	M	SD	t-test	p	d
Monitoring children's development is important for planning development incentives.	BA*	3.47	.517	-6.41	.000	0.905
	HR**	3.90	.300			
Monitoring children's development is important as an indicator of the quality of the educational process.	BA	3.39	.605	-4.39	.000	0.657
	HR	3.76	.520			
Monitoring of children's development should be continuous, throughout the entire pedagogical year.	BA	3.33	.724	-6.14	.000	0.907
	HR	3.89	.318			
Instead of continuous monitoring, one-time assessments are sufficient (at the beginning and end of the pedagogical year).	BA	2.18	.971	3.94	.000	0.601
	HR	1.65	.795			
Monitoring children's development is important for individual conversations with parents about their children's achievements.	BA	3.39	.605	-4.15	.000	0.628
	HR	3.73	.477			
By monitoring children's development, we encourage parents to develop their children's abilities and opportunities.	BA	3.25	.654	-4.73	.000	0.744
	HR	3.68	.501			
A preschool teacher cannot monitor and document children's development during the educational process.	BA	2.13	.777	2.49	.013	0.362
	HR	1.82	.931			
The development map is an appropriate way of monitoring children's development.	BA	3.17	.618	-5.08	.000	0.774
	HR	3.62	.544			
Checklists make it easier to monitor children's development.	BA	3.03	.701	-2.48	.014	0.373
	HR	3.30	.744			
The preschool teacher should record in the checklist when he sees a particular achievement (do not record what the child does not know or cannot do).	BA	2.92	.922	2.73	.007	0.410
	HR	3.28	.831			
An individual development plan is the optimal way to encourage the development of each child.	BA	3.07	.632	-4.,51	.000	0.665
	HR	3.49	.630			
An individual development plan for children with developmental disabilities is made by professional associates in cooperation with the preschool teacher.	BA	3.40	.621	-4.47	.000	0.646
	HR	3.76	.492			
Preschool teacher helps children build (self)assessment skills of personal achievements.	BA	3.24	.499	-5.71	.000	0.856
	HR	3.68	.528			
The preschool teacher should notice the child's lack of achievement.	BA	3.06	.614	-3.37	.001	0.514
	HR	3.37	.591			
The preschool teacher should encourage the development of the areas where the child is lagging behind.	BA	3.32	.518	-4.14	.000	0.618
	HR	3.63	.485			
The preschool teacher sets a characteristic for each child that it is desirable for him to adopt.	BA	3.06	.664	2.37	.019	0.336
	HR	2.82	.762			
Development incentives are planned for the areas of the child's existing achievements.	BA	2.79	.650	-2.51	.013	0.358
	HR	3.04	.745			
For one child, it is possible, in a shorter period of time (up to 1 month), to set several developmental incentives.	BA	2.61	.736	-4.05	.000	0.596
	HR	3.06	.773			
In a shorter period of time, it is possible to set several challenges related to one development area.	BA	2.73	.695	-4.45	.000	0.663
	HR	3.18	.661			
In a shorter period of time, it is possible to set several challenges related to different development areas.	BA	2.56	.720	-4.69	.000	0.688
	HR	3.07	.762			
Monitoring of children's development is carried out during children's activities.	BA	3.06	.658	-3.51	.001	0.507
	HR	3.39	.643			
	BA	2.36	.842	2.72	.007	0.401

Monitoring of children's development, through individual assessments, should be carried out by professional associates, not preschool teachers.	HR	2,01	.902			
Development incentives are planned for areas in which the child shows above-average achievements.	BA	2.94	.694	-1.18	.240	-
	HR	3.07	.762			
Children's development proceeds in a unified way, so it is not appropriate to assess individual areas of development.	BA	2.65	.791	0.71	.482	-
	HR	2.56	.982			
It is not justified to compare children's development with the assumed / average status.	BA	2.90	.711	-0.41	.689	-
	HR	2.94	.876			
It is justified to demand certain achievements according to age (especially before starting school).	BA	3.02	.701	0.29	.770	-
	HR	2.99	.665			
Child development is a natural process that happens even without the encouragement of the preschool teacher.	BA	2.60	.789	1.22	.223	-
	HR	2.45	.858			
A preschool teacher cannot independently see the strengths of each child.	BA	2.19	.852	1.64	.102	-
	HR	1.99	.802			
The preschool teacher should document only the strengths of each child.	BA	2.21	.793	1.51	.133	-
	HR	2.03	.878			
Development incentives are planned for areas where the child does not have adequate achievements?	BA	3.06	.582	1.04	.297	-
	HR	2.96	.706			
A one-time assessment of the child's psychophysical status ("testing") provides a realistic picture of the child's development.	BA	1.95	.775	1.75	.081	-
	HR	1.75	.823			
The comparison of the initial and final assessment of the child's psycho-physical status is the result of the preschool teacher's work.	BA	2.50	.786	0.25	.798	-
	HR	2.46	.892			
A comparison of the initial and final assessment of the child's psychophysical status indicates the quality of the educational process.	BA	2.70	.705	- 0.15	.877	-
	HR	2.72	.865			
A comparison of the initial and final assessment of the child's psychophysical status indicates the child's engagement during the educational process.	BA	2.89	.669	0.59	.556	-
	HR	2.83	.676			
Monitoring of children's development is possible only through the individual work of a preschool teacher with an individual child.	BA	2.22	.654	0.99	.321	-
	HR	2.11	.854			
Children's development is monitored throughout the child's stay in kindergarten.	BA	3.32	.547	-0.65	.513	-
	HR	3.38	.663			
Monitoring of children's development should be carried out according to planned periods (several times a year).	BA	2.46	.664	0.58	.559	-
	HR	2.39	1.021			

* BA = Bosnia and Hercegovina; ** HR= Republic of Croatia

In conclusion, there is a statistically significant difference in the assessment of preschool teachers according to sub-samples - different countries (t= -3.340; p= .001). A statistically significant weak negative correlation between preschool teachers' assessment and their age was determined (r= - .085; p< .005). A single-factor analysis of variance did not establish a statistically significant difference in the assessment of preschool teachers in relation to the level of education ($F_{(44.153)}$=1.3; p = .14).

It is possible to conclude that the assessment of preschool teachers is not determined by the age or level of education of the participants of this research. The observed differences between the subsamples can be attributed to the educational policy that determines the (professional) behavior of preschool teachers. An insight into the practice of creating educational policies in both countries indicates the exclusion of preschool teachers - practitioners from the decision-making process. Although an open public consultation is mandatory in Croatia before the adoption of legal regulations, preschool teachers are only sporadically involved (visible on the web). It is possible to assume that this is related to the personal paradigms of preschool teachers, but it is also questionable whether the same can be attributed to a feeling of personal powerlessness and/or lack of interest, or to a culturally conditioned occupational status. Consequently, it is difficult to state whether the differences in the way of documenting children's development are the result of conviction and (un)justification of certain pedagogical approaches or just ambivalence in adhering to imposed educational policy. This is visible, for example, in the evaluation of the role of the preschool teacher in determining the lowest expected achievements of the child, where the lowest influence among the subsamples was observed.

