ADAPTIVE BEHAVIOUR AMONG PRE-SCHOOL CHILDREN: CONSTRUCTING CONTEXTUALLY RELEVANT ASSESSMENT TOOLS

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Table of Contents

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List of Tables

Introduction

Early childhood care and education (ECCE) has received increasing global attention in recent years, accompanied by a growing body of research that demonstrates the importance of early periods of child development. Evidence in the field of neuroscience and developmental psychology reveal sensitive and critical periods of brain development in the first few years of a child's growth, which go on to impact cumulative lifelong developmental outcomes (Woodhead, 2006). The rationale for investing in early education stems not only from educational goals of improving schooling outcomes or lowering grade retention, but also the related economic imperative of future returns, in the form of higher employment, increase in female labour force participation and lowered crime rates (Barnett, 1995). Accordingly, early childhood care and education (ECCE) has come to be positioned as a subject of global governance, as can be seen from international development agendas such as the Sustainable Developmental Goals (SDGs) (Goal 4) and Education for All (EFA). In India, more recently, the draft National Education Policy, 2019 (Ministry for Human Resource and Development - MHRD, 2019) has proposed the extension of the right to free, compulsory universal education from the elementary to the ECCE age group of children between 3 and 6 years.

It has also been recognized that early development is a synergistic process involving the inter-related domains of cognitive, socio-emotional, physical, language and psycho-social development (Woodhead, 2006; Kaul and Sankar, 2009). Based on evidence, models have adopted a holistic approach to early childhood development. Notably, India adopted such a model at a large scale as early as the 1970s in the form of the ICDS (Integrated Child Development Scheme). The central-government scheme seeks to address holistically the needs of children aged between 0-6 years of age through the provisioning of health, nutritional and pre-school education services through localized anganwadi centres. The ICDS however has been noted for a lack of emphasis on the pre-school educational component. India has seen the large scale proliferation of private pre-schooling, and a growing preference by parents towards these since they are seen as offering educational services that secures an early competitive head start to schooling.

It has however been noted that while anganwadi centres do not offer adequate educational services to children aged between 3 and 6, private preschools, of varied costs and quality, are often engage in developmentally inappropriate curricular practices through a downward

extension of schooling (Ministry of Women and Child Development- MWCD, 2013). Both the lack of, and poor quality of early educational stimulation are seen as a major concern in adversely affecting future educational outcomes of children (Kaul et al., 2012). In relation to this, the concept of school readiness has emerged as a policy concern in order to ensure that children are adequately prepared for formal schooling and are able to maximize their learning potentials through the process of schooling (UNICEF, 2012; MHRD, 2019). Studies show that the exposure to early ECCE interventions for children increases entry into primary school, improves learning outcomes in the early years, and reduces drop out rates (UNESCO, 2016). Evidence from India also notes this positive correlation, and noting the currently poor levels of skills among children in the country to cope with the demands of schooling, advocates the urgent need to improve school readiness for young children by focusing on inter-related domains of early development (Kaul et al, 2017). However, the same study also notes how the role of preschool education in countering social disadvantage is not uniform, and raises questions on the ability of school readiness to bridge equity gaps (ibid.).

Following from concerns around inequitable outcomes of school readiness, this study aims to gain an understanding of localized parental conceptions of school readiness, with a focus on non-academic aspects and behaviours. The study specifically investigates parental expectations of behavioural development milestones associated with school readiness, and examines them in relation to international norms for the same. Importantly, these considerations do not attempt to assess children's school readiness, as much as obtain an insight into differences that exist with regards to understandings of developmental behaviours of children. In a context on inequity, such evidence has consequences for the manner in which tools for assessing school readiness are formulated and implemented, and questions around the relative performances of children from varied socio-economic and cultural backgrounds on these assessments.

Conceptual foundations of school readiness and adaptive behaviour

The concept of school readiness has been an important measure of ECCE. Though school readiness is operationalized in varied ways, it based by and large on a shared premise that the term constitutes a set of competencies that enable the child to successfully enter and participate in school (Carlton and Winsler, 1999; Snow, 2006; UNICEF 2012). School readiness has several components, of which a significant part is adaptive behaviour, used to refer to non-academic aspects of school readiness. Adaptive behaviour, broadly defined, measures the degree to which individuals are able to attend to personal needs and the demands of their social and natural environments, thus allowing them to function effectively in spaces such as home, school, workspaces and communities (Gresham & Elliot, 1987; Oakland and Harrison, 2006). In the context of school readiness, Centre for Early Childhood Education and Development defines adaptive behaviour as the set of cognitive, linguistic and socio-emotional competencies in the pre-school years that enable the successful transition and adjustment to schooling (Kaul et al, 2017). Since school readiness understood expansively encompasses several inter-related domains of development, including cognitive, emotional, psycho-social, motor and language, adaptive behaviour cuts across these domains of development, and is varied in its operational definitions.

As a construct, the origins of school readiness are inextricably tied up with the objectives of schooling itself, and did indeed emerge in conjunction with state-led initiatives towards achieving universal and compulsory schooling, so as to determine appropriate ages for children to enter formal schooling (Snow, 2006). School readiness tools in this understanding served the purpose of screening children for their preparedness to enter school (ibid.). Such conceptualizations of school readiness have drawn on a maturationist perspective which emphasize universal age-specific developmental milestones for children. However, these conceptualizations of school readiness have been noted to conflate developmental readiness to 'learn' with readiness to perform successfully in school, thus rendering school readiness an intrinsic developmental attribute of the child (Carlton & Winsler, 1999). This paradigm is countered by perspectives on school readiness which propose measures that can identify developmental readiness to learn in order to scaffold the process of learning through the provisioning of adequate support and forms of stimulation (ibid.), which significantly alters the rationale behind school readiness itself.

There is a growing acknowledgement today of the process of child development as a bidirectional process resulting from interactions between children and their environments

(CECED report). Several scales have been developed to measure both school readiness and adaptive behaviour (see Gessell Screen Test, Brigance K-1 Screen, Denver II, Adaptive Behaviour Assessment System (ABAS II), Vineland Adaptive Behaviour Scales (Vineland II); or in the Indian context World Bank, India's School Readiness Instrument – Adapted by CECED, CECED's Adaptive Behaviour Scale for Young Children; Tamil Nadu Early Childhood Environment Rating Scale and Child Learning Competency Test developed and used by the Quality Matters study). Yet, such documentation and assessment of children's development disregard the manner in which the tools used to this end themselves involve homogenizing assumptions and constructs about the children they test (Schulz, 2015).

Insights from multiple disciplines illuminate the historically and socially contingent nature of developmental psychology in how it contributed to the conceptualization of universal models of the 'child' (Burman, 2016; Woodhead, 2006); as well as those that demonstrate childhood itself as a social construct (James and Prout, 2015; Yelland, 2005; Dahlberg, Moss & Pence, 1999; Mayall, 2013). Yet dominant 'scientific' paradigms of children's development which decentre them from their contexts of upbringing, continue to inform standardized measurements of child development outcomes, and shape global ECCE concerns (Burman, 2001; Soto & Swadener, 2002; Rhedding-Jones, 2002).

UNICEF (2012) for instance, in attempting to attend to environmental factors of child development, defines school readiness to include, in addition to children's readiness for schools, the schools' readiness to cater to children's developmental needs as well as the readiness of families to support this process. A closer examination of these categories however brings to light the normative set of indicators that are indexed to school readiness - such as through markers of 'quality' child-friendly schools, or cultivating appropriate attitudes and behaviours among families, in particular among those in contexts of poverty, which support a child's smooth integration into cultures of schooling. As has been noted, child-centred pedagogy in itself "subscribes to a naturalised, individualised model of childhood which confirms social privileges and pathologises those who are already socially disadvantaged" (Burman, 2016, p. 262). In other words, behaviours associated commonly with school readiness such as 'washing hands before and after meals' or 'sharing one's day at school with parents' may unfairly penalize children and families for being 'unready' for school without attending to socio-economic conditions which impact development, such as children from disadvantaged homes, where resources may be lacking, and parental time and education may be limited Further, concepts of ECCE as envisioned in policy are founded upon socio-cultural norms of

childhood that originated in Western European and American-centric contexts, and do not interrogate the universalizing cultural assumptions, or account for alternative values emphasized by caretakers for their children's development (Nsamenang, 2006; Serpell and Nsamenang, 2015).

Situated understandings of child development bring into focus the multiple facets of child development, that problematize universalizing tendencies inherent in current formulations of assessment tools. The ecocultural model for instance foregrounds the primary role of cultural pathways through which human development occurs, and argues that sustained participation in localized community cultures is crucial for children's social and psychological wellbeing (Weisner, 2002). In a similar vein, the development niche theory posits the combination of the physical and social settings in which a child is situated, the customs and practices of child rearing in this location, and the psychology of caretakers as the mediating factors for an individual child's social experience, and the basis upon which children acquire the cognitive, social and affective rules of their cultural location (Harkness & Super, 2014). Others also emphasize the dimension of children's own reflexive engagement with their socio-cultural environments in shaping their developmental trajectories (Gaskins, Miller & Corsaro, 1992). Readiness in this sense is a set of ideas constructed by families and communities as they participate in the preschool experience (Meisels, 1998) pointing towards the need to account for the foundational influences of a child's life in measurements of adaptive behaviour.

Parental ethnotheories, or parental beliefs and goals for their children, and their consequent expression through actions of childcare, have been considered a significant component of setting the frame of experience within which child development occurs. (Harkness & Super, 2014). Research utilizing this framework reveals a diversity of value-systems among parents, indicating that lack of uniformity in childcare practice and the trajectory of development. For instance, a comparative study of Kenyan and American children through an analysis of parental ethnotheories showed that the former were advanced in behaviours such as sibling care without adult supervision, livelihood activities such as cow rearing, and cooking meals as early as at five years of age, they were unable to perform well on cognitive activities such as re-telling of stories. In contrast, American children were able to speak in fully formed sentences as early as at two years of age, but were unable to participate in household activities even at later ages. These differences were attributed to the cultural value-frames prioritized by parents, that translated into a 'regularity' of action in children's everyday lives and provided the grounds for their developmental trajectory (Harkness & Super, 2014). Other parenting strategies in

comparisons of infants in families of farming communities and urban settings have showed the emergence of 'development of communion' as opposed to 'development of agency' respectively (Keller et al., 2005). A less deterministic account of parental ethnotheories of Roma mothers in urban Greece revealed a combination of traditionally authoritarian parenting practice combined with more individualistic goals for children arising from socio-economic status and urban life contexts in shaping social and cognitive development (Penderi & Petrogiannis, 2011). These value-based frames are seen to extend to schools, where the individual dispositions of teachers in terms of their practices, outlooks and their underlying philosophies also play a role in shaping classroom transactions (Gupta, 2004).

