Preschool Directors' perceptions of preschoolers' school readiness and development in South Australia

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Abstract

Background: South Australian preschool educators report anecdotally that they perceive changes in the nature and rate of children's development over the past decade, and consequently, changes in children's school readiness, which is reported in Australian Education Development Census (AEDC, 2018) data. This honours study describes the perceived development and school readiness profile of children in South Australia, based on the perceptions of preschool directors. The study also explores the understandings of school readiness and its relationship with developmental delay. **Methods**: An online questionnaire was developed, guided by literature in the child development field, which was reviewed, piloted and validated by experts. In total, 405 directors from the South Australian Department for Education-funded preschools, were invited to take part. Data analysis involved descriptive statistics and content analysis. **Results:** Out of 103 returned questionnaires (25.4% response rate), the majority had over 15 years' experience as a preschool director and/or working with children in any field. The majority (80%) of participants agreed that there has been an increase in the number of children diagnosed with, or observed to have, developmental delay, over the past decade. Directors commonly defined school readiness as a developmental status of the child, with others extending this concept to add the primary school's readiness to receive the child. The majority (82%) acknowledged children with signs of developmental delay are at risk of not being "school ready". Factors affecting children's development were identified. **Conclusions:** From this study, it is evident that over the past decade, experienced preschool directors have perceived children's development in South Australia to decline. These delays are impacting on their readiness to transition into the formal school system. Practical implications include the need for urgent support for these children to ensure they are ready to transition to school and to engage optimally in their learning.

Keywords*:* preschool children, developmental delay, school readiness

Introduction

School readiness describes a child's capacities to successfully transition into school, optimising academic and social development (Bender, Pham & Carlson, 2011). Capacities may comprise self-care, attention, postural control, eye-hand coordination, emotional regulation and social skills (Bender, Pham & Carlson, 2011; High, 2008). School readiness is influenced by the "ability of the family and community to support optimal early child development" (High 2008, p. 1008).

Early learning and development during the first few years of life has been described by prominent developmental researchers (e.g. Melhuish et al. 2010), as a critical developmental period, when the brain is especially sensitive to experiences. Development during these periods shape life-long outcomes, and, developmentally enriched environments increase the child's capacity to learn (Levy, 2011; Melhuish et al., 2010). Therefore, it is vital that children in their early years experience a developmentally stimulating environment to enable optimal development (Melhuish et al., 2010).

Developmental delay is an over-arching term describing a delay in the child development domains of physical health and wellbeing, social competence, emotional maturity, language and cognitive skills and communication skills and general knowledge (Australian Early Development Census, 2018; Longe, 2016). Delays occur when a child's development is not consistent with age expectations, especially in achieving developmental milestones, as articulated in seminal, early publications, such as First and Palfrey (1994). In Australia, 21.7% of children at formal school entry are considered developmentally vulnerable in one or more domains, according to the most current Australian Early Development Census (AEDC) (2018) data. In South Australia 23.9% of children are classified as developmentally vulnerable (Australian Early Development Census, 2018).

Bender, Pham and Carlson (2011) state that a child's environment plays a major role in their risk of developmental delay. One prominent environment in the early years is the preschool environment, which affords opportunity for children to develop skills in areas that build on school readiness (High, 2008). Research confirms that children attending high quality preschools show increased development in several developmental domains, resulting in positive long-term effects lasting throughout school (Winter & Kelley, 2012).

Australian preschool educators report anecdotally, through discussion with professionals such as occupational therapists, that they perceive downward changes in children's development over the past decade, and consequently, changes in children's school readiness. The three yearly AEDC (Australian Early Development Census, 2018) data since 2009, evidences this increase in children's developmental vulnerability. This may be due to changes in children's lifestyles over the past decade, for example the rise in use of technology, as discussed by Dadson, Brown and Stagnitti (2020), or the increasing prevalence of families living with multiple complexities, reflected in the annual increase in the number of child protection notifications in South Australia since 1999 (Pilkington et al., 2017).

To further understand the current profile of preschool children's development and consequently to inform early support services, this study aimed to examine preschool directors' perceptions of the occurrence of developmental delay and school readiness of preschool children in South Australia. The study aimed to address the research question: "What are preschool directors' perceptions of occurrence and support for children with developmental delay and school readiness?".