Discussion

Monitoring and documenting the development of children is one of the tasks of preschool teachers,

recognizable in all curricular approaches. The methods of monitoring and documentation and the expected educational outcomes are determined by individual public educational policies. However, it is questionable how preschool teachers in the immediate pedagogical process interpret, accept and implement the curricular guidelines of the public education policy.

The findings of this research indicate that preschool teachers, regardless of the curricular approach of a particular public education policy, recognize the importance of documenting children's development. They use the collected data about children as a starting point for planning development incentives and individualized plans. This points to the developmental significance of documentation. These assessments are in line with the findings of other research that indicate the importance of documenting children's development as a starting point for planning pedagogical incentives (Bećirović-Karabegović, 2014; Jokić & Ristić Dedić, 2018; Rosicka & O'Connor, 2020; Vujičić, 2021).

Feraris (2013) emphasizes the importance of documentation as a starting point for developmental changes. The distinction between "weak" and "strong" documentation is interpreted precisely by the potential for changes. At the same time, "weak" documentation (most often descriptive) only records what was observed. Documentation becomes "powerful" only when it initiates a discussion about the possibilities of development, paradigm change and pedagogical approaches. Strong documentation is also the result of participatory documentation when all process stakeholders are equally involved in the process (Biffi, 2019; Biffi et al., 2021; Lindh & Mansikka; 2022; Visković, 2021). This can be partially seen in the findings of this research, in which participants believe that documentation about children can be a starting point for collaborative conversations between preschool teachers and parents. At the same time, it points to the need to develop self-assessment skills and self-regulated behavior in children and parents/caregivers (Black & Wiliam, 2009).

The research participants reject the assumption of insufficient competence of preschool teachers in recognizing the individual potential of each child. This is in agreement with the research of Vukosav and Sindik (2021), which confirms with 94% accuracy preschool teachers' assessments of children's potential giftedness. At the same time, it contradicts the research of Lindh and Mansikka (2022), who consider that teachers tend to have a high (self)assessment of their personal competences for managing pedagogical documentation and monitoring children's achievements, although this is not recognized in practice.

The assessments of preschool teachers from the sample are in agreement with research that suggests the need for continuous monitoring and documentation of children's achievements throughout the entire pedagogical year (Bećirović-Karabegović, 2014; Tankersley & Saifer, 2020). The distaste for one-off assessments is also confirmed by individual studies in Croatia (Bučević & Somolanji Tokić 2021; Visković, 2018). Black and Wiliam (2009) state that when documenting, the focus should be on the "unforeseen moment". This interpretation of the importance of documentation confirms the need for participatory pedagogy in which pedagogical documentation can be one of the quality communication channels of preschool teachers, children and their parents (Oliveira-Formosinho & de Sousa, 2019).

Unfortunately, the findings of this research are consistent with the findings of Lindh and Mansikka (2022), who state that most preschool teachers use documentation as a visualization of pedagogical practice and children's achievements. Unfortunately, the documentation conducted in this way is not developmentally oriented, but is only an illustration of achievements and a way of "keeping memories". Preschool teachers in Croatia are more inclined to the assumption that the method of monitoring and documenting children's development is one of the indicators of the quality of the educational process and cooperation with parents/guardians. This can be attributed to the influence of the Croatian national curriculum but also to the personal paradigms of preschool teachers. Vujičić (2021) believes that the effectiveness of each curriculum depends more on the preschool teacher and local conditions than on the theoretical curriculum model.

Conclusion

The *Global Agenda 2030* places learning outcomes at the center of the international framework for

monitoring education. Due to different contemporary pedagogical concepts or their different interpretation at the level of individual public educational policy, there is a need for curricular determination of children's educational achievements.

The aim of this research was to examine in what way preschool teachers in institutional ECEC in the Republic of Croatia and Bosnia and Herzegovina monitor children's development, considering different curricular approaches. Part of the findings points to differences that can be attributed to public educational policies and valid curricular guidelines. Unfortunately, part of the findings indicates that there is no difference in practice i.e., the practice of "reproductive" documentation of achievements is observed, which is not developmental, does not enable the equal inclusion of children or their active participation in the construction of new contents and activities.

Acknowledging the fact that well-managed documentation, regardless of the type and methods of data collection, can contribute to the development process and outcomes of children and the quality of the educational process (Visković, 2021) points to (re)defining outcomes. It is possible that the expected outcome should not be normative "goal" but the starting point for new learning and development processes. Such insights directs researchers to research on the personal professional paradigms of preschool teachers and their relationship to public education policy.

This research, although not representative of the population of preschool teachers in the Republic of Croatia and Bosnia and Herzegovina, points to the need of preschool teachers for professional support in monitoring and documenting children's achievements. At the same time, it is necessary to demand new curricular approaches aligned with contemporary research and, consequently, the redefinition of formal education and professional development of preschool teachers in both countries.

Declarations

Authors' Declarations

Publisher's Declarations

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Professional occupational activities and functions of Greek infant-toddler educators: Roles and responsibilities

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Abstract: During the last years, infant and toddler practice is receiving increased attention at the policy level. Yet, little is known about what infant/toddler practice entails and how educators working with children of this age group view their role and professional identity. The present mixed methods study aims at filling the research gap on what the professional identity and the work of infant and toddler educators entails, what are the characteristics that constitute an infant/toddler educator professionally and on the extent to which they are well prepared to perform their multi-dimensional role. 51 Greek infant/toddler educators responded to an online questionnaire which included close and open-ended questions. Results reveal that the role of infant/toddler educators is complex and multi-faceted and that infant/toddler educators spent most of their time in education and care practices rather than managerial practices. In addition, results highlight that care moves beyond narrow definitions that include routines, to a broader image of care which involves educational and relational aspects. Divergences between practices adopted in infant and toddler classrooms have also been revealed. The results highlight the need to further explore infant and toddler educators' voices about their role, professional identity and work.

Introduction

During the last years, the number of infants and toddlers attending ECEC programs is increasing (Organisation for Economic Co-operation and Development [OECD], 2023) and according to the new 2022 Barcelona targets at least 45% of children below the age of three should participate in early childhood education and care (hereafter referred to as ECEC) (European Commission, 2022). This attention to infants and toddlers, at the policy level, draws on research which has proved the critical importance of the first three years of life (World Health Organization, United Nations Children's Fund, World Bank Group, 2018) as well as the significance of providing infants and toddlers with rich and high-quality learning experiences (Chu, 2016; Davis & Dunn, 2019; Quiñones et al., 2018; Redman et al., 2022). Literature review highlights that high-quality ECEC for children under the age of three is related, among others, to educators' qualifications (Cadima et al., 2020; Davis & Dunn, 2019; Quiñones et al., 2018; Redman et al., 2022; Rockel, 2009), their theoretical understandings and perspectives (Cadima et al., 2020; Davis & Dunn, 2019), their professional identity (Davis & Dunn, 2019; Molla & Nolan, 2019) as well as the warm and responsive interaction among professionals and children, their parents and other stakeholders (Cadima et al., 2020; Quiñones et al., 2018; Shin, 2015; Shpancer et al., 2008).