In the Indian context, parental ethnotheories of marriage as union of families rather than of individuals, and the concept of karma as balancing 'right' and 'wrong' actions, as understood through the Hindu world view of human development, have been described to influence child rearing practices (Saraswathi and Ganapathy, 2002). There is however little literature in the Indian context examining the role of parental belief systems, beyond religious systems of though, in its social and cultural implications for practices of child development.

These insights indicate the need to firstly pay close attention to parental understandings of childcare and development, which may not necessarily align with goals envisioned in policy and programmes for early childhood education. As noted, what ECCE interventions ideologically position as 'dysfunctional', 'unfavourable' or 'adverse' parenting practice because they fail to conform to Anglo-American standards, are often functional and produce positive child outcomes (Nsamenang, 2006). Secondly, cultural scripts in a specific time and place which organize experiences of children are not static, and undergo changes as they are constantly negotiated by communities through other such social processes (Edwards et al., 2006). These practices do not exist in isolation from broader mediating factors, including the role of teachers and schools, as well as the expectations of childcare and educational institutions. It is therefore also important to account for parental understandings of their children's development in relation to their socio-economic circumstances as well as the schooling context of children.

Research Objectives and Methodology

Against the context of narrow constructions of adaptive behaviour, this study aimed to gain a more expansive understanding of non-cognitive aspects of school readiness. With the goal of developing a more open-ended, sensitive and diverse approach to assessing adaptive behaviour among preschool aged children, the study sought to incorporate, in particular, values of development that caretakers – including parents and teachers, hold for their children.

The study was undertaken in three parts which involved an extensive systematic reviewing of literature and engaging with a diverse variety of ECCE-level teachers and childcare experts to collate internationally recognized norms of adaptive behaviours that constitute school readiness; engaging with parents to understand their age-expectations of children's adaptive development in relation to these established normative behaviours; and finally to consult parents on the performance of their children in accordance with expected norms as reported by parents in the earlier stage. The following sections discuss each of these sections in detail:

1. Systematic literature review and consultation with experts

As mentioned, an extensive systematic review of literature was conducted to identify behaviours and associated ages at which these emerge for adaptive development among pre-school aged children, i.e., children aged between 3 to 6 years. As a first step, it was important to operationally define the construct or behaviour that it seeks to measure. This posed certain challenges as definitions of 'readiness' appeared to overlap with other concepts, such as 'adaptive behaviour' and 'social-emotional learning' or social adjustment. Further, sub-domains (e.g., cognitive, inter-personal, self-help, and so on) and/or behaviours identified under these different concepts also overlap (e.g., identifies first letter/sound; enjoys sharing information about self with adults, and so on). Thus, as a first step, we conducted a systematic review of literature on 'school readiness' in order to be able to define what the tool seeks to measure more accurately. Since different scales understand or define adaptive behaviour in varied ways, the purpose of the review was to gain a comprehensive understanding of the range of skills that constitute adaptive behaviour and commonalities or overlaps between domains so as to eliminate repetition.

The review focused on theoretical constructs of readiness, as well as specific tools used to measure readiness, including studies that describe the construction and development of these specific tools, and the establishment of their psychometric properties[1]. Since purchase of age-

[1] A list of literature reviewed can be found in appendix I.

specific adaptive behavioural tools was a constraint, the primary open source materials used for the purpose of identifying normative age categories associated with each behaviour were (i) the Headstart Early Learning Outcomes Framework by the United States Department of Health and Human Services (ii) Centers for Disease Control and Prevention's (CDC) Developmental Milestones and (iii) Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council - Milestones of Child Development: Learning and Development from Birth to Kindergarten (2003). The year 2000 onwards was set as a time-criteria to help make the review more relevant by removing dated versions of tools which get repeated, and only including the latest revised versions. These were removed based on the assumption that these have not been in use for a certain duration of time, and are thus not applicable in light of more recent developments in the same field of research.

After a compilation of domains, sub-domains and behavioural characteristics associated with non-academic school readiness from literature, various definitions and constructs / skills / behaviours were compared to arrive at a comprehensive definition of the concept of readiness. This also involved sorting and collapsing definitions / constructs that appeared to measure the same skills or behaviours, as well as reclassifying existing domains or constructs in order to minimise overlaps and reduce redundancy.

In addition, a focus group discussion was conducted with ECCE experts, pre-school teachers and ICDS teachers based in Karnataka, to gain insight into their perspectives on key components of adaptive behaviours of children from diverse, localized contexts[2]. These findings were also incorporated into the final list of adaptive behaviours through a similar examination of definitions and classification into domains .

Based on these two exercises, adaptive behaviours were categorized into the four following sub-domains:

(i) Socio-emotional behaviours

Social and emotional competencies allow children to develop emotional security and personal and social skills, that build foundations for adjusting to social settings.

(ii) Language and communication

These include verbal and non-verbal abilities that allow children to effectively attend to, and execute communication.

[2] A summary of questions and key inferences can be found in appendix II.

(iii) Personal care

Self-skills that enable children to master control over their environments and attain basic levels of self-sufficiency.

(iv) Learning Behaviours

Behaviours that facilitate socialization into societal norms, in particular into schooling environments. These include skills that will allow children to participate successfully in these contexts.

Table 1 below details the final list of behaviours that were identified under each sub-domain. Details of the specific traits for each of behaviours can be found in the interview schedule and adaptive behaviour checklist in appendix III and IV respectively.

Socio-emotional behaviours	Can separate from parents / stay away from home: (e.g., to go to school, anganwadi centre etc.)
	Can build relationships with new persons (e.g., peers at school, teachers)
	Understands differences in behaviour / differences in people and can adjust accordingly
	Can identify other people's emotions and act accordingly
	Can control / regulate emotions as required by situation (e.g., control anger, sadness)
	Can understand norms of shared social space / resources (e.g., which contexts demand sharing space or resources and when this is not expected)
	Can cooperate with others (e.g., in play, to complete tasks at school or home)
Language and communication	Is able to attend/ listen to what is being said
	Understands the need to communicate needs / contextually necessary information
	Communicate needs / contextually necessary information (verbally or non-verbally)
Personal care	Has achieved toilet control functions
	Can dress/ undress with simple clothes
	Has inclination to eat /follow food-related routines
	Can ask for help if required
	Is able to identify and avoid danger / heed warnings of danger

Learning behaviours	Has knowledge of the differences in the roles of people in the family / community (e.g., grandparents, post-man, etc)
	Has knowledge of and recognises differences between various social occasions (e.g., different types of festivals or functions celebrated by the family/community)
	Is able to understand (even if he/she doesn't always follow) rules and boundaries and the consequences of breaking them
	Is able to follow instructions or directions
	Shows curiosity
	Shows imagination
	Show sitting tolerance (i.e., the ability to sit in one place and complete a task according to age; typically, about 15 minutes)
	Can pay attention to and engage with what is being taught
	Shows persistence in learning / completing tasks

Table 1: List of adaptive behaviours identified

2. Developing context-specific age norms through parental engagement

For this stage, a total of 362 parents of children attending ECCE institutions were interviewed regarding the age at which they expected the above-mentioned behavioural skills to emerge[3]. To ensure diverse socio-economic representation, parents were selected from across 9 villages and 3 urban wards each in three districts in Karnataka, namely, Bangalore Urban, Ramnagara and Tumkur. Table 2 below shows the distribution of parents of children attending anganwadi centres and private preschools, as well as the average age of their children. Note that the average age of children attending anganwadi centres was 0.5 years lesser than that of those attending private preschools as a result of the younger age-group of children who were found to be attending anganwadi centres as compared to those in private schools.

	Anganwadi centres	Private preschool
Number of parents	181	181
Average age of children	4.5	5

Table 2: Distribution of parents of children by type of ECCE centre and average age of children

Based on responses received, the mean expected age for each behaviour was calculated. Since there was significant variation in the manner in which parents reported ages, all ages were

[3] The interview schedule can be found in appendix III

converted into months for ensuring specificity. This was done keeping in mind that development in the early years takes place at a rapid place, thus accounting for variation at the level of months becomes crucial. For instances where age-ranges were reported instead of singular figures, the upper limit of the age has been taken into consideration. This draws from the rationale of understanding parental expectations of the age up till which the non-emergence of a particular behaviour is considered 'normal' or acceptable, according to their own understanding of their children's developmental trajectories.

The mean expected age for each behaviour and +/- one standard deviation was calculated, to determine localized age-ranges for each behaviour. Later sections discuss in detail the age ranges obtained for each behaviour, and in what ways it differs from international age-norms for the same behaviours.

Further, the approximately normal distribution of the expected ages revealed responses within 2 standard deviations of the mean to be lying roughly between the ages of 24 months (2 years) and 84 months (7 years) for most behaviours. These ages were thus determined as the age-range for the next stage of the study.

3. Assessing performance of ECCE aged children on expected age-norms of adaptive behaviours

The final step in the study sought to pilot the expected age-norms among pre-school aged children. As mentioned earlier, the cut off ages for testing the checklist of behaviours was ascertained to be between 2 and 7. Within this range, since most responses of expected age were contained between 3 and 6, accordingly, a higher proportion of children were sampled in this range as compared to between 2-3 and 6-7.

For the purposes of the checklist, the adaptive behaviours were posed as yes/no questions to parents, for them to indicate whether or not their child was able to perform them at the current age[4]. A total of 611 parents were interviewed, sampled to represent children between 24 months and 84 months from both private schools and government institutions (anganwadi centres and government schools), and in both Bangalore Urban and Bangalore rural. Note that site-selection during sampling was a constraint, and socio-economic and cultural contexts of the parents in step 3 may not be adequately representative of those that was sampled in step 2.

[4] The checklist can be found in appendix IV.

Table 3 below shows the distribution of number of parents of children from different types of institutions and the ages of the children.

	Bangalore Urban		**Bangalore Rural**		**Total**
Ages	**Government**	**Private**	**Government**	**Private**	
2-3	24	20	22	18	84
3-4	35	35	36	34	140
4-5	38	42	38	40	158
5-6	35	41	38	39	153
6-7	14	22	20	20	76
Total	146	160	154	151	**611**

Table 3: Distribution of sample by type of ECCE centre, location and age

Finally, for each behaviour, the responses were categorized by age into three categories using the localized age ranges determined in step 2. These were (1) ages less than the lower limit of age range (2) ages within the age range and (3) ages above the upper limit of the age range. Within each of these three categories, the percentage of parents reporting either ‘yes’ or ‘no’, i.e., the proportion of parents whose children could or could not perform the behaviour at the given age, was calculated. Further, a chi square test was conducted to ascertain significance of differences in between the categories. The findings for each behaviour are discussed in detail in the next section.