Method

This research was conducted as an Honours project.

Design

The study utilised a non-experimental, cross-sectional, descriptive questionnaire design to gather both numeric and qualitative data (Depoy & Gitlin, 2015). This design was chosen to gather data regarding opinions or difficult to observe behaviours (Artino et al., 2014) and for efficiency of data collection from many preschools across South Australia in a standardised form (Portney & Watkins, 2014).

Participants and sampling

Purposive sampling was used. Participants were current directors from South Australian Department for Education-funded preschools, therefore experts in understanding children's development, potentially offering a rich perspective. In Australia, preschool is the year before formal school entry, with children aged three to five. According to the Department for Education's website (n.d.), there are 421 preschools in South Australia, 405 of which have a director with a publicly accessible email from the Department's online website.

Questionnaire development

Development of the questions was guided by literature in the field, AEDC (Australian Early Development Census, 2018) items, as well as the researchers' insights (based on their combined extensive experience) into early childhood development. Forty-six questions were developed. In this article, results related to the occurrence of developmental delay and school readiness are discussed.

Closed-ended and open-ended questions were used to collect quantitative and qualitative data. Some closed-ended questions had an "other" option, allowing for the participant to insert their own response. The open-ended questions ultimately strived for further elaboration of topics and discovery of other areas, not specifically stated in the question (Depoy & Gitlin, 2015).

Validity of the questionnaire was assessed via several methods. Feedback from a panel of experts including a preschool director, paediatric occupational therapist and an advisor with expertise in the field of questionnaire development, resulted in changes to wording, order of questions and removal of irrelevant questions. After modification, a content validity test, adapted from Jansson et al. (2019), determined the questionnaire measured what was intended. Four paediatric occupational therapists individually rated each question (1= "not relevant" to 4= "most relevant"), resulting in an item content validity index (I-CVI), with, items scoring a three or four, divided by the number of raters. An I-CVI of 0.75 or more was required for the question to be included in the final questionnaire. A scale content validity index (S-CVI) was calculated to determine the content validity, done by averaging all I-CVIs by the total number of questions. The questionnaire's content validity index was 0.85, indicating reasonable content validity according to Polit and Beck (2016).

Finally, the questionnaire was piloted by two retired preschool directors to determine which questions were unclear or misleading. The time taken to complete the questionnaire was documented, as time can impact significantly on participation (Portney & Watkins, 2014). After final refinements to increase usability, the questions were transferred onto the online platform LimeSurvey© (Version 3.17.7; 2020).

Procedures

Ethical approval was obtained from the Human Research Ethics Committee University of South Australia (HREC protocol number: 202703) and from the South Australian Department for Education (HREC protocol number: 2020-0009). An information sheet was provided with the link to the anonymous questionnaire, with consent implied with completion and submission.

Data collection and analysis

In June 2020, 405 potential participants received the survey link which was open for six weeks. Four reminder emails were sent to potential participants fortnightly.
Data was exported into Statistical Package for the Social Sciences (SPSS, version 26) and checked for incomplete data. Descriptive statistics (including percentages and frequencies) and non-parametric statistics (for categorical data) were used. For numeric data, Pearson Chi-square tests, Fisher's exact tests and one-way ANOVAs were used. Qualitative data was exported into Excel© and content analysis was conducted (Depoy & Gitlin, 2015).

Results

The response rate was 25.4% (103 respondents of 405 invitees). Preschool directors were not required to answer all questions, with responses including 60 fully completed questionnaires.

Participant demographics

Of 103 participants, 56 were directors of metropolitan preschools, 32 were directors of rural preschools and 15 were directors of remote preschools. Using the Index of Relative Socio-economic Advantage and Disadvantage (IRSAD) (ABS, 2018), respondents were from preschools from a range of socio-economic areas. Most (n=41) were from areas of relatively high disadvantage followed by 29 in mid-range areas, and lastly, 27 from areas of relatively low disadvantage. Six had an unknown score.

As can be seen in Table 1, respondents indicated a range of experience levels, with majority (n=45, 44%) indicating greater than ten years' experience working in a Preschool Director role.