Despite the widely acknowledged interrelation between ECEC quality and educators' qualifications and working conditions, the status and professional identity of ECEC professionals working with children under the age of three remains low and unrecognized as opposed to professionals working with older children (Davis & Degotardi, 2015; Davis & Dunn, 2019; Goouch & Powell, 2015; Powell & Goouch, 2012; McDowall Clark & Baylis, 2012).

The low status and disputed professional identity (McDowall Clark & Baylis, 2012) of the educators working with infants and toddlers may be attributed to various factors. On the one hand, it is linked to the

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segregation between education and care, with care being considered subordinate to education and as something that can be performed by anyone, as it does not require professional training. In the context of this outdated view, care is equated to mothering (Ailwood, 2007; McDowall Clark & Baylis, 2012), educators are seen as caregivers and children as passive and dependent on adults (Rockel, 2009), whereas the skills needed to care for are considered as being innate and natural (McDowall Clark & Baylis, 2012). On the other hand, it is linked to the relational nature of the profession (McDowall Clark & Baylis, 2012) and the positioning of care in the 'affective domain' (Shin, 2015) which has led into emphasizing primarily infant/toddler educators' personality traits as well as feelings and emotions (Rockel, 2009; Shin, 2015) rather than the "intellectual act they should perform" (Shin, 2015, p. 497).

Such an approach, however, fails to capture the complexity and intellectual challenge (Davis & Dunn, 2019; Quiñones et al., 2018; Rockel, 2009) inherent to the role of educators working with children under three years of age, whereas it obscures any attempt to materialize a "consistent and well-identified professional identity" (Harwood & Tukonic, 2017, p. 589) of infant/toddler educators.

Specifically, although the field of ECEC has been extensively researched for decades, research indicates that we are still in search of the characteristics of the appropriate pedagogical practice as well as of what competencies are required for ECEC professionals and how they are fostered. This is especially true for the practice that needs to be employed with infants and toddlers as, according to Quiñones et al. (2018) we still lack a holistic view of those practices, whereas according to McDowall Clark and Baylis (2012) a gap remains between rhetoric and practice in relation to infant/toddler practice and pedagogy. Moreover, although an abundance of research has attempted to explore the qualifications profile and the role of ECEC professionals working with older preschoolers (for an overview see Rentzou, 2020) scarce research has focused on the work, professional identity and qualifications of professionals working with infants and toddlers, as well as on the occupational activities they perform during their working day (Davis & Dunn, 2019; Schmidt et al., 2018; Wong et al., 2015).

The present study acknowledges the complexity of infant/toddler educators' role as well as the lack of research on the occupational activities performed by ECEC professionals working in ECEC programs in general and in infant/toddler classrooms more specifically. Lying its foundations on this acknowledgement the study aims at filling the research gap on what the professional identity and the work of infant and toddler educators entails, what are the characteristics that constitute an infant/toddler educator professionally and on the extent to which they are well prepared to perform their multi-dimensional role. The focus on the occupational activities and the key ingredients of infant/toddler educators' professional role is of importance as, according to Wong et al. (2015, p. 79), only if we unveil their role, duties, and aspects of professionalism we will be able to understand, evaluate, plan for and appropriately reward their work. In addition, although educators are reluctant to actively participate in the construction of a professional identity (Harwood & Tukonic, 2017), listening to their voices is important as it is essential in order to situate "professionalism within a meaning-making paradigm" (Harwood et al., 2013, p. 4) and it is up to them to "negotiate their role including those practices that they consider more or less appropriate in implementing" (Nuttall, 2003, p.p. 24-25) infant and toddler pedagogy.

The Role and Occupational Profile of Infant-Toddler Educators

Care, routines, and interaction are central to curricula and pedagogical practices for infants and toddlers (Quiñones et al., 2018) and are increasingly acknowledged as key element of the professional identity and professional practice of infant/toddler educators (Davis & Degotardi, 2015; McDowall Clark & Baylis, 2012). On the other hand, the educational aspects of infant/toddler programs are less well understood and appreciated (Redman et al., 2022).

The importance of care and routines for children's overall development and learning has been extensively embraced as they take the lead to ECEC programs that are addressed to infants and toddlers. Yet, care and routines are not unanimously accepted as an educational practice. This fact "leaves teachers with little time for other definitions of 'teaching'" (Nuttall, 2003; cited in Bussey & Hill, 2017, p. 129),

whereas at the same time it challenges notions of professionalism of infant/toddler educators (Davis & Dunn, 2019; Powell & Goouch, 2012).

In addition, according to Bussey & Hill (2017, p. 131) the segregated view of education and care in infant/toddler classrooms poses challenges into co-constructing "functional definitions of the role of the teacher". Moreover, as already stated, we still lack an unanimously accepted definition of care that encompasses all aspects of a pedagogical practice that responds to the needs of children under the age of three (Rentzou, 2020; 2019). On the contrary, although the emphasis on infants' and toddlers' health and survival has faded (McDowall Clark & Baylis, 2012, p. 232), the vestiges of "prescribed care regimes that are based on predetermined group routines" (Rockel, 2009, p. 2), such as feeding and mealtimes, toileting practices and sleep, are still very much in evidence (McDowall Clark & Baylis, 2012, p. 232).

However, one would ask if infant/toddler educators do only this? Those working in the field know that they do more than that (Wong et al., 2015), whereas the scarce literature highlights that infant/toddler educators' role is complex and their role and responsibilities are vast and varied, "making it challenging to define the essential qualities, knowledge and attributes that are desirable" (Harwood et al., 2013, p. 5). However, limited research attention has been given to unveiling the complexity of this role and the occupational activities that infant/toddler educators perform (Schmidt et al., 2018; Wong et al., 2015), even though it is what educators do at particular times that defines what it means to be a professional (Molla & Nolan, 2019, p. 552).

In an effort to taxonomize the occupational activities of ECEC professionals, Schmidt et al. (2018) discern between educational and multidisciplinary activities. Educational activities are according to Schmidt et al. (2018), the ones who involve social interaction, such as teaching, caring, educating, advising, supervising children and cooperation with parents, whereas multidisciplinary activities are the ones which involve management and administration of pedagogical institutions and the leadership of employees.