Discussion of local norms for the Adaptive Behaviour Scale

In this chapter we discuss the norms identified locally for the different social and emotional behaviours considered essential for preschool children's development and later adjustment for school. As discussed earlier, the norms were identified through a two-stage process: in the first round we first asked parents regarding the expected ages for each behaviour that was sourced from an extensive review of literature and through discussions with teachers, anganwadis staff and other childcare experts. In table 4, we list out the reported ages for each behaviour by parents, along with the international norms listed in literature[5]. One point that can be noted from this data is parents' conception of a more relaxed period for the development of the specific behaviours compared to what is given in the norms. Below, we discuss the findings from both rounds of the study for each section of the checklist.

I. Socio-emotional behaviours

i. Expected Ages

Sl No	Behaviour	Norms (months)	Mean ages reported by parents	Range ($\pm$ 1 SD)
SOCIO-EMOTIONAL				
1	Can separate from parents / stay away from home	36	43	29-57
2	Can build relationships with new persons (e.g., peers at school, teachers)	36	45	33-57
3	Understands differences in behaviour / differences in people and can adjust accordingly	36	48	36-60
4	Can identify other people's emotions and act accordingly	36-48	48	36-60
5	Can control /regulate emotions as required	36-48	52	38-67
6	Can understand norms of shared social space / resources (e.g., which contexts	36	49	37-60

[5] The international norms were sourced from (i) the Headstart Early Learning Outcomes Framework by the United States Department of Health and Human Services and (ii) Centers for Disease Control and Prevention's (CDC) Developmental Milestones and (iv) Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council - Milestones of Child Development: Learning and Development from Birth to Kindergarten

	demand sharing space or resources and when this is not expected)			
7	Can cooperate with others (e.g., in play, to complete tasks at school or home)	36-48	47	35-58

Table 4: Norms for socio-emotional behaviours

Looking at the expected ages reported by parents for socio-emotional behaviours, it can be seen that for most behaviours parents, on an average have reported a half- or one year later than what has been identified in the norms. For behaviours such as regulating one's own emotions, the mean ages reported by parents fall outside the range identified within the norms as well (i.e., 52 months as opposed to the range of 36-48 months given in the norms). Parents mean reported ages for behaviours such as regulating one's own emotions (52 months) and cooperation (47 months) lies close to the upper age limit given in the norms (i.e., 36-48 months for both behaviours). What can also be seen from parents reported ages is the large window of close to two years (24 months) that parents report for the development of all the socio-emotional behaviours, while the range given within norms only provides a window of one year.

Having reported the parental perceptions regarding developmental ages of each behaviour, in the following section we discuss findings from the second round of the survey for socio-emotional behaviours.

ii. Age-wise performance on socio-emotional behaviours in comparison with norms

Below, we discuss the observations for each of the seven socio-emotional behaviours tested.

1. Can separate from parents / stay away from home

Separation from parents was operationally defined as the behaviour demonstrating that the preschool child is able to stay away from parents in the day-time to attend preschool, or able to stay with other familiar adults such as grandparents, neighbours or other relatives for short periods of time. From our data, it appears that parents in the Indian context expect children to develop this behaviour between 29-57 months (approximately between 2 ½ - 4 ¾ years), with a mean age reported of 43 months (approximately 3 ½ years). From our survey of children between 2 and 7 years, we found that while 38 per cent of children below~~tween~~ 29 months were able to undertake this behaviour, 62 per cent of children between 29-57 months and 69 per cent of children above 57 months were able to undertake this behaviour (see Table 5). The data in fact suggests that in fact a higher age threshold may be required for separation behaviour (as over 30 per cent children above 57 months are yet to demonstrate the behaviour). This needs

to be further tested through repeated piloting of the tool with different age groups of children. The data appears also to suggest that the norm of 3 years set may be in contradiction with children's development in the Indian context, where a large number of children even close to 5 years have been unable to demonstrate this behaviour.

Separation from parents	Can separate	Total	Percentage
<29 months	9	24	37.5
29-57 months	207	336	61.6
>57 months	171	247	69.2

Table 5: Distribution for 'separation from parents'

A chi-square test conducted to determine whether there was a significant difference between the groups reveals the difference to be significant at 0.05 level (chi-square = 11.0353; p-value = .004015.) A close observation of the chi-square table (table 6) shows that the difference is greatest for children below 29 months who are unable to demonstrate the separation behaviour, thus suggesting that children below 29 months are more unlikely to demonstrate the separation behaviour.

Ages	y	n	Row Totals
Below 29 months	9 (15.30) [2.60]	15 (8.70) [4.56]	24
29-57 months	207 (214.22) [0.24]	129 (121.78) [0.43]	336
Above 57 months	171 (157.48) [1.16]	76 (89.52) [2.04]	247
Column Totals	387	220	607 (Grand Total)

Table 6: Chi -square table for 'separation from parents'

2. Can build relationships with new persons (e.g., peers at school, teachers)

The behaviour was operationally defined as children's ability to build new relationships with people they become familiar with over a time, or people who visit their homes (e.g., relatives, other children, strangers). The mean age reported by parents for the development of this behaviour was 45 months (that is towards the end of the third year), while it is reported to develop by the beginning of the third year within norms. The range identified by parents for this behaviour was between 33-58 months (end of second year to the end of the fourth year). From our data, while close to 63.5 per cent children below 33 months can build new relationships, more than 90 per cent children over 33 months can build new relationships.

Can build relations	Can build relations	Total	Percentage
<33	54	85	63.5
33-58	292	314	93.0
>58	222	235	94.5

Table 7: Distribution for 'can build relationships with new persons'

A chi square test shows the two groups (below 33 months and above 33 months) to be significantly different at 0.05 level (chi-square statistic = 3.8986; p-value is .048327). The chi square table also shows the difference to be emerging from the larger likelihood of children below 33 months being unable to undertake this behaviour, hence suggesting that the behaviour is more likely to develop in children 2 ½ years or older, which is closer to the age identified in the norms (3 years).

Ages	y	n	Marginal Row Totals
Below 33 months	54 (57.73) [0.24]	8 (4.27) [3.26]	62
33 months &above	514 (510.27) [0.03]	34 (37.73) [0.37]	548
Marginal Column Totals	568	42	610 (Grand Total)

Table 8: : Chi-square table for 'can build relationships with new persons'

3. Understands differences in behaviour / differences in people and can adjust accordingly

Understanding differences in behaviours / people and adjusting to this was identified as an important adaptive behaviour through an FGD conducted with preschool teachers and anganwadi workers at the beginning of the study. The behaviour was explained by the group as the ability to understand and adjust to the differences in the nature of relationships at school (for example, with the teacher or helper, or other children). The mean age reported by parents describing children's abilities to undertake this behaviour is 48 months (4 years). Parents responses also indicate a large range within which the development of this behaviour is considered appropriate (i.e., between 36 months or 3 years to 60 months or 5 years, while it is expected to develop by 3 years according to norms). Interestingly, a survey of children between 2-7 years shows that similar proportions of children below 36 months and 36-60 months are able to understand differences in behaviours and emotions of people and adjust to this (i.e., 82.4 per cent and 87 per cent respectively). Over 90 per cent children above 36-60 months appear to be able to demonstrate this behaviour however.

Understands differences in behaviours and emotions	Can understand	Total	Percentage
<36	70	85	82.4
36-60	282	324	87.0
>60	188	202	93.1

Table 9: Distribution for 'understands differences in behaviours and emotions'

A chi-square test indicated that there was no significant difference in the ability to perform these behaviours between children below and above 36 months (chi-square = 3.492, p-value =.061666, which is not significant at $p < .05$). However, there is a significant difference at 0.05 level when the groups of children below 36 months, between 36-60 months and above 60 months is compared (chi-square = 7.9006; p-value = .019249).

Age	y	n	Row Totals
below 36 months	70 (75.12) [0.35]	15 (9.88) [2.66]	85
36-60 months	282 (286.35) [0.07]	42 (37.65) [0.50]	324
above 60 months	188 (178.53) [0.50]	14 (23.47) [3.82]	202
Column Totals	540	71	611 (Grand Total)

Table 10: Chi-square table for ' Understands differences in behaviours and emotions'

4. Can identify other people's emotions and act accordingly

The ability to identify other people's emotions has been described as the ability to detect feeling such as anger or tension in the environment and to be able to stay away from it. The mean age reported by parents for the development of this behaviour is 48 months (4 years), and the range for the development of the behaviour extends between 36-60 months (3-5 years). The ages reported in the norms is between 36-48 months (3-4 years). From our data almost similar proportion of children below 36 months, between 36-60 months and above 60 months are able to demonstrate this behaviour.

Identifies others' emotions	Yes	Total	Percent
<36	72	81	88.9
36-60	285	324	88.0

>60	181	202	90.0

Table 11: Distribution for 'Identifies others' emotions'

A chi-square analysis also shows that there is no significant difference between the groups with respect to the performance of the behaviour, hence suggesting a need to gather further data in arriving at an understanding of the development of this behaviour in children.

5. Can control /regulate emotions as required

Literature and field data suggests that preschool children should be able to learn to regulate or control their emotions (e.g., be able to soother themselves when upset or soothed by others) in order to be able to adjust at school. The mean expected age reported by parents with respect to this behaviour is 52 months (close to 4 ½ years), while the range indicated within norms is 36-48 months (3-4 years). The range ascertained from parents' reports regarding the development of this behaviour was 38-67 months (i.e., 3 years 2 months to 5 years 7 months). While over 80 per cent of children below 38 months and between 38-67 months were also able to demonstrate this behaviour according to parents, close to 100 per cent children in the ages above 67 months were able to demonstrate this behaviour according to parents.

Regulate emotions	Can regulate one's emotions	Total	Percentage
<38	88	106	83.0
38-67	334	389	85.9
>67	112	116	96.6

Table 12: Distribution for 'regulate emotions'

The chi square test shows no significant difference between children below 38 months and 38 months and above who can perform this behaviour (chi-square statistic = 1.7644; p-value =184076). However, there is a significant difference when the three groups (below 38 months, 38-67 months and above 67 months) are compared. The difference mainly seems to emerge from more than expected number of children above 67 months being unable to undertake the behaviour, again indicating the need for further investigation to see if the upper limit for the development of the behaviour may have to be re-ascertained through further studies.

Age groups	y	n	Row Total
Below 38 months	88 (77.66) [1.38]	17 (27.34) [3.91]	105
38-67 months	334 (287.71) [7.45]	55 (101.29) [21.16]	389

Above 67 months	112 (168.63) [19.02]	116 (59.37) [54.02]	228
Column Totals	534	188	722 (grand total)

Table 13: Chi-square table for 'regulate emotions'

6. Can understand norms of shared social space / resources

The behaviour as operationally defined for the study emerged specifically in the FGD with teachers and anganwadi workers, and was explained as children's abilities to understand what belonged to them or others, or were common resources (e.g., toys, books, seating material) at an angnwadi or preschool. The mean age for the development of the behaviour identified by parental reports on expectations for this behaviour was 49 months (i.e., at the beginning of the fourth year), and the range for the development of the behaviour was between 37-60 months (i.e., 3 to 5 years). However, within norms, the third year (36 months) has been identified for the development of the behaviour, with some literature even identifying a range between 18-36 months (i.e., 1 ½ -3 years, with 3 years indicating the upper expected age for the acquisition of the behaviour) (Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council, 2013).