Occurrence of Developmental Delay

The majority of participants (n=64, 80%) agreed that there had been a change in the number of children diagnosed or observed to have a potential developmental delay over the past decade, with 8% (n=6) indicating no change and 13% (n=10) indicating "unsure". Slight non-significant differences (p=0.164 on the chi-square test) were observed by socioeconomic status of the preschool area, with more reports of change seen in areas with middle and high disadvantage. In participants' respective 2019 cohorts (see Figure 1), the number of children diagnosed with a developmental delay ranged from 0% to 42% (averaging 7%). The number of children observed to have a potential developmental delay (excluding those diagnosed) ranged from 0% to 54% (averaging 13%). The type of delay, corresponding to AEDC (Australian Early Development Census 2018) domains, diagnosed and/or observed included language (17%), emotional (8%), cognitive (5%), social (5%) and physical (3%) respectively.

Table 1 Participant Demographics

	Number	Percentage
Years' experience working in a Preschool Director role:		
<5	30	29%
5-10	28	27%
10-15	13	13%
>15	32	31%
Total	103	100%
Years' experience working with children in any role:		
<5	0	0
5-10	5	5%
10-15	18	17%
>15	80	78%
Total	103	100%
Type of preschool currently employed at:		
Standalone preschool	69	62%
Children's centre i.e. provide integrated support services	16	14%
Preschool on school site	15	13%
Specialised preschool e.g for hearing impaired	4	4%
Other	8	7%
Total	112*	100%

*Preschool Directors were able to select more than one response

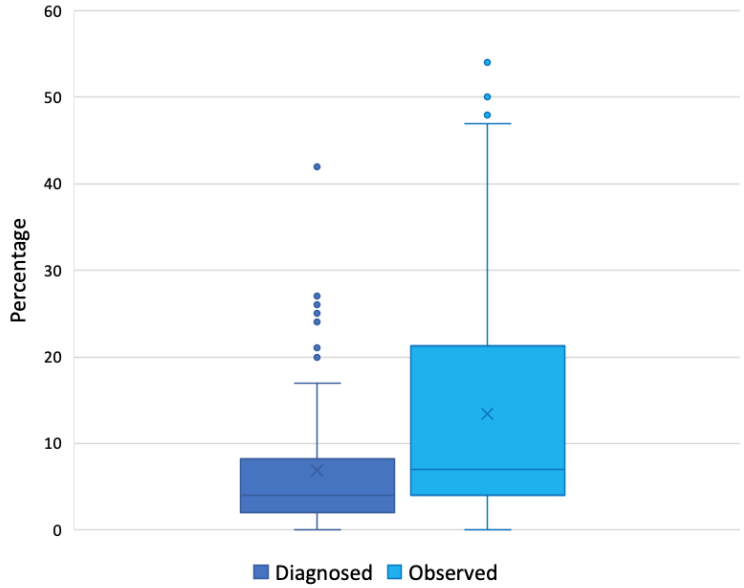

Figure 1. **Number of Children Diagnosed vs Observed**

In open-ended responses, when asked whether the number of children diagnosed or observed with developmental delay had changed over the years, the majority (n=59, 87%) stated affirmatively. A quote from one of the participants illustrating this was: “Each year there seems to be more children arriving at preschool with additional needs”.

Factors impacting child development

Respondents commonly indicated the AEDC items and their responses are found in Table 2. Those who selected “other” (n=18, 6%) were asked to specify and commonly reported anxiety/regulation related challenges (28%) and speech and language difficulties (17%).

Table 2 Perceived Factors Influencing Child Development

Factors	Number	Percentage
Readiness for preschool e.g. independence skills	66	24%
Number of children affected by trauma	61	22%
Number of children with problems at home	60	21%
Regular attendance at preschool	49	18%
Arriving well-fed	26	9%
Other	18	6%
Total	280*	100%

*Preschool Directors were able to select more than one response

Screen time; "use of technology as a babysitter", low levels of parent-child interaction, family disadvantage, parental busyness, home complexities (e.g. domestic violence, drugs, parental mental illness, family breakdown) were also common themes when asked what perceived factors had an influence on children's development over the past decade.