Acknowledging the limited attention that has been given into what early childhood educators are doing during their working day, Wong et al. (2015) have developed a taxonomy of early childhood educators' work. The taxonomy proposed by Wong et al. (2015) includes the following 10 domains: staff personal time, intentional teaching with children, 'being with' children, routine care / transition with children, emotional support, family communication, organize room / OH&S maintenance, plan/assess/evaluate, administration, and professional learning and support.

Rockel (2009, p. 3), on the other hand, discerns between task-based and relationship-based practice. Task-based practice "focuses on the schedule in order to implement the program. Relationship-based practice acknowledges the child's own pace of learning and the teacher's reflection before action, which is more representative of pedagogy".

The above-mentioned taxonomies, although not specifically designed to capture the role and professional identity of infant/toddler educators, are aligned to the need for a holistic early childhood professionalism, which is related to early childhood development rather than on ECEC (Sims et al., 2018), whereas they depict the diverse roles of infant/toddler educators, which include among others the roles of "physical and emotional carer, playmate, resource and teacher, active observer" (Shin, 2015, p. 502). In addition, they move beyond functions of care and nurture, to capture, also, 'educational' features that focus on enhancing children's holistic development and have been neglected from research.

Centrally linked to the role and occupational profile of infant/toddler educators, is their professional identity, that is "how [they] understand themselves and their role including the more informal and implicit aspects of professional cultures" (Stone & Rixon, 2008, p. 110). Literature review highlights that the professional identity of ECEC professionals is shaped both by qualifications and content knowledge and by affective domains such as self-esteem, self-belief, job satisfaction and belonging (Moloney, 2010). Molla and Nolan (2019) have developed a typology of 'professional functionings' which includes the following five categories: 1) Expertise: which refers to having specialist knowledge and skills required to support practice and decision-making; 2) Deliberation: which refers to the ability of the professional to critically

reflect on practice; 3) Recognition: which refers to being valued for your work and is, according to Davis & Dunn (2019) a central tenet of someone's professional identity, whereas lack of recognition seems to impact educators' practice; 4) Responsiveness: which involves tailoring practices in order to meet the needs of individual children; and 5) Integrity: which refers to being respectful and acting ethically. However, as with the occupational activities and the role of infant/toddler educators, "a consistent and well-identified professional identity [of infant/toddler educators] has yet to materialize (Harwood & Tukonic, 2017, p. 589). The present study aspires to fill these research gaps as there is a well-recorded need in literature to unveil how infant/toddler educators understand their role and professional identity and how they frame their responsibilities in terms of their everyday practice (Davis & Degotardi, 2015).

The Research Context

Greece is among the countries which adopt a dichotomous system and this dichotomy is evident at all levels: at the administrative and ECEC curricula and educational/pedagogical level as well as at the level of ECEC programs and of early childhood educators' preparation (Rentzou, 2020).

Traditionally, in Greece there were two main ECEC institutions: (i) Child (Paidikoi Stathmoi) and Infant/Child (Vrefonipiakoi Stathmoi) centers and (ii) Kindergartens (Nipiagogeia). Pre-school education offered in kindergartens, which are under the competence of the Ministry of Education and Religious Affairs, is part of Primary Education. Kindergartens accept children at the age of four and attendance is compulsory. Child (for children 2.5 to 5 years) and Infant/Child (for children 6 months to 5 years) centers are under the direct authority of local municipalities, and the indirect authority of either the Ministry of Interior (for public centers) or the Ministry of Labour, Social Insurance, and Social Solidarity (for private centers).

The aim of Child and Infant/Child Centers is to: 1) Offer comprehensive preschool care, following the most up-to-date scientific developments; 2) support children in developing physically, mentally, emotionally and socially in a holistic manner; 3) eliminate any discrepancies arising from families' cultural, economic and educational level; 4) raise parents' awareness in modern pedagogy and psychology issues; 5) help pre-school children in their smooth transition from family to school environment; and 6) offer daily nutrition and care to children adhering to health and safety rules. Child and Infant/Child centers do not implement a curriculum but they adopt a daily program. Although the Regulation (Government Gazette 497, 2002) does not specifically list content areas, there is reference to infants' social, emotional, cognitive and motor development as well as to their autonomy and academic skills and to preschoolers' academic skills, motor and psychosocial development, perceptiveness and art skills (Government Gazette 497, 2002, Article 14).

The same dichotomy also characterizes the training system for educational staff working in both types of ECEC settings, with Greece being among the few European countries in which two different professional titles are used to "distinguish between similar staff working in different settings" (European Commission/EACEA/Eurydice/Eurostat, 2014, 95-96). Early childhood educators are required to be graduates of a University Department of Early Childhood Education and Care/Early Years Learning and Care, childcare workers' assistants (voithoi vrefonipiokomoi) must hold a diploma or certificate from a technical/vocational college, whereas kindergarten teachers (nipiagogoi) must be university graduates.

Method

Methodology and Method

Although the role of the educators working in infant and toddler classrooms is increasingly acknowledged as "complex, challenging, and demanding and is well established that it requires specialist knowledge and ongoing professional training" (Wong et al., 2015, p. 79), the maternalistic (Ailwood, 2007) view, according to which the work of educators is equated with mothering and is seen as something easy and natural, which does not need specialized knowledge, still prevails. It is hypothesized that among other factors, this maternalistic view prevails because there is little research data about infant/toddler educators'

professional role, what their work and role include and what are the occupational activities they perform during the day. Drawing on this hypothesis and on the scarcity of data on the occupational activities that infant/toddler educators perform (Goouch & Powell, 2015; Schmidt et al., 2018; Wong et al., 2015) the overall objective of the study is to unveil the complexity of the role and professional identity of educators working in infant and toddler classrooms, in Greece.

Specifically, the present mixed methods study had a two-fold aim: to understand the role and responsibilities of early childhood educators working with infants and toddlers in Greek ECEC programs and to unveil the type of knowledge, qualifications and abilities needed to work with this age group. In addition, the study aimed at mapping the extent to which infant/toddler professionals feel adequately prepared to work with infants and toddlers and respond to their multidimensional role.

In order to meet our aims, an online questionnaire was developed by the author of the study. The questionnaire, which consists of 27 questions, was developed based on the literature review.