From the responses collected from parents of children between 2-7 years, regarding their children's abilities to perform this behaviour, it can be seen that 88 per cent of the sample below 37 months were able to perform this behaviour, while over 90 per cent children above 37 months able to perform this behaviour.

Understand norms of shared space/resources	Understands shared space/resources	Total	Percentage
<37	88	100	88
37-60	287	309	92.9
>60	197	202	97.5

Table 14: Distribution for 'understand norms of shared space/resources'

A chi-square test of significance indicates that there is a significant difference in performance between children below 37 months and those that are 37 months or above. From the chi square table below, it appears that there is a significant likelihood of children below 37 months being unlikely in understanding the norms of shared social space and resources.

	y	n	Marginal Row Totals
bel37	88 (93.77) [0.36]	12 (6.23) [5.35]	100
37&abv	484 (478.23) [0.07]	26 (31.77) [1.05]	510
Marginal Column Totals	572	38	610 (Grand Total)

Table 15: Chi-square table for 'understands norms of shared space/resources'

7. Cooperate with others

Cooperative behaviour has been identified as an important learning for preschool children commonly across literature. It was also reiterated by teachers and anganwadi workers in the FGD conducted at the beginning of the study. While within literature cooperation has been identified as important to build relationships and undertake activities with teachers and peers, in play and other activities, on field cooperation was operationally defined to include children's accommodation to everyday routines, and cooperation lent in completion of everyday activities such as bathing, dressing, eating, etc. The mean age reported by parents for the development of this behaviour is 47 months (close to 4 years), while the range reported was between 35-58 months (between 3-5 years). Within norms cooperative behaviour is expected to develop between 36-48 months (3-4 years).

From the table below, it can seen that only about 77 per cent of children below 35 months were able to undertake cooperative behaviour, while over 90 per cent children above 35 months were able to undertake the same behaviour.

Cooperation	Can cooperate	Total	Percentage
<35	56	73	76.7
35-59	289	308	93.8
>59	220	230	95.7

Table 16: Distribution for 'cooperation'

The chi square shows a significant difference between the two groups of children (i.e., below 35 months and 35 months and above) at 0.05 level (chi-square = 30.7221; p-value = < 0.00001). The difference appears to be from a greater proportion of children below 35 months being unable to demonstrate cooperative behaviour, thus indicating that even though many children below 35 months in our sample were able to perform the behaviour, there is a greater likelihood of children below 35 months being unable to perform this behaviour.

Ages	y	n	Marginal Row Totals
Below 35 months	56 (67.61) [2]	17 (5.39) [25.05]	73
35 months &above	509 (497.39) [0.27]	28 (39.61) [3.41]	537
Marginal Column Totals	565	45	610 (Grand Total)

Table 17: Chi-square table for 'cooperation'

II. Language and Communication

i. Expected Ages

LANGUAGE & COMMUNICATION		Norms (months)	Mean ages reported by parents (months)	Range ($\pm$1 SD)
8	Is able to attend/ listen to what is being said	18-36	38	26-51
9	Understands the need to communicate needs / contextually necessary information	17-36	44	34-54
10	Communicate needs / contextually necessary information (verbally or non-verbally)	17-36	45	35-55

Table 18: Norms for language and communication

With respect to the expected ages reported by parents for all behaviours under language and communication, the mean ages and ranges are again at least half a year higher than the norms. An observation of the ranges also show that for at least behaviours such as understanding the need to communicate and communicating contextually, the lower range identified through our survey is close to the upper age limit given in the norms. This again suggests a more relaxed expectation for development in the Indian context compared to that identified in the western norms.

ii. Age-wise performance on language and communication behaviours in comparison with norms

8. Attends/ listens to what is being said

The ability to attend and listen is also a behaviour that has been commonly identified within literature. This ability covers a wide range of behaviours which include the ability to

demonstrate increased understanding of oral language through actions and responses to directions and questions, shows acknowledgment of comments or questions and is able to attend to conversations, either spoken or signed. progress in abilities to initiate and respond appropriately in conversation and discussions with peers and adults, increasing abilities to understand and use language for a variety of purposes, etc. Even in the FGD, a nuanced difference was identified by teachers and anganwadi workers regarding the variety of behaviours associated with attending and listening. Listening or attending to instructions was differentiated from social listening (indicated by turn taking, responding to name, etc), and it was argued that the completion of the listening and attending task should be ascertained through attention to body language and after attempts to communicate through multiple modes (e.g., non-verbally, through gestures), in order to avoid confusion between not attending, and not able to follow instructions or understand communication.

For the study, listening and attending was operationally defined as children responding to communication (verbal or non-verbal) which could take the form of bodily communication of receipt of communication (e.g., turning when name is called out), or through other forms of acknowledgement of receipt of communication. The mean expected age reported by parents with respect to the development of the behaviour was 38 months (after the third birthday, with the range extending from 26 months to 51 months). Within norms the behaviour has been identified as emerging between 18-36 months (1 ½ -4 years). Within literature too the ability to demonstrate increased understanding of oral language through actions and responses to directions and questions has been identified as emerging between 3-4 years (Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council, 2013).

Data collected on children between 2-7 years showed that about 65 per cent of children below 26 months in our sample demonstrated attending or listening skills; 83 per cent children within the range of 26-51 months were able to do the same; and 95 per cent of children above 51 months demonstrated the behaviour.

Attends/listens	Attends/listens	Total	Percentage
<26	11	17	64.7
26-51	257	308	83.4
>51	301	317	95.0

Table 19: Distribution for 'attends/listens'

A chi square test conducted to ascertain differences between the groups with respect to attending and listening skills showed the group below 26 months, and the group 26 months and above to be significantly different at 0.05 level (chi-square = 24.2985; p-value is < 0.00001). A closer look at the chi square table shows that more than expected number of children in the age group below 26 months were unable to demonstrate listening and attending skills, hence suggesting that 26 months may be the minimum threshold age for the development of the behaviour.

Ages	y	n	Marginal Row Totals
Below 26 months	11 (15.91) [1.52]	6 (1.09) [22.1]	17
26 months &above	558 (553.09) [0.04]	33 (37.91) [0.64]	591
Marginal Column Totals	569	39	608 (Grand Total)

Table 20: Chi-square table for 'attends/listens'

9. Understands the need to communicate needs / contextually necessary information

The need to communicate needs such as hunger and toilet, while identified within literature and through the FGD, teaches and anganwadi workers during the FGD also indicated the need to first ascertain that children understand the need to communicate their needs. The mean expected age indicated by parents for this behaviour was 44 months (towards the end of the third year), and the range extended from 34-54 months. Within norms, though there is no overt separation of the ability to understand the need to communicate needs, and actually demonstrating the behaviour, the identified age for the two behaviours together is 17-36 months (1 ½ years to 3 years).

Among the sample of 2-7 year old children surveyed, 85.5 per cent children below 34 months were able to understand the need to communicate while more than 95 per cent children 34 months or above were able to understand the need to communicate.

Understands the need to communicate	Understands the need to communicate	Total	Percentage
<34	59	69	85.5
34-54	257	269	95.5
>54	267	273	97.8

Table 21: Distribution for 'understands the need to communicate'

Based on the chi square test it appears that there is a significant difference between the groups (i.e., below 34 moths and 34 months and above), with respect to understanding the need to communicate, at 0.05 level (chi-square statistic =17.4704; p-value = .000029.). Observing the chi square table it can be seen that there is a significant likelihood of children below 34 months being unable to understand the need to communicate their needs, thus suggesting that 34 months may be a critical age threshold for the development of the behaviour.

Ages	y	n	Marginal Row Totals
Below 34 months	59 (65.84) [0.71]	10 (3.16) [14.79]	69
34 months & above	524 (517.16) [0.09]	18 (24.84) [1.88]	542
Marginal Column Totals	583	28	611 (Grand Total)

Table 22: Chi-square table for 'understands the need to communicate'

10. Communicate needs / contextually necessary information (verbally or non-verbally)

In addition to understanding the need to communicate needs, teachers and anganwadi workers in our FGD also articulated the need for children to have developed adequately to verbally or non-verbally communicate their needs. Within literature the norms for communicating needs has been identified as between 17-36 months (1 ½ - 3 years), while the mean expected age according to parents for this behaviour is 45 months (3 and ¾ years). The range for the development of this behaviour indicated by parents is between 35-55 months (3- 4 ½ years). Above 90 per cent of children below and above the age of 35 months in our sample were able to undertake this behaviour.

Communicates needs	Communicate needs	Total	Percentage
<35	66	73	90.4
35-55	268	276	97.1
>55	254	262	97.0

Table 23: Distribution for 'communicates needs'

However, a chi square test did show a significant difference between the groups at 0.05 level (chi-square statistic = 14.2788; p-value = .000158). The chi square table suggests that the difference likely emerges from a larger likelihood of children below 35 months being unable

to communicate their needs, which suggests that 35 months may be a critical threshold age for the emergence of the behaviour.

Ages	y	n	*Marginal Row Totals*
Below 35 months	66 (74.2) [0.91]	14 (5.8) [11.57]	80
35 months & above	522 (513.8) [0.13]	32 (40.2) [1.67]	554
Marginal Column Totals	588	46	634 (Grand Total)

Table 24: Chi-square table for 'communicates needs'

III. Personal Care

i. Expected Ages

	PERSONAL CARE	Norms (months)	Mean ages reported by parents (months)	Range ($\pm$1 SD)
11	Has achieved toilet control functions	48-60	39	27-50
12	Can dress/ undress with simple clothes	36	45	34-56
13	Has inclination to eat /follow food-related routines	36-48	45	33-57
14	Can ask for help if required	18	45	35-54
15	Is able to identify and avoid danger / heed warnings of danger	36-48	49	38-61

Table 25: Norms for personal care

Section III examined behaviours related to personal care. Looking at the table above, it can be seen that for with the exception of toilet control, for most other behaviours such as dressing, following food routines, and avoiding danger, the expected mean ages reported by parents was at least three-fourths of a year later than the norm / lower age limit identified within the norms. For toilet control, parents have identified a mean age (and range) which is lower than that given in literature (i.e., 39 months or the beginning of the third year, while norms identify between 4-5 years for the development of toilet control). For asking help, the age identified within norms (18 months) is 2 ¼ years lower than that reported by parents (45 months or 3 ¾ years)

ii. Age-wise performance on personal care in comparison with norms

11. Toilet control

Toilet control was operationally defined as the ability for children to indicate toilet needs and understand the need to use only the toilet or designated spaces for urination or defecation at least during the day time. The mean expected age reported by parents for this behaviour was 39 months, which is lower than the age identified within the norms (48-60 months). Parents also identified a range of 27-50 months for the development of this behaviour (which indicates the development of this behaviour way before the age identified within the norms). Data from our survey of 2-7-year olds showed that 71 percent children below 27 months had achieved toilet control, 83.7 per cent children between 27-50 months had achieved this behaviour, and 90 per cent children above 50 months had achieved toilet control.