School readiness of preschool children

Eighty two percent (n=49) of preschool directors agreed children with signs of developmental delay are at risk of not being "school ready", with 12% (n=7) disagreeing and 7% (n=4) specifying "unsure". In a multiple choice question, the majority of participants (n=36, 60%) reported in comparison to over a decade ago, "a lot of children nowadays lack the basic skills for a successful school transition", whilst 17% (n=10) reported "today, children are more prepared and therefore more successful at school entry" and 23% (n=14) indicated "other", without specifying. There was a statistical significance between those who agreed a lot of children nowadays lack the basic skills for successful school transition and those who have seen an increase in the number of children showing signs of developmental delay ($p<0.001$).

In open-ended responses, respondents defined school readiness as a developmental status of the child, with prominent statements made about the social and emotional maturity of the child. Other developmental areas mentioned included independence, routine, confidence, motor, cognition, communication, resilience, self-reliance, problem solving, seeking support, bouncing back from challenges and disappointments, auditory processing and knowledge. A quote illustrating the description of school readiness:

"The knowledge of and ability to successfully participate in learning, routines and expectations (essential skills) in a formal academic setting."

Adding to this description, 12 respondents articulated school readiness from both the child's developmental consideration, as well as the primary schools' readiness to receive the preschool child. For example:

"Ready to participate positively at school. I also believe schools have a responsibility to be 'child ready', meaning the school needs to adapt to the child's needs and additional support/adaptations."

Discussion

Overall, the results show that preschool directors perceive children to be commencing school less prepared over the past decade in South Australia.

Our respondents, experienced in their field of child development, overwhelmingly agreed (80%) there has been an increase in the number of children diagnosed or observed to have developmental delay over the past decade. The majority of participants who perceived this change are from preschools in middle to high disadvantaged areas. The findings of this study support and extend the AEDC (Australian Early Development Census, 2018) data. From the four collections of AEDC (Australian Early Development Census, 2018) data since 2009, South Australia has shown a "small, but steady" decline in results, reflecting an increase in developmental vulnerability (Child Development Council, 2020).

This study's findings extend current child development literature regarding factors perceived to contribute to an increase in occurrence of developmental delay over the past decade. Preschool directors reported a change in the number of children affected by trauma (22%) and the number of children with problems at home (21%). In open-ended responses, preschool directors mostly attributed the type of home complexities affecting children, to domestic violence, drugs, parental mental illness, family disadvantage, low levels of parent-child interaction and family breakdown. Studies show exposure to early life stressors, such as trauma, lead to deficits into later life (Heim, 2018; Manning & Gregoire, 2008; Putnam, 2009). Children who have been subject to neglect, maltreatment and social disadvantage have been found to experience significant developmental delays, particularly in language, gross and fine motor coordination and learning and attention difficulties as highlighted in the study by Zenah and Smyke (2005, cited in Putnam, 2009). In addition to trauma, preschool directors (24%) found a change in children's readiness for the preschool day to be a critical factor, as children are less prepared to engage in preschool learning.

Further, the majority of preschool directors described technology and screen time to be contributors to the increased occurrence of developmental delay. While there are differences in opinion about the value of technology for children's learning, there are increasing concerns regarding the increase in screen time (Gottschalk, 2019) and its link to poor psychosocial development, language, self-regulation and later academic achievement (Hosokawa & Katsura, 2018). Many participants in our study, described parents' use of technology as a "babysitter" in place of child-parent interaction, together with "parental busyness", suggesting a potential relationship. These participant concerns regarding technology are supported by researchers (Dadson, Brown & Stagnitti, 2020; Hosokawa & Katsura, 2018), who found a link between an increase in screen time and delayed child development, including fine motor development. This could be explained by children increasingly using screen time in place of important growth and learning experiences, such as playing outside and engaging in social interactions that support optimal child development (Melhuish et al., 2010).

The results of this study suggest a link between developmental delay and reduced school readiness. When asked if children with signs of developmental delay are at risk of not being "school ready", 82% of preschool directors agreed. This is justified by articulations of school readiness that describe the term as the capacities a child possesses, as children who have developmental delays will be less likely to cope with the new demands placed on them by the primary school environment. This study also found a strong relationship between those who agreed a lot of children lack the basic skills for successful school transition and those who have seen an increase in the occurrence of developmental delay. This supports the concept of developmental delay possibly being a predictor of reduced school readiness. In reviewing the literature, no explicit link has been made linking developmental delay to school readiness. However, these findings together with child development literature suggest a link due to the nature of developmental delay and the prerequisites for successful transition to school (Bender, Pham & Carlson, 2011; High, 2019; Levy, 2011).