The first part of the questionnaire includes 9 questions which aimed at recording participants' demographic information. The second part includes 17 open and close-ended questions which aimed at exploring participants' views on their role and their occupational activities. Two open-ended questions were used to explore the most important characteristics of an infant and toddler educator. To explore participants' views on the most important characteristics that constitute an infant/toddler educator a professional, five (5) categories of 'professional functioning' were adopted by Molla and Nolan (2019). These are: Expertise; Deliberation; Recognition; Responsiveness, and Integrity. A 5-point Likert scale (1= Not at all important to 5 = Very important) was used to rate the importance assigned. Thus, 4 open-ended questions were developed to record the aims and educational practices of the educators and 3 close-ended (with a yes/no rating scale) to explore participants attitudes towards infant's and toddler's enrolment in ECEC programs. Informed by the study conducted by Sims et al. (2018) 4 questions (3 open-ended and 1 close) were developed to explore participants' views towards the nature of education and care and their co-existence in infant classrooms. To map the occupational activities of infant/toddler educators, the authors adopted items used in the study conducted by Schmidt et al. (2018), as well as items from the taxonomy of early childhood educators' work, developed by Wong et al. (2015). Items refer to caring, supervising children, educating, teaching, housekeeping, cooperative work with parents, advising and management (Schmidt et al., 2018, p. 450). A 5-point Likert scale was used ranging from 1= no time at all to 5 = most or all of my time. One close-ended question was adopted from Sims & Tiko (2016) to explore participants' perceptions about to whom the primary responsibility of different aspects of educators' role lies. Participants had to select only one of the provided answers.

Finally, the third part of the questionnaire, which aimed at exploring educators' level of preparedness, included one close-ended question. The categories / aspects of role were adopted from Chu (2016). A 5-point rating scale was adopted ranging from 1 = very well to 5 = we did not learn about this.

The link to the survey was shared via social media to groups which are addressed to early childhood educators.

After data was collected, it was coded into Excel and SPSS files. Responses to close-ended questions were analyzed using SPSS. Descriptive statistics were used to analyze quantitative data. Thematic and inductive analysis approaches were employed to analyze qualitative data. Thematic analysis is according to Davis and Dunn (2019, p. 247) a "foundational analytical method designed to identify, represent and report thematic patterns that occur within the data".

Sample and Demographics

Data for the present study was collected in autumn – winter 2023. Due to the exploratory nature of the study, the author employed snowball and convenience sampling techniques. The total number of participants was 51 Greek early childhood educators, all of whom (100%) were females. Table 1 presents the demographics of the participants. 76.6% of the participants work with children aged between 13-30 months, 4.3% with children aged birth to 12 months and 19.1% with children of other age groups.

Table 1. Participants' demographic information

Demographic characteristics	Percentage
Age	21 – 29: 5.9%
	30-39: 39.2%
	40-49: 35.3%
	50-59: 17.6%
	Above 60: 2.0%
Highest education level	Post-secondary education: 17.6%
	Technological educational Institute (early childhood educator): 56.9%
	Higher education institute (early childhood educator): 3.9%
	Master: 19.6%
	Other: 2%
Years of experience in infant/toddler classrooms	Less than 2 years: 19.6%
	3-5 years: 29.4%
	6-10 years: 25.5%
	11-15 years: 11.8%
	16-20 years: 9.8%
	More than 21 years: 3.9%
Type of employment	Full time: 94.1%
	Part time: 5.9%
Type of preschool program at which they work	Public infant center: 17.6%
	Public infant/child center: 51%
	Public child center: 9.8%
	Private infant center: 2.0%
	Private infant/child center: 19.6%

Ethical Considerations

The study was approved by the Ethics Committee of the University with which the author is affiliated. A general information letter and a consent form was provided to and signed by all participants. Both were providing information about the aim of the study, the voluntary and anonymous nature of the research, as well as their right to choose not to answer any questions, and to withdraw without penalty.

Results

Characteristics of a Professional Early Childhood Educator Working in Infant-Toddler Classrooms

Participants were asked which is the most important characteristic that an early childhood educator working with infants must have. The most frequently mentioned characteristics were love in general (N = 10), love for children (N = 10), knowledge of either the developmental stages of children and their individualized needs or knowledge of the scientific field, of pedagogy and psychology, or specialized knowledge in general (N = 7), patience (N = 6) and empathy (N= 6). As far as the second most important characteristic is concerned, most participants mentioned patience (N = 16). Caring (N=4), love for this age (N=4), emotional connectedness (N=4), ensuring health and safety (N = 4), and knowledge (N=3) were other characteristics mentioned by participants.

In addition, participants were asked to classify the five (5) characteristics that according to Davis and Dunn (2019) constitute an early childhood educator a professional. According to the participants, the most important characteristic is their responsiveness, that is their ability to meet the needs of different children (M = 4.57; S.D. = .84). Educators' expertise and integrity were rated equally important (M = 4.20; S.D. = .87 and M = 4.20; S.D. = 1.26, respectively). Educators' ability to critically reflect on their practices (discussion) was rated as the fourth most important characteristic of a professional (M = 3.90; S.D. = 1.07), whereas the recognition of their work was rated as the least important characteristic (M = 3.45; S.D. = 1.47).

Aims and Pedagogical Practices in Infant-Toddler Classrooms

When asked which is the main aim of an educator working with children up to 18 months of age, participants mentioned (mental and physical) safety (N = 15) and meeting children's needs (physical, emotional, motor, mental, biological) (N = 9). Other frequently mentioned aims of an educator working

with this age group of children include to support children to love school and transit smoothly to school (N = 6), to care for children (N = 6), to support children's holistic development (N = 5), to make children happy (N = 4), to provide stimuli (N = 4), to teach children (N = 4), to provide a supportive environment (N = 3) and to understand children's needs and adopt accordingly (N = 3). Turning to the main aim of an educator working with children aged 19 to 30 months, participants mentioned that their main aim is to support children's holistic development and evolution (N = 16), to support children master skills (N = 9), to support children develop their autonomy and independence (N = 8), to meet children's needs (N = 7), to provide stimuli and creative activities (N = 5), to provide safety (N = 5), to provide education (N = 4) and to support children's socialization (N =3).

Turning to the educational practices that educators who work with children aged up to 18 months use to promote their aims, play and sensory play were the most frequently mentioned practice (N = 18). In addition, participants mentioned that they use music and songs (N = 11), the learning environment of the classroom (N = 5), active learning (N = 5) and storytelling and fairy tales (N = 4). Aspects of interaction, such as eye contact, hugs and physical contact and individualized time with each child were mentioned by 8 participants. On the other hand, the educators who work with children aged 19 to 30 months should emphasize, according to participants, more on practices that promote children's linguistic, motor and cognitive development as well as on children's participation in the team. The most frequently mentioned educational practices include play and games (N = 15), songs and music (N = 12), experiential activities (N = 7), storytelling and other activities that foster children's linguistic development (N = 6), puppet theater (N = 6), a rich in stimuli learning environment organized in learning centers (N = 5), educational activities (N = 5), art activities (N = 4) and psychomotor activities (N = 4).

Given the segregation between education and care in ECEC settings, the participants were asked about the extent to which according to them education and care coexist in infant classrooms. As seen in Table 2, there is not a clear view about the coexistence of education and care in infant classrooms. 29.4% of the participants believe that education and care extremely co-exist in infant classrooms, whereas 23.5% believe that education and care slightly co-exist. As seen in Table, the percentages for each response – degree do not vary considerably.