Toilet control	Achieved toilet control	Total	Percentage
<27 months	15	21	71.4
27-50 months	215	257	83.7
>50 months	301	333	90.4

Table 26: Distribution for 'toilet control'

The chi square test showed the two groups (below 27 months and 27 months and above) to be significantly different. From the chi square table below it appears that there is a significantly higher likelihood of children below 27 months having not achieved the toilet control function, suggesting that 27 months may be the critical age threshold for the development of the behaviour.

Ages	y	n	Marginal Row Totals
Below 27 months	15 (18.28) [0.59]	6 (2.72) [3.96]	21
27 months & above	516 (512.72) [0.02]	73 (76.28) [0.14]	589
Marginal Column Totals	531	79	610 (Grand Total)

Table 27: Chi-square table for 'toilet control'

12. Dress/ undress with simple clothes

The ability to wear or remove simple clothes has also been identified as an important aspect of self-care in preschool children. Operationally, this was defined as being able to wear or remove simple clothes such as t-shirts or pants that do not involve putting a zip or buttons. The mean expected age for this behaviour reported by parents is 45 months (3 ¾ years), while a lower

age of 3 years has been identified within the norms. The range for the development of this behaviour according to parental responses is 34-56 months (i.e., 3- 4 ½ years approximately). From our survey, we found that 53.6 per cent children below 34 months were able to undertake this behaviour, 80.4 per cent of children between 34-56 months were able to undertake this behaviour and close to 90 per cent children above 56 months were able to undertake this behaviour

Dress and undress	Can dress and undress	Total	Percentage
<34	37	69	53.6
34-56	234	291	80.4
>56	222	251	88.4

Table 28: Distribution for 'dress and undress'

The chi square test showed that there was a significant difference between children below 34 months and above 34 months in the performance of this behaviour at 0.05 level (chi-square statistic = 37.1222; p-value = < 0.00001. Significant at p < .05.). The table below shows a greater likelihood of children below 34 months being unable to dress or undress independently, suggesting the need to pay attention to critical age threshold of 34 months, below which children will be less likely to dress themselves.

	y	**n**	***Marginal Row Totals***
bel34	37 (55.77) [6.31]	32 (13.23) [26.61]	69
34&abv	456 (437.23) [0.81]	85 (103.77) [3.39]	541
Marginal Column Totals	493	117	610 (Grand Total)

Table 29: Chi-square table for 'dress and undress'

13. Inclination to eat /follow food-related routines

This behaviour was defined as children's ability to recognise routines around food and asking for food when hungry. Within literature children's knowledge about nutritious food and eating habits has been identified as an important behaviour to acquire during preschools. According to norms children are expected to show inclination to eat and follow food routines by 36-48 months (3-4 years). The mean expected age reported by parents for this behaviour to develop is 45 months (3 ¾ years), which falls within the range identified within norms. The range

identified through parental reports was 33-57 months (below 3 years to close to 6 years). The wide range could perhaps be a result of differences in interpretation of the behaviour, and lack of adequate operational definition of the behaviour.

A survey of children between 2-7 years showed that 69.4 per cent children below 33 months were able to follow food related routines, while over 81.5 per cent children between 33-58 months were able to undertake this behaviour, and close to 90 per cent above 58 months were able to undertake the behaviour.

Food related routines	Follows food related routines	Total	Percentage
<33	43	62	69. 4
33-58	256	314	81.5
>58	209	235	88.9

Table 30: Distribution for 'food related routines'

The chi square test shows the two groups (below 33 months and 33 months and above) to be significantly different at the 0.05 level (chi-square statistic = 9.6085; p-value = .001937). The chi square table shows the largest difference between the expected and observed value to be for children below33 months who were unable to follow food routines, thus indicating that the critical threshold for the behaviour to emerge may be around 33 months.

Age	y	n	Marginal Row Totals
Below 33 months	43 (51.63) [1.44]	19 (10.37) [7.19]	62
33 months &above	465 (456.37) [0.16]	83 (91.63) [0.81]	548
Marginal Column Totals	508	102	610 (Grand Total)

Table 31: Chi-square table for 'food related routines'

14. Asks for help

Asking for help has been identified as a necessary behaviour for children to seek comfort and other kinds of support required – for example with hunger, homework, or even when unwell. The mean age reported by parents for the development of this behaviour is 45 months (3 ¾ years), while it has been reported to develop between 18-36 months within literature (Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council, 2013). The range indicated by parental responses was 35-54 months (i.e., 3- 4 ½ years).

Data collected from parents of 2-7 year old children shows that closely 80 per cent children below 35 months were able to ask for help, while the proportion is closer to 90 per cent for children between 35-54 months, and above 90 per cent for children over 54 months.

Asks for help	Asks for help	Total	Percentage
<35	58	73	79.5
35-54	231	265	87.2
>54	255	273	93.4

Table 32: Distribution for 'asks for help'

The chi square test shows a significant difference (at the 0.05 level) between children below 35 months, and 35 months and above, in terms of their ability to ask for help (chi-square statistic = 8.1333; p-value = .004346). The chi square table shows the biggest difference between observed and expected values to be for children below 35 months, indicating that there is a greater likelihood of children below 35 months being unable to ask for help. This perhaps suggests that critical of threshold of 35 months for the development of this behaviour emerges from the greater unlikeliness of children below this age being able to ask for help.

Ages	y	n	Marginal Row Totals
below 35 months	58 (65.1) [0.77]	15 (7.9) [6.39]	73
35 months & above	486 (478.9) [0.11]	51 (58.1) [0.87]	537
Marginal Column Totals	544	66	610 (Grand Total)

Table 33: Chi-square table for 'asks for help'

. **15. Identifies and avoids danger/ heeds warnings**

The behaviour was defined as understanding the needs to stay away from harmful situations or objects such as traffic, electricity and so on. The mean expected age reported by parents was 49 months (4 years), and the range indicates the development of the behaviour between 38-61 months (3-5 years). The normative age identified for the development of this behaviour is between 36-48 months (3-4 years), though within some literature 4 years is indicated as the age for the development of the behaviour, as reported by parents.

A survey of children between 2-7 years showed that 67 per cent of children within our sample of below 38 months were able to identify and avoid danger, 81.7 per cent children between 39-61 months were able to do the same, while 92 per cent children above 61 months were able to identify dangers.

Identifies / avoids danger	Can identify /avoid danger	Total	Percentage
<38 months	71	106	67.0
38-61 months	259	317	81.7
>61 months	173	188	92.0

Table 34: Distribution for 'identifies / avoids danger'

The chi square test showed a significant difference (at 0.05 level) between children below 38 months, and 38 months and above in identifying dangers (chi-square statistic = 20.7474; p-value is < 0.00001). Again, the largest difference between the observed and expected values can be seen for children below 38 months who were unable to identify and avoid danger, suggesting a greater likelihood of children below this age being unable to identify and avoid dangers, though a large proportion of children below 38 months in our sample having been able to identify and avoid dangers.

Ages	y	n	Marginal Row Totals
Below 38 months	71 (87.26) [3.03]	35 (18.74) [14.12]	106
38 months & above	432 (415.74) [0.64]	73 (89.26) [2.96]	505
Marginal Column Totals	503	108	611 (Grand Total)

Table 35: Chi-square table for 'identifies / avoids danger'

IV. Learning Behaviours

i. Expected Ages

Sl No	LEARNING BEHAVIOURS	Norms (months)	Mean ages reported by parents (months)	Range ($\pm$ 1 SD)
16.	Has knowledge of the differences in the roles of people	48-60	47	36-59

17.	Has knowledge of and recognises differences between various social occasions	48-60	55	41-69
18.	Is able to understand (even if he/she doesn't always follow) rules and boundaries	60	53	39-66
19.	Is able to follow instructions or directions	36-48	47	36-58
20.	Shows curiosity	36	50	37-62
21.	Shows Imagination	36	55	41-68
22.	Shows sitting tolerance	48	55	42-69
23.	Can pay attention to and engage with what is being taught	36	54	41-67
24.	Shows persistence in learning / completing tasks	36	55	43-67

Table 36: Norms for learning behaviours

With respect to learning behaviours parents reported higher expected ages compared to the norms for most behaviours such as understanding social occasions, follow directions, curiosity, imagination sitting tolerance, attend to engage with what is taught and persistence, parents reported expected ages that were higher than the norms. For at least four behaviours, curiosity, imagination, engaging with what is taught and persistence, the expected ages reported by parents appears to be to be between 1 ¾ -2 years later than what is given in the norms. For two behaviours, understand social roles and rules and boundaries, parents reported expected ages are in fact lower than the norms.

ii. Age-wise performance on learning behaviours in comparison with norms

16. Understanding of different social roles

The behaviour was defined as children's ability to identify different family members and their roles, and in the context of the study, included people in the community or neighbourhood that children regularly see or interact with, such as milkman, postman, teacher, doctor, bus driver and so on. While children are expected to develop the ability to identify social roles between 48-60 months (4-5 years), the mean age reported by parents was close to the lower age of the reported norm (47 months). The range indicated by parents was between 36-59 months (i.e., 3-

5 years), hence indicating that parents see the beginnings of the development of this behaviour to be at an earlier age.

The survey of children between 2-7 years showed that 67.1 per cent children below 36 months were able to undertake this behaviour, but over 80 per cent of children 36 years or older were able to undertake this behaviour.

Understanding social roles	Can understand social roles	Total	Percentage
<36 months	57	85	67.1
36-59 months	249	296	84.1
>59 months	205	230	89.1

Table 37: Distribution for 'understanding social roles'

The chi square test indicates that there is a significant difference at the 0.05 level between the two groups (below 36 months and 36 months and above) in terms of understanding social roles (chi-square statistic = 20.2877; p-value is < 0.00001.) The chi square table indicates that the largest difference between the observed and expected values appears to be with respect to the proportion of children below 36 months who were unable to differentiate between social roles. This perhaps suggests that the critical threshold for the development of the behaviour could be considered as 36 months as there is a greater likelihood of children below this age being unable to differentiate between different social roles.

Ages	y	n
below 36 months	57 (71.2) [2.83]	28 (13.8) [14.63]
36 months & above	454 (439.8) [0.46]	71 (85.2) [2.37]
Marginal Column Totals	511	99

Table 38: Chi-square table for 'understanding social roles'

17. Understands different social occasions

The behaviour was defined as the ability to differentiate everyday routines from special occasions such as birthdays, weddings, festivals and so on. Within literature awareness regarding social life has been identified as an important developmental behaviour. Awareness or knowledge of different social occasions has been identified as developing between 48-60 months (4-5 years). Parents reported a mean expected age of 55 months (4 ¾ years), which is within the range indicated within norms; though based on parents report, the upper expected

age limit for the development of the behaviour is 69 months (5 ¾ years), and the lower expected age limit is 41 months (close to 3 ½ years).