The majority of preschool directors agreed there are more, or a greater percentage of children who lack the basic skills for successful school transition when compared to a decade ago. Findings from this and other studies report an increase in the occurrence of developmental delay (Australian Early Development Census, 2018; Child Development Council, 2020; Dadson, Brown & Stagnitti, 2020; Pressler et al., 2016). Given the suggested link between developmental delay and inadequate school readiness, it can be assumed more children are commencing school less prepared.

The majority of participants in this study suggest that school readiness concerns the child's developmental status and the capabilities they possess at the time of formal school entry, which is supported by the findings of Bender, Pham and Carlson (2011). High (2008), however, states that as much as school readiness concerns the child's capabilities, the term also encompasses the preschool environment, the ability of the family and community to support the child, and lastly, the primary school's readiness to accept children, no matter their developmental status. Although most participants from our study articulated the term from the perspective of the child's developmental status, some also included the schools' capacity to support optimal child development. This highlights discrepancies in what constitutes school readiness and the need to clarify the meaning of this important concept from perspectives of preschools, schools and families. As mentioned by the developmental theorist, Bronfenbrenner (1999), this finding, together with this study's results related to children's home environments, remind us to consider child-related factors, as well as environments impacting developmental outcomes.

Practice Implications

The results from this study highlight preschool directors' perspectives regarding the change in children's developmental profiles over the past decade and emphasise the intricate relationship between developmental delay and school readiness. Although this interrelationship is under-researched, it points to a need for urgent support to ensure children are ready for transition to formal school, to engage optimally in their learning and realise their potential. This includes the need for high quality, accessible early intervention services and increased supports for families to address problems arising from complex home environments. It also highlights the need to proactively monitor children's development in order to implement services at an age when opportunity for success is greatest (CDC, 2020).

Research Implications

Future research may be conducted regarding school readiness from the perspective of primary school teachers and parents. It is recommended that comparisons between different states and countries be made, particularly those of differing education and health service delivery models and systems in order to identify broader trends and best practice. It is vital to further understand home complexities currently faced by families and the impact they have on child development. Research into the types of supports needed to optimise these early critical years, is critical.

Methodological considerations

The data for this research study was collected through June and July 2020, during the COVID-19 affected period in South Australia, with the response rate potentially being affected. However, this study's sample comes from a group of experienced preschool directors. In addition, for generalisability considerations, the participant population is more representative of directors from preschools of disadvantaged areas, although there is a variety of representation across all IRSAD areas. The study concerns preschool directors' perceptions and personal opinions of child development and school readiness and therefore this must be taken into consideration when extrapolating the findings.

Conclusion

Experienced preschool directors in South Australia perceive the child developmental profile and hence school readiness status of preschool aged children to have declined over the past decade. Home complexities together with the increase in screen time are highlighted as impacting on children's development.

This study expands on child development literature by diversifying the articulation of school readiness in emphasising the importance the primary school environment has on successful school entry. These early years in children's lives are critical due to the developing brain's

adaption system and ability to be shaped by experience. Therefore, it is vital for children and families to receive support through quality early intervention, enabling improved transition to school, thus optimising development and long-term outcomes for children.

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Key Messages:

1. Experienced preschool directors in South Australia perceive school readiness to have declined over the past decade due to increased prevalence of developmental delay
2. Home complexities together with an increase in screen time are perceived to impact substantially on children's development
3. School readiness has been described from both the child's readiness as well as the readiness of the school to receive the child
4. The need for families, preschools and school to receive increased supports is crucial in enabling children's improved transition to school, thus optimising development and long-term outcomes

Data availability statement:

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Ethics approval:

The project has received ethics approval from the Human Research Ethics Committee of the University of South Australia.

Conflicts of interest:

The authors declare no existing conflicts of interest.

Author contributions:

All authors have contributed in different roles and capacities to warrant inclusion as an author of this paper.

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