Table 2. The extent to which education and care coexist in infant classrooms

To what extent would you say care and education coexist in infant classrooms	Percentage
Slightly	23.5%
Moderately	21.6%
Very	25.5%
Extremely	29.4%

The Role of Early Childhood Education and Care Settings

Understanding infant/toddler educators' perceptions about the role and importance of ECEC is important as it can affect how they view their role. Therefore, participants were asked whether they think that infants and toddlers should be enrolled in ECEC settings. 6.5% of the participants believe that children aged 3 to 12 months should not be enrolled in ECEC settings. On the other hand, 86.3% of them believe that children aged 13 to 30 months should be enrolled in ECEC settings. As it can be seen form the results, participants in the present study feel that infants should be cared for primarily by their parents. In order to understand how educators perceive the role of ECEC, they were asked to rank the reasons why children should be enrolled in ECEC. For 18 of the participants, the number 1 most important reason for enrolling children in ECEC is that children should have high quality care when their parents are working. 15 of the participants mentioned that the most important reason 1 for enrolling children in ECEC is that children from disadvantaged backgrounds should have access to learning experiences outside their home, a role pf ECEC that has been prioritized in policy documents of the European Union. As for the second most important reason for enrolling children in ECEC, 14 participants mentioned that children need a variety of interactions with adults and peers, whereas another 14 mentioned that children need a variety of experiences. Children's own right to participate in group contexts has been selected by 10 participants (the highest number who gave that response) as the number 4 most important reason and by another 10

participants (the highest number who selected that response as number 4 most important reason) as the number 5 most important reason to enroll children in ECEC. Finally, ECEC's role to prepare children for school has been selected by 8 participants as the number 6 most important reason for enrolling children in ECEC.

The Role of Early Childhood Educators

To understand the occupational activities of infant/toddler educators, participants were asked to report in which activities they spend most of their time during a typical working day. A 5-point Likert scale was used ranging from 1= no time at all to 5 = most or all of my time was used to access participants' views. As seen in Table 3, participants spend all or most of their time in activities related to care, education, and interaction with children. Listening and responding to children's needs, physical and emotional, supervising children in order to ensure their safety, offering opportunities for learning, and facilitating children's socialization are the main activities in which educators spent their working day. On the other hand, participants spend no or limited time in activities related to management, organization, professional development and self-care.

Table 3. Occupational activities in which educators spend their time during a typical working day

Occupational activities	N	Mean	S.D
I listen/respond to children's needs and interact with them to help them with something they ask of me	51	4.65	.627
I supervise the children to ensure they are safe	50	4.60	.782
I offer learning stimuli to the children	51	4.43	.755
I encourage and support children's good behavior	50	4.42	.785
I relieve, calm, comfort the children	49	4.22	.872
I play with the children (I participate in the children's play)	51	4.18	.910
I provide intentional learning experiences for children	51	4.14	1.059
I organize and help the children (in groups or in small groups) in the transitions from one activity to another	51	4.06	.968
Changing diapers/helping children go to/use the toilet	51	3.90	1.082
I teach the rules to the children	50	3.86	1.088
I help the children in other aspects related to their hygiene	49	3.86	1.155
I feed the children / help the children to eat	50	3.82	1.155
I manage children's behavior (when there is a disturbance in the class)	51	3.75	1.036
I help children get dressed and undressed	51	3.71	1.026
I communicate/cooperate with parents	51	3.67	1.178
I communicate/collaborate with my colleagues	51	3.65	1.110
I observe and record children's progress	49	3.59	1.206
I plan activities with the children	50	3.56	1.248
I intervene in fights between children and resolve their differences	50	3.44	1.215
I do the planning for the day/week	51	3.39	1.201
I participate in in-service training	50	3.38	1.398
I help children with health issues	51	3.37	1.469
I tide the space of the classroom	50	3.34	1.206
I am involved in classroom/school management issues	50	2.80	1.309
I'm taking a break	51	2.14	1.059

In addition, participants were asked to assign the primary responsibility of a list of roles in different professionals working in ECEC. As seen in Table 4, participants believe that their primary responsibility relies on supporting children's holistic development, across developmental domains, as well as the provision of care and education. As seen in Table 4, social-emotional development, arts and children's sense of belonging are the main aims of participants. On the other hand, issues related to nutrition, health, and safety as well to the support of families are a primary responsibility of the director of the setting. In terms of nutrition, in Greece the dietary plan is issued by the Ministry of Health, so as it becomes evident it is up to the director to ensure that the plan is implemented. Children's health is also supervised by an external doctor, whereas in terms of safety apart from the practices implemented by the educators (e.g. supervision of children), the operation regulation predefines safety precautions that are assessed by the

director or external stakeholders. As seen in Table 4, participants in their majority assume the primary responsibility of the different roles, whereas only few of them believe that the primary responsibility of the listed roles lies on someone else, such as the kindergarten teacher or the helper.

Table 4. Main roles and primary responsibility

Main roles	Primary responsibility				
	Early childhood educator	Kindergarten teacher	Director of the setting	Helper	None of those working in ECEC is responsible for this role
Supporting children's (academic) knowledge	50%	18%	6%	2%	24%
Supporting children's cognitive development	77.6%	16.3%	4.1%		2%
Supporting children's linguistic development	78.4%	11.8%	5.9%		3.9%
Supporting children's social-emotional development	84.3%	7.8%	3.9%		3.9%
Ensuring adequate/appropriate nutrition for children	18%	4%	60%	6%	12%
Supporting children's health- related needs	47.1%	3.9%	23.5%	5.9%	19.6%
Ensuring that children get adequate physical exercise	66.7%	2%	11.8%	3.9%	15.7%
Supporting children's play	76.5%	5.9%	3.9%	11.8%	2%
Provision of educational experiences	74.5%	11.8%	7.8%	2%	3.9%
Care	78%	6%	4%	10%	2%
Arts	80%	10%	6%		4%
Supporting and promoting children's culture	68.6%	7.8%	13.7%		9.8%
Ensuring children's safety	68.6%	3.9%	23.5%	2%	2%
Developing educational programs for children	66.7%	9.8%	17.6%		5.9%
Helping / supporting families in raising / upobringing their children	56.9%	2%	17.6%	2%	21.6%
Supporting children's well-being	66%	4%	16%	4%	10%
Supporting children to feel that they belong in the team	82%	4%	6%	4%	4%
Cooperation with families	68.6%	5.9%	19.6%	2%	3.9%
Supporting children's families	41.2%	5.9%	27.5%		25.5%

Infant-toddler Educators' Preparation to Respond to Their Role

Finally, participants were asked to report how well-prepared they have been during their initial professional preparation to respond to the different aspects of their multidimensional role. A 5-point rating scale was adopted ranging from 1 = very well to 5 = we did not learn about this. As seen in Table 5, participants feel that they were rather adequately prepared for most aspects of their role. Adopting family-friendly practices and reflective and ethical practices, were the two role dimensions that received the lower mean scores. On the other hand, understanding children's holistic development, which is central to educators' knowledge base, received the higher score.