Based on the survey, it can be seen that only 50 per cent of the children between below 41 months were able to understand social occasions, while 68.2 per cent children between 41-69 months, and 80 per cent children above 69 months were able to undertake this behaviour.

Understands social occasions	Understands social occasions	Total	Percentage
<41 months	70	139	50.4
41-69 months	255	374	68.2
>69 months	79	98	80.6

Table 39: Distribution for 'understands social occasions'

The chi square test showed a significant difference between the two groups (below 41 months and 41 months and above), at the 0.05 level. The largest difference between the observed and expected value is with respect to children below 41 months who were unable to perform the behaviour. Since there is a greater likelihood of children below 41 months of being unable to differentiate between various social occasions, it perhaps suggest that 41 months may be the minimum age required for children to develop this behaviour.

Ages	y	n	Marginal Row Totals
Below 41 months	70 (87.61) [3.54]	69 (51.39) [6.03]	139
41 months & Above	334 (316.39) [0.98]	168 (185.61) [1.67]	502
Marginal Column Totals	404	237	641 (Grand Total)

Table 40: Chi-square table for 'understands social occasions'

18. Understands rules and boundaries

Understanding rules and boundaries is considered an essential aspect of early childhood development as this is required in several social occasions – within classrooms, in group play, to understand safety precautions, to comply with social expectations and in terms of conversational rules. Parents in our study reported that children largely adhered to rules and boundaries due to fear of being scolded or punished. According to norms though the ability to understand rules is expected at 60 months (5 years), literature suggests that children are more

likely to accept rules by 4 years, and can follow simple rules and routines with guidance between 36-48 months (3-4years). The mean expected age reported by parents for this behaviour was 53 months (close to 4 ½ years), with the range extending from 39-66 months (3 ¼ -6 ½ years).

A survey of children between 2-7 years showed that 86.7 per cent of children below 39 months were able to follow rules and boundaries, while over 90 per cent of children 39 months and above were able to follow the same.

Follows rules and boundaries	Follows rules and boundaries	Total	Percent
>39 months	111	128	86.7
39-66 months	352	368	95. 7
<566 months	114	123	92.7

Table 41: Distribution for ' follows rules and boundaries'

The chi square test shows that the two groups (below 39 months, and 39 months above) are significantly different at the 0.05 level (chi-square statistic = 14.4179; p-value is .000146). The chi square table shows the largest difference between the observed and expected values to be for children below 39 months who are unable to follow rule and boundaries. This suggests a significantly higher likelihood of children below 39 months in being unable to follow rules and boundaries, and thus suggests 39 months as a critical threshold age for the development of the behaviour.

Ages	**y**	**n**	***Marginal Row Totals***
Below 39 months	111 (119.97) [0.67]	17 (8.03) [10.01]	128
39 months & Above	352 (343.03) [0.23]	14 (22.97) [3.5]	366
Marginal Column Totals	463	31	494 (Grand Total)

Table 42: Chi-square table for ' follows rules and boundaries'

19. Follows instructions or directions

Ability to follow instructions or directions has been identified within literature as a cognitive / language skill that develops during early infancy. Children are thought to be able to follow two-step instructions, such as “get your shoe and wear it” by three years (36-48 months). On

the field, parents reported children's abilities to follow simple instructions at home such as fetching water, or those related to simple daily routines such as brushing /cleaning one's mouth before drinking tea or water in the morning, and even simple things like getting something from a nearby shop. The mean expected age reported by parents for this behaviour was 47 months (close to the fourth year, and upper age limit indicated with the norms), while the range reported is between 36-58 months. Though lower age limit reported by parents seems to approximate the norms, parents allow for a much longer period for this behaviour to develop (i.e., the upper age limit being up to 56 months or close to 5 years).

A survey of 2-7 year olds showed that 74.1 per cent of children below 36 months were able to follow instructions, while over 90 per cent children above 36 months were able to follow instructions.

Follows instructions	Can follow instructions	Total	Percentage
<36 months	63	85	74.1
36-58 months	268	291	92.1
>58 months	229	235	97.4

Table 43: Distribution for 'follows instructions'

A chi square test conducted to ascertain the differences between the groups showed the two groups to be significantly different at 0.05 level confidence interval (chi-square statistic = 10.8289; p-value =.000999.). The chi square table shows the greatest difference between observed and expected values to be for the number of children below 36 months who were unable to perform the behaviour, thus indicating the greater likelihood of children below 36 months of not being able to follow instructions. This also suggests that 36 months may be the cut-off age limit before which children will most likely be unable to follow instructions.

	y	n	Marginal Row Totals
Below 36 months	63 (72.36) [1.21]	22 (12.64) [6.93]	85
36 months & above	229 (219.64) [0.4]	29 (38.36) [2.28]	258
Marginal Column Totals	292	51	343 (Grand Total)

Table 44: Chi-square table for 'follows instructions'

20. Curiosity

Curiosity is described as showing interest in exploring oneself and objects in the environment. On field parents described children as curious about new objects, new places and new people. Curiosity has been reported in children even as young as 6 months, when they show interest and reach out for new objects. For the purposes of our study, we defined curiosity as children exploring new objects or actively trying to learn about new people and objects through questioning or self-exploration. The mean expected by parents for the development of curiosity is 50 months (or the beginning of the fourth year), while it is expected to develop by 3 years (36 months) within norms. Other literature suggests different kinds of curiosities developing between 18-48 months (i.e., 1 ½- 4 years). The range identified for the development of this behaviour from parental reports was between 37-62 months. Thus, curiosity appears to be a behaviour that appears to have a wide range based with the progressive development of the behaviour over a long duration in early childhood.

A survey of children between 2-7 years shows that 70 per cent children below 37 months in our sample demonstrated curiosity according to their parents; 85 per cent between 37-62 months were also reported to demonstrate curiosity, while 91.2 per cent children above 62 months also appeared to demonstrate this behaviour.

Shows Curiosity	Shows Curiosity	Total	Percentage
<37 months	70	100	70
37-62 months	289	340	85
>62 months	156	171	91.2

Table 45: Distribution for 'shows curiosity'

A chi square test showed that there was significant difference between children below 37 months and 37 months and above, at 0.05 level (chi-square statistic = 18.9319; p-value = .000014). The chi square table suggests that the largest difference between observed and expected values is for the proportion of children who did not show curiosity below 37 months, suggesting that there is significant likelihood that children below 37 months maybe unlikely in showing curiosity.

Ages	**y**	**n**	***Marginal Row Totals***
Below 37 months	70 (84.43) [2.47]	30 (15.57) [13.36]	100

37 months and above	445 (430.57) [0.48]	65 (79.43) [2.62]	510
Marginal Column Totals	515	95	610 (Grand Total)

Table 46: Chi-square table for 'shows curiosity'

21. Imagination

The ability to use imagination during pretend play has been identified within literature as emerging between 18-36 months, while the use of imagination to create original thoughts, ideas or products is thought to emerge between 36-48 months. Though we asked parents regarding the former (imaginative pretend play), the mean expected age reported by parents for this behaviour is 55 months (4 ½ years). The range for the development of the behaviour reported by parents was between 41-68 months (i.e., close to 3 ½ years to close to the end of the fifth year).

Our survey of children between 2-7 years showed that 72 per cent children below 41 months showed the ability for imaginative play, 84 per cent children between 41-68 months showed imaginative play, while 90.6 per cent children above 68 months showed the ability for imaginative play.

Imagination	Shows imagination	Total	Percentage
<41 months	100	139	71.9
41-68 months	308	366	84.2
>68 months	96	106	90.6

Table 47: Distribution for 'imagination'

The chi square test showed a significant difference between the two groups – below 41 months and 41 months and above, at the 0.05 level (chi-square statistic = 14.3031; p-value = .000156.) With the greatest difference between observed and expected values seen for children under 41 months, who were reported as not showing imaginative play as yet, it appears that there may be a lower likelihood of children below 41 months in being able to undertake imaginative play, even though a large number of children below41 months in our sample have been able to show imaginative play.

Age	y	n	Marginal Row Totals

below 41 months	100 (114.85) [1.92]	39 (24.15) [9.12]	139
41 months & above	404 (389.15) [0.57]	67 (81.85) [2.69]	471
Marginal Column Totals	504	106	610 (Grand Total)

Table 48: Chi-square table for 'imagination'

22. Sitting tolerance

Sitting tolerance refers to children's gradually developing abilities to attend to activities and complete activities such as reading a book, listening to a story or completing a puzzle. While three year old are expected to have lesser tolerance (about 10 minutes), by four children are thought to be able to sit and attend to activities for about 15 minutes. Parents identified a mean expected age of 55 months (close to 4 ½ years) for the development of this behaviour and the expected range is between 42-69 months for the development of this behaviour (i.e., between 3 ½ -4 ¾ years).

The survey of children between 2-7 years showed that 72.5 per cent children below 42 months were able to undertake this behaviour, 78.6 per cent children between 42-69 months were able to undertake this behaviour, while 80.6 per cent above 69 months were able to undertake this behaviour.

Sitting tolerance	Has sitting tolerance	Total	Percentage
<42 months	111	153	72.5
42-69 months	283	360	78.6
>69 months	79	98	80.6

Table 49: Distribution for 'sitting tolerance'

The chi square test shows no significant difference at the 0.05 level between children below 42 months and 42 months and above, with respect to this behaviour (chi-square statistic = 2.5164; p-value = .112664). This suggests that perhaps sitting tolerance is a behaviour that children find hard to master even close to the sixth year. In fact in informal conversations with parents many reported that this is a behaviour that only gradually develops in children with greater time spent at school. The chi square test also suggests a need to critically re-examine the normative age for the development of sitting tolerance with a larger sample.

Ages	Yes	No	Marginal Row Totals

Below 42 months	111 (118.06) [0.42]	41 (33.94) [1.47]	152
42 months & above	362 (354.94) [0.14]	95 (102.06) [0.49]	457
Marginal Column Totals	473	136	609 (Grand Total)

Table 50: Chi-square table for 'sitting tolerance'

23. Paying attention

This was defined as children's ability to focus or direct attention to what is being taught and engage without getting distracted. The identified age within norms is 36 months (and in some case 48 months)[6], while parents reported a mean expected age of 54 months (4 ½ years). The range reported by parents for the development of this behaviour was between 41-67 months.

The survey of children between 2-7 years showed that 67.6 per cent below 41 months were able to attend to things being taught, while this increased to 86.8 per cent of children in the age group of 41-67 months, and 94.8 per cent for children above 67 months.