Table 5. Adequacy of initial professional preparation for their role

Role dimensions	N	Min	Max	Mean	S.D.
Understanding children's holistic development	51	3	5	4.47	.578
Creating environments	51	2	5	4.20	.939
Responsive interactions	51	1	5	4.06	.968
Adopting relationship-based practices	51	1	5	3.76	1.088
Observation, assessment and communication	51	1	5	3.75	1.230
Adopting family-centered practices	51	1	5	3.61	1.097
Adopting reflective and ethical practices	51	1	5	3.61	1.185

Conclusion and Discussion

Although the importance and the complexity of infant/toddler pedagogical practice is widely acknowledged, limited research has aimed at mapping infant/toddler educators' understandings of their role and professional identity as well as the occupational activities which they perform during a working day. Based on arguments which highlight the need to listen to infant/toddler educators' voices on aspects related to their profession and professionalism (Davis & Degotardi, 2015; Davis & Dunn, 2019; Harwood et al., 2013), the present study aimed at filling the research gap on what the professional identity and the work of infant and toddler educators entails, what are the characteristics that constitute an infant/toddler educator professional and on the extent to which they are well prepared to perform their multi-dimensional role. Understanding infant/toddler educators' perceptions of their role and the extent to which they are prepared to execute this role is of significant importance as it is widely acknowledged the significance of the first 1.000 days of life. Specifically, during the first 3 years of their life, children are most susceptible to environmental influences, whereas this period and the quality of interaction with their important adults as well as the quality of the environments in which they operate impacts their health, well-being, learning and productivity both at the present and at their future (World Health Organization, United Nations Children's Fund, World Bank Group, 2018).

Attributes of a Professional Infant-Toddler Educator

The results of the present study, confirm previous research (Harwood et al., 2013; Shin, 2015), which highlights that the role of infant/toddler educators is complex and multifaceted and cannot be pinned down to "a discrete list of daily duties" (Harwood et al., 2013, p. 15).

As far as the essential qualities of an infant/toddler educator are concerned, participants in the present study underscored the importance of love and of the emotional and personal characteristics of the educators, such as patience and empathy, whereas the importance of knowledge (content, pedagogical, child development) and training were not given high importance. This contradicts the results of the study conducted by Harwood and Tukonic (2017) who found that the most important traits of a professional are according to the participants in their study 1) knowledge (both content and pedagogical knowledge), (2) child development knowledge, (3) development as a professional, (4) being attentive and demonstrating a care ethic, and (5) the ability to communicate and establish relationships. In our study only a limited number of participants mentioned the ability to establish relationships with families, whereas none referred to their own development as a professional. In addition, our results are not in line with the results of the study conducted by Mikuska et al. (2023) who found that the skills and knowledge higher education graduates' need to develop, both in training and in practice, to provide high-quality ECEC provision include the following: a sound foundational knowledge of child development and behaviour management to future staff; reflective skills about own, and others' professional practice; business management skills; and understanding and knowledge of how to interpret current legislation.

On the other hand, our results are in line with the results of the study conducted by Harwood et al. (2013) who also found that participants emphasize their love for their work as well as their love for children as essential qualities. Oke et al. (2019) also found that educators prioritize and emphasize interpersonal skills (e.g. patient, caring, creative, etc.) as a core characteristic in their definitions of a professional practitioner and according to the participants of their study love will always overshadow qualifications and that although qualifications are important they cannot replace an individual's innate proclivity for working with children.

Even when the classification of Davis and Dunn (2019) was employed, participants rated responsiveness as the most important characteristic of a professional infant/toddler educator. Previous research also highlights that responsiveness is a key feature of the practice of early childhood educators (Chu, 2016; Davis & Dunn, 2019; Quiñones et al., 2018). In fact, Shin (2015) postulate that responsive caring is educational in infant practice, as it is reciprocal and it is not only the educator who cares for children but children also learn to care for each other. However, being responsive and at the same time responding to a

busy routine is, Quiñones et al. (2018), a big challenge in infant/toddler classrooms. The large ratio and the need for individualized response to children's needs and callings creates additional burden to infant/toddler educators.

Participants of the study rated expertise and integrity as equally important for a professional early childhood educator. Partly this contradicts their responses to the open-ended question related to the most important characteristics of infant/toddler educators. However, our results can be interpreted based on the classification suggested by Molla and Nolan (2019) who propose two strands of expertise, that is specialized pedagogical knowledge in areas of pedagogy, curriculum and knowledge of each child, as well as professional dispositions including "having confidence, resilience, passion, kindness, patience, dedication, being caring, having empathy, commitment and a positive attitude" (Molla & Nolan, 2019, p. 557). Adopting this classification, we would maintain that professional dispositions are given higher attention and importance by the participants in the present study. In terms of integrity, although not explicitly mentioned in the open-ended question, participants referred to the importance of being respectful to children's needs.

Turning to deliberation, although previous research has highlighted its importance to combat isolation and lack of professional identity (Davis & Dunn, 2019) and at the same time its role both as a learning experience and as a means to improve practice (Molla & Nolan, 2019), participants in the present study rated deliberation as the fourth most important characteristic of professional infant/toddler educators. Finally, although recognition is being considered as a central tenet of one's professional identity (Davis & Dunn, 2019), participants in the present study rated it as the least important characteristic of a professional. Previous research has found that educators feel undervalued outside their field, that is from parents, educators working in other education levels and the society at large (Chu, 2016; Davis & Dunn, 2019; Goouch & Powell, 2015; Molla & Nolan, 2019; Powell & Goouch, 2012; Sims et al., 2018). Davis and Dunn (2019) found that educators are not valued and recognized due to the segregation between education and care, the narrow conceptualization of learning as well as the societal perceptions about the needs of infants and toddlers and how they learn and develop.

The Role and Occupational Activities of Infant-Toddler Educators

Turning to the aims and functions of infant/toddler educators, the present study sheds some light on the under-examined educative functions of infant/toddler practice. Results highlight that infant/toddler educators describe a multifaceted role for themselves which involves care, education and 'professional love', which according to Shin (2015, p. 499) "entails individualized and personal care to develop respectful and reciprocal relationships". Participants of the study described a multifaceted role which involves providing opportunities, stimuli and environments, facilitating, supporting, designing, caring and educating children. This is in line with the results of the study conducted by Harwood et al. (2013). It is interesting to note that the present study underscores the segregation between education and care in Greek infant/toddler classrooms, as participants' responses about the coexistence of care and education in infant classrooms were almost equally distributed and there was not a clear and articulate response that education and care coexist. Sims et al. (2018) in their study found that depending on the context care and education are seen as split or integrated in infant/toddler classrooms. Specifically, the participants in the study conducted by Sims et al. (2018) who were from Finland, UK and Australia see care and education as integrated and that the one without the other is not appropriate for infant/toddler classrooms neither can we discuss the balance between them, whereas participants from Bhutan highlighted the split between education and care (Sims et al., 2018).