Attention	Pays attention	Total	Percentage
<41 months	94	139	67.6
41-67 months	309	356	86.8
>67 months	110	116	94.8

Table 51: Distribution for 'attention'

The chi square table showed that there was a significant difference among children below 41 months and 41 months and above, with respect to their abilities in performing this behaviour (chi-square statistic = 35.6518; p-value = < 0.00001.). The greatest difference between expected and observed values is seen with respect to children below 41 months who were unable pay adequate attention, thus suggesting that there is a greater likelihood that children below 41 months will be unable to pay adequate attention to what is being taught.

	y	n	Marginal Row Totals
Below 41 months	94 (116.71) [4.42]	45 (22.29) [23.12]	139
41 months & above	419 (396.29) [1.3]	53 (75.71) [6.81]	472

[6] See Virginia Early Childhood Foundation for the Virginia Early Childhood Advisory Council, 2013

Marginal Column Totals	513	98	611 (Grand Total)

Table 52: Chi-square table for 'attention'

24. Persistence

Persistence has been defined as the increasing ability to engage in repetitive tasks or preferred activities, or attempt to complete previously failed tasks, sometimes by enlisting help. The latter aspect of the behaviour was tested on the field. The mean age reported for persistence within literature was between 18-36 months (1 ½- 3 years). Parents however reported a much higher expected age of 55 months (close to 4 ½ years) with a range extending from 43-67 months (3 ½ -5 ½ years).

The survey data of 2-7 year olds showed that 61.1 per cent children below 43 months in our sample showed persistence, while 74 percent children between 43-68 months, and 76.4 per cent children above 68 months showed persistence.

Persistence	Shows persistence	Total	Percentage
<43 months	102	167	61.1
43-68 months	250	338	74.0
>68 months	81	106	76.4

Table 53: Distribution for 'persistence'

The chi square test shows a significant difference between the two groups – children below 43 months, and 43 months and above, in terms of their ability to show persistence at the 0.05 level (chi-square statistic =10.6679; p-value = .00109). The difference observed and expected values appears to be the greatest for children below 43 months who are unable to show persistence. Thus, this suggests that there is a likelihood that children below 43 months may be unable to show persistence, despite a large number of children in our sample having been able to show persistence.

	y	n	Marginal Row Totals
Below 43 months	102 (118.35) [2.26]	65 (48.65) [5.49]	167
43 months & above	331 (314.65) [0.85]	113 (129.35) [2.07]	444
Marginal Column Totals	433	178	611 (Grand Total)

Table 54: Chi-square table for 'persistence

Summary of Findings and Conclusions

Investments and priorities for early childhood learning have grown in the last three to four decades. With much of the literature on early childhood care drawn from developmental psychology and its established norms for children's development, learning in early childhood for children in the global south is often structured along these lines, failing to attend to how social contexts and ecological affordances within local contexts influence development. Though child development literature and theory has sought to contextualise an understanding of children's development to local cultures and knowledges, even contextual models are informed by a set of normative assumptions that remain unaddressed. One such important assumption made is regarding schooling and 'readiness for schooling', which not only demand that children be ready for primary schools with a set of academic-cognitive skills, but also social and emotional skills, identified as adaptive behaviour. It is within this context that we undertook our study, in order to understand how norms for children's development may differ based on parents own understanding of 'development for what'?

Through an extensive survey of literature, identification of behaviours through an FGD with ECCE professionals, and parents own understanding of specific adaptive behaviours, we sought to identify what forms of development were considered important in the local context. From the first round of our study, in which we sought to engage with parents' expectations for children's behaviours in the early ages, we found that parents have a more relaxed understanding of socio-emotional development in their children. As the data shows, the mean age identified through parental interviews was half to three-fourth of a year later than what was reported in developmental norms drawn from developmental psychology literature, for most behaviours. The ranges developed from parental reports were also wider (spanning across 1.5-2 years), for many behaviours, also suggesting the relaxed time period that communities afford children for the development of specific behaviours.

Based on these parental reports, our survey to ascertain whether children between 2-7 years demonstrated the said behaviours at the expected ages, seemed to largely indicate that the expected age ranges developed through the first round held good. Tests of significance conducted to compare children below and within the specific age range mentioned by parents (for each behaviour), suggested that there were significant differences between the groups in relation to most behaviours. Though our data also showed that for most behaviours, over half the parents of children below the expected age range reported that their children were able to undertake a particular behaviour, this could be a result of the smaller sample sizes used in

gathering data on children between 2-3, and above 6 years. The smaller sample was used based on the mean expected age range calculated for all behaviours from parental reports, which fell between 3-6 years. This has been a limitation of the study, and must be addressed in any further study undertaken based on this exploratory study. One point to further note, however, despite the small sample in the ages below the range (which we also sought to address through the use of the non-parametric chi square test of significance), was the consistent differences we have noted between the observed and expected values for children unable to perform a specific behaviour below the lower age limit identified in the range for that behaviour. This, we hypothesise, is suggestive of a critical age below which the likelihood of emergence of that behaviour may be low, thus indicating that perhaps the determining factor for the age range identified is not the proportion of children who were able to undertake the behaviour, but the critical proportion of children who were unable to undertake it. Further studies, with larger and more diverse samples, is of course needed to test these hypotheses.

Finally, despite these noted differences between the norms given in literature and those reported by parents, and the differences in performance that we noted for children below and above parental reported ages, we also make a note of a few behaviours that did not match this general trend. An significant example among these is for toilet control, for which parents reported a much lower age compared to the norms (i.e., 39 months, compared to 48-60 months given in the norms). The range reported by parents also was also comparatively lower - 27-50 months. Though achievement of toilet control requires the development of motor control, this is also related to socialisation, and hence it would be interesting to understand how this difference in toilet control is effected, resulting the learning of this behaviour almost a year earlier in the Indian context.

The trends for two other behaviours – understanding differences in behaviours among others and adjusting to this, and understanding differences in emotions expressed by others and learning to adjust to this, also showed some interesting findings. Though for both these behaviours the lower age limit for parents expected ages matched with the norms, the upper age limit was a year higher than what was given in the norms (i.e., 36-60 months as opposed to 36-48 months given in the norms). Further, what our data suggests is that there is no significant difference between children below 36 months and 36 months above in the performance of this behaviour, suggesting that children may be able to either perform this behaviour at an earlier age, or perhaps are unable to perform this behaviour even beyond the upper age limit identified for the development of this behaviour. Thus, a larger sample and re-

examination of the two behaviours – understanding other people's behaviours, and emotions, is required to set appropriate age limits for this behaviour.

Another behaviour that requires further examination is separation. While only 38 per cent of the sample below the identified age range (i.e., 29-57 months) were reported to be able to undertake this behaviour, the proportion of children in the ages between 29-57 months (62 per cent) and above 57 months (69 percent), similarly suggests that perhaps this behaviour also may have a higher age limit. Though the chi square statistic suggests a significant difference between the groups below 29 months, and 29 months and above, and shows a greater difference between observed and expected values for the proportion of children below 29 months who were unable to undertake this behaviour, the relatively low proportion of children able to undertake this behaviour even above 57 months, needs further investigation.

Finally, one other behaviour – regulation of one's own emotions – also requires further investigation, as there appears to be no significant difference between children below the lower age limit identified for the development of the behaviour (38 months), and those 38 months and above. However, a comparison of children below 38 months, 38-67 months, and 67 months and above, showed a significant difference on the chi square test. The greatest difference between expected and observed values was seen for children above 67 months who were still unable to regulate their emotions. While this might suggest that the upper limit for the development of this behaviour may have to be increased, this also needs to be tested using a larger sample.

Thus, overall, it appears that development norms in the Indian context may have to attend to local conceptions of parents and socialisation practices around social and emotional behaviours. Though the study is limited both in terms of the sample sizes used, sampling strategies, as well as the methodology used to create the tool (as the time and resources required for a full psychometric tool development was not available), we argue that it provides both evidence and directions to further explore differences in developmental norms in the Indian context.

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Appendices

Appendix I: Systematic Literature Review

The table below lists the journals, books, articles, tools and adaptive behaviour frameworks that were utilised in the systematic literature review.

Journals/Books	**Academic articles/papers**	**Tools/Frameworks**
Journal of School Psychology	Snow K. (2006) Measuring School Readiness: Conceptual and Practical Considerations. *Early Education and Development.* 17(1). 7-41. Retrieved from: http://dx.doi.org/10.1207/s15566935eed1701_2	National Institute for Mentally Handicapped (NIMH) (n.d.) *Early Childhood Special Education Programme (ECSE): School Readiness Skills.* NIMH
Journal of Child Psychology and Psychiatry	Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American psychologist*, *57*(2), 111.	National Education Goals Panel
School Psychology Review	Morrison, F. J., Ponitz, C. C., & McClelland, M. M. (2010). Self-regulation and academic achievement in the transition to school. *Child development at the intersection of emotion and cognition*, *1*, 203-224.	Harms, T., Clifford, R. M., & Cryer, D. (1998). *Early childhood environment rating scale*. Teachers College Press, Columbia University
Bracken, B.A. (Ed). (2004). The Psychoeducational assessment of preschool children – Third edition. New Jersey: Lawrence Erlbaum Associates Publishers.	Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence?. *Child development*, *70*(6), 1373-1400.	Achenbach, T. M., Edelbrock, C., & Howell, C. T. (1987) *Child Behaviour checklist (1.5 to 5 years.*
Webster-Stratton, C. (1999). *How to promote children's social and emotional competence*. Sage.	Tuba, I., Sak, S. (2016) School Readiness: the view of pre-service pre-school teachers and pre-service primary teachers. *Early Child Development and Care.* 186 (4). 509-525. Retrieved from: http://dx.doi.org/10.1080/03004430.2015.1040784	McGuire, J., & Richman, N. (1986) *Preschool behaviour checklist.*
	Kellam, S. G., Branch, J. D., Agrawal, K. C., & Ensminger, M. E. (1975). *Mental health and going to school: The Woodlawn program of assessment, early intervention, and*	LaFreniere, P. J., & Dumas, J. E. (1996). Social competence and behavior evaluation in children ages 3 to 6 years: The short form (SCBE-30). *Psychological assessment*, *8*(4), 369.