This is also evident in educators' responses about the aims of educators working in infant and in toddler classrooms. Specifically, in infant classrooms the primary aims are ensuring children's safety and meeting their needs whereas in toddler classrooms the main aims are supporting and facilitating children's holistic development and supporting children to master skills. However, in both infant and toddler classrooms, play is the main educational practice that is used in order for educators to meet their aims.

As it becomes evident, both from our results and previous research (Harwood et al., 2013; Oke et al.,

2019) an ethic of care prevails in infant classrooms both in terms of educators' professionalism and in terms of the role and aims of an educator towards infants. On the other hand, in toddler classrooms educative aspects and aims, as well as attention to children's independence and autonomy are gaining increased attention. Our finding is not in line with the results of the study conducted by Sims et al. (2018) who found that education was not often discussed in infant/toddler pedagogy. Yet, as it becomes evident, both in infant and in toddler classrooms the educators are and should be "individualised, supportive, and adaptive to meet the unique needs and interests of the infants as well as their different developmental status" (Shin, 2015, p. 505).

Turning to the occupational activities to which participants spent most of their time during a typical working day, results indicate that educators spent their time primarily on education and care, whereas less time is spent on management. Interestingly, and in contrast to previous studies (e.g. Bussey & Hill, 2017; Goouch & Powell, 2015; Quiñones et al., 2018) participants in our study spent less time on routines such as changing nappies and feeding children and other narrowly defined care activities, confirming the results of the study conducted by Shpancer et al. (2008) and by Schmidt et al. (2018) who found that educators are doing more than most people think. In addition, our results contradict Goouch and Powell's (2015, p. 49) argument that interactions "take second place to task-oriented, routine-based work practices".

Of course, this does not imply that the importance of care and routines is underscored, as we acknowledge that that those practices are a central tenet of the infant/toddler practice and that they are instrumental in establishing and strengthening the relationship between children and the educators and in providing teaching opportunities to children (Quiñones et al., 2018; Redman et al., 2022; Shin, 2015). On the contrary, the results highlight the multifaceted dimensions of care, which moves beyond the simplistic image of care which involves "custodial caregiving routines and practices" (Davis & Degotardi, 2015) to an image of care which involves a "highly professional and educational" (Shin, 2015, p. 496) classroom. In addition, our results confirm Shin's (2015, p. 503) argument that educators apart from providing care to meet children's needs, the educator also "employs care as a learning process and provides ample opportunities for the infants to develop empathy and prosocial skills".

This multifaceted role of infant/toddler educators and the broad definition of care and education is also evident in participants' responses about the diverse roles they have and to whom the primary responsibility for these roles lays. Specifically, participants highlighted that they have the primary responsibility for all roles, assigning higher scores related to children's overall development, to providing educational opportunities and stimuli to children and supporting children emotionally. This finding is in line with the results of the study conducted by Harwood et al. (2013, p. 15), according to which educators underscore "the significance of the 'emotional' component of their role while also recognizing the educative, critical, transformative and societal responsibilities inherent in their position.

Educators' Preparedness to Respond to Their Role

Previous research has highlighted that limited attention is given during initial professional preparation and during professional development to courses that are related specifically to infants and toddlers (Bussey & Hill, 2017; Chu, 2016; Goouch & Powell, 2015; McDowall Clark & Baylis, 2012; Rockel, 2009) and that there is a divergence between theory and practice (Bussey & Hill, 2017). In addition, according to literature there is a need for infant/toddler educators to be more adequately prepared for their multifaceted role (Davis & Degotardi, 2015; Sims et al., 2018). Participants in our study reported that they are well prepared to meet dimensions of their role that are related to educational and caring aspects such as understanding children's holistic development, creating enabling environments and adopt responsive interaction practices. On the other hand, they are moderately prepared to adopt family-centered and reflective and ethical practices. This might explain the reasons why deliberation was rated as the fourth most important characteristic of a professional infant/toddler educator. In addition, the fact that they do not feel very well prepared in such aspects of their role may explain why they do not spend much time on such practices during their working day. This assortment is also supported by Nuttall (2003, p. 30) who maintains that "the theoretical bases, curriculum models and other influences to which the teachers have

been exposed, during their training and ongoing professional development, inevitably limit and shape" the way they co-construct their role in children's learning and development.

Concluding Remarks

Although the importance of providing infants and toddlers with high quality care and education is widely acknowledged little is know about what infant/toddler practice entails and how infant/toddler educators view their role. Frequently, infant/toddler practice and infant/toddler educators are sub grouped under the general category of early childhood practice and early childhood educator. Yet, infant/toddler practice is distinct as are the needs of the children who belong to this age group. According to Sims et al. (2018, p. 3) "the elements of infant and toddler work that are different than is usual in work with older children serve to prompt reflection around key elements of early childhood work in ways that change practice with all children". Based on this argument, the present study aspired to understand the role and professional identity of Greek infant/toddler educators as well as the occupational activities which they perform during their working day. Results highlight the multifaceted role of infant/toddler educators, as well as the fact that infant/toddler practice moves beyond narrow conceptualizations of care which involve routines, to pedagogical care, which involves attentiveness, responsibility, competence and responsiveness (Davis & Degotardi, 2015). These results highlight the importance of both understanding the role of ECEC professionals as well as of working to raise the status of ECEC professionals, both at the research and policy level. At the policy level, recognizing their multi-faceted role and providing opportunities for ongoing professional development would be a first step.

At the research level, future research should employ mixed-method approaches, including interviews and observation in order to listen to infant/toddler educators' voices about what their role and professional identity involves, as according to Molla & Nolan (2019, p. 564) the first step towards promoting professionalism of early childhood educators is to identify key attributes of their professional functioning. Thus, according to Harwood et al. (2013) listening to educators' voices we can understand better what it means to be an infant/toddler educator. "Early childhood educators may then be able to better advocate for care (and passion) as a social principle and for socially constructed ideals of professionalism when they are provided with outlets to discuss and critically analyze early childhood educator identities" (Harwood et al., 2013, p. 15).

To conclude, the limited attention given to infant/toddler educators is indicative of the limited attention policy, practice and society gives to infants and toddlers. Given the importance of the first three years of children both for their present and future development and given the increased number of children of this age group who attend infant/toddler programs, it is important to understand what infant/toddler educators are doing in order to develop effective policies, pedagogical frameworks, qualification profiles for educators and standards for quality.

Declarations

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