	evaluation. Chicago: University of Chicago Press.	
	Denham, S. A., Blair, K. A., DeMulder, E., Levitas, J., Sawyer, K., Auerbach–Major, S., & Queenan, P. (2003). Preschool emotional competence: Pathway to social competence?. *Child development*, *74*(1), 238-256.	Lutz, M. N., Fantuzzo, J., & McDermott, P. (2002*). Adjustment Scales for Preschool Intervention (ASPI).* Philadelphia, PA: University of Pennsylvania.
	Lichtenstein R. & Ireton H. (1984). Preschool Screening: Identifying Young Children with Developmental and Educational Problems. Grune & Stratton, Inc. Orlando. 56-59.	McDermott, P. A., Green, L. F., Francis, J. M., & Stott, D. H. (2000). *Preschool learning behaviors scale*. Philadelphia, PA: Edumetric and Clinical Science.
	Fantuzzo, J., Bulotsky-Shearer, R., McDermott, P., McWayne, C., Frye, D., & Perlman, S. (2007). Investigation of Dimensions of Social-Emotional Classroom Behavior and School Readiness for Low-Income Urban Preschool Children. Retrieved from http://repository.upenn.edu/gse_pubs/124	United States Department of Health and Human Services (USDHHS) (n.d.) Headstart Early Learning Outcomes Framework
	Price, J. A., Morris, Z. A., & Costello, S. (2018). The application of adaptive behaviour models: a systematic review. *Behavioral Sciences*, *8*(1), 11.	Centers for Disease Control and Prevention's (CDC) (n.d.) Developmental Milestones
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Appendix II: Adaptive Behaviours Identified from Focus Group Discussion with Teachers and ECCE Experts

Date: 30 May,2018

Venue: Centre for Budget and Policy Studies, Bangalore

Facilitators: R. Maithreyi, Ketaki Prabha, Madhuwanti Mitro

QUESTIONS

1. What do pre-primary programmes prepare children for?
    a. What is the rationale behind training children in these skills? (Probe regarding whether this is based on some kind of philosophy; based on parental / school expectations, etc)
    b. Are there differences among programmes in their orientation (i.e., between anganwadis, play schools, montessoris, kindergartens, etc)
    c. Are there specific skills, attitudes and behaviours that children are required to have before entering primary school? Do programmes prepare children on these?
    d. What do you feel is the long/short term purpose served by each of the identified desirable skills? In what specific ways do these fulfill the objectives of preparation towards schooling?
2. Specifically focusing on non-academic competencies or early literacy, what other skills, behaviours or attitudes are important for preschool children? Why? (Make a list)
    a. What are the indicators of whether or not a child is doing well at their respective stage of schooling?
3. Are there specific outcomes/indicators or is there a range of behavioural outcomes that you look out for?
4. What is done to train children in these other skills, behaviours and attitudes?
5. How do you assess whether children have these appropriate skills / behaviours / attitudes?
6. Are some of these skills, behaviours or attitudes culturally specific?
    a. Is it ok / fair to expect all children from across diverse contexts or families to come to school with the same skills, behaviours or attitudes?
    b. Are there cultural (community-wise) differences among children with respect to skills, behaviours or attitudes that they may be strong or weak on? Can you give some examples?
    c. What would be skills, behaviours or attitudes that would be absolutely necessary for preschool children to have, irrespective of cultural differences, in order to fit into school?
7. Can preschool learning competencies (academic as well as non-academic) be broken down into a developmental component (i.e., what is based on maturation), and a cultural component (i.e., what is expressed differently based on the culture of the child)? (The list created from Question 2 can be used to identify the developmental and cultural component for each of the skills or behaviours identified).

8. Are there differences in competencies between boys and girls?
    a. Are these differences due to cultural or developmental factors?
9. How are boys and girls different in their development in this preschool age?
10. What behaviours would you consider as 'maladaptive' in preschool children?
    a. Are there cultural differences in behaviours that are considered 'maladaptive'?
11. What is considered maladaptive according mainstream schooling practices?

PARTICIPANTS

1. Shailaja Shastry – Preschool teacher with 20 years of experience, with her own preschool; currently works as creative language teacher at Kannada medium ICSE school
2. Pavithra Yadav – Anganwadi worker, Viveknagar
3. Manu H.S. – Anganwadi worker, Banashankari
4. Nandini Prakash – Teacher trainer, Indian Montessori Association
5. Karpagam – UKG and Dance teacher, Dayanand Sagar Institutions
6. Amudha Thyagarajan - Kannada teacher, Govt. Urdu Primary School
7. Sumitra – Teacher, Govt. Kannada medium primary school
8. Shobha – Teacher, Govt. Primary school, Chikkalsandra
9. Gayathri – Nursery teacher, Mahila Seva Sangha
10. Asha – Preschool teacher, Poorna Learning Centre
11. Leelavathi - Department of State Educational Research and Training (DSERT), Karnataka

PRINCIPLES OF ASSESSMENT

This section lists out the general principles identified by the participants in creating and administering the tool

1. It was stressed in multiple ways that readiness skills should not be seen as a property of the child. It was pointed out that some aspects of readiness are learnt in preschool settings, while some depended on the provisions made by primary schools to adjust to the transition (e.g., friendly atmosphere, allowing the child space and time to adjust)
2. The need to create separate tools for assessment (judging readiness) and for diagnostic purposes (i.e., to understand what needs to be done by schools to help children adapt better after transition) was also stressed. Teachers did make a difference between developmental potential and learned behaviour and argued for the readiness tool to be focused on assessing the former rather than the latter. While the former tool can measure certain behaviours that emerge in the context of development, or can be learnt outside formal settings, some behaviours can perhaps be only learnt within formal settings; and thus, the two sets of behaviours need to be separated
3. It was pointed out that assessment should be sensitive to the nutritional and socio-economic context of the child
4. It was argued that the display of certain behaviours expected must be judged based on whether children have had the time to develop these behaviours as well as conducive environment for such behaviours to develop. Thus, the importance of training in preparing children to adapt to

schools/ transition to primary school was stressed, and hence it was argued that learned aspects of readiness must be tested following attempts to train / teach or intervene with the child

5. The need for an age-graded tool was also articulated, as it was noted that there were wide variations between 3-6 year olds, and understanding the age to which a specific behavioural item is applied is necessary

6. Further, it was stressed that assessment should take note of whether the intended behaviour was expressed / observed at least some of the times, and assessment needs to take into account multiple occasions in which there has been an occasion to express this behaviour

7. In terms of principles it was also articulated that at this age deficits in behaviour should only be identified as those that were physical / biological or developmental – like hearing impairments, autism etc. It was pointed out that the deficits should only be identified when specific interventions to cope with such disabilities would be required.

8. Finally, it was pointed out that assessment of specific behaviours needs to take into account the contexts within which such behaviours are expressed.

LIST OF BEHAVIOURS IDENTIFIED FROM FGD

I. UNDERSTANDING / CONTROL OVER BODY

1. Toilet control

2. Understanding of limits / capacities of their own body (prevention of self-harm) / self-preservation not getting hurt

3. Ability to feed him/herself / eat on schedule – understand the importance of eating regularly and the importance of eating nutritious food

II. UNDERSTANDING OF SELF/OTHER

4. Care for self (also linked to understanding the need to feed oneself / eat nutritious food), have a sense of personal hygiene. However, in this case it was also agreed that there could be wide variations in an understanding of hygiene based on context – e.g., behaviours such as washing hands before meals it was agreed are learnt and may not be considered as aspects of personal hygiene in resource-short contexts. Knowledge of self was seen as including skills to care for one's self (personal hygiene) and fend for one's self, with an understanding also of the kinds of foods required to be healthy.

5. Sense of personal space as different from shared space

6. Understanding of 'mine' (having a sense of what property belonged to him/her / events one was responsible for, and when to conditionally share this) and 'ours' (communal property to be shared). With respect to personal property it was argued that there is no onus to have to share, but children can be taught to share when others are in need. Sharing and being able to identify such differences were also clearly pointed out to be learned abilities. Further, it was stressed that the difference between personal and communal property and appropriate behaviours with respect to these had to be constantly cultivated throughout schooling.

7. Take part in social contexts / understand reciprocity and turn taking – here however, it was pointed out the preschool environment may be what teaches children such aspects as there were limits to what a mother can achieve with her child at home

III. BUILDING RELATIONS

8. Learning to separate from mother (overcoming separation anxiety)

9. Ability to build new relationships with strangers outside the family, as well as when moving from a teacher / caregiver with whom the child has been for a long time

10. The ability to understand / adjust to differences in the nature of relationships at school – e.g., with a teacher, with a helper/ayah; with peers, etc was also seen as necessary, though it was also pointed out that the time and conducive environment for children to develop these relationships should be provided. It was also pointed out that these abilities would have to be fostered

IV. COMMUNICATION

11. Listening and responding (Alisahasaamartya) – very fine gradations in abilities were made here

a. Listening was linked to paying attention to what was expressed or addressed to the focal child. Judgement of children's response to such events (i.e., whether he/she is capable of listening), it was argued, should be judged both taking into account the multiple ways in which children can respond (i.e., this could also be non-verbally, through gestures or facial or bodily expressions); further whether or not children listen or not should be judged after attempts at communicating through multiple modes; and after understanding whether the child listens and responds in other contexts or not

b. Listening was distinguished from obeying, and the former was seen as necessary to include in the tool, rather than the latter.

c. Listening socially was also distinguished from listening to being able to follow instructions / academic directions. It was argued that in this age children like to listen to stories and conversations, and respond to requests for anecdotal information like their names, their parents' names and where they live. Thus, it was argued that listening for social purposes is what needs to be judged. Further, it was pointed out that responding may even take the form of facial expressions, rather than verbal replies. However it was also noted that these are learnt abilities.

d. Listening to instructions – as different from the earlier point about understanding certain limits or boundaries on behaviour- in contrast with that, this form of listening to instruction was more practical, explicitly goal oriented – e.g., such as following an exit sign, following instructions for solving question papers etc. It was also stressed that a child's ability to undertake this needs to be judged based on his/her interactions with several different people, as well as based on evaluating whether the child can follow the given instruction with multiple cues (as its possible the child may not be following verbal communication)

e. Speaking / responding skills were considered critical – but what is important to note here is that it was agreed that children would take time to warm up, and this need not necessarily be seen negatively, but children may require space and time to develop the comfort required to speak up.

f. Further, it was also stressed that rather than evaluating the language / syntax of expression, what needs to take precedence here is the content and ability to communicate their point / idea (even if it required to be expressed through non-verbal ways).

g. The critical point to be evaluated here was stressed as his/ her ability to communicate his/her basic needs. Further, it was also stressed that communication and expression of need / idea could be with any individual that the child felt comfortable with, not just the teacher, and hence assessment must take this into account.

h. The idea of knowing / responding to social conventions, though needs to account context again, it was also stated could be assessed (with the caveat that such responses again could be non-verbal)

i. Children's 'discretionary skills' - what was pointed out as children being able to understand different people, know what and how to express and to whom, was also pointed out

V. EVERYDAY / ROUTINE BEHAVIOUR

12. Ability to follow routine

13. Sitting tolerance – understood as a learnt ability that needs to be gradually developed, as tolerance for 5 mins, then 10 mins, then 15, mins, then 20 mins and at the upper end, as for 25 mins; further it was stated that tolerance sitting tolerance should include the aspect of engaging in learning and completing an activity

14. Ability to engage in self-directed learning (idea of 'swakalike' and 'swayagya' in Nali Kali) – this was described as interest in any activity of the child's liking, and ability to learn from this, learn in accordance with his/her interest. (The ability to choose between interests itself was something that was pointed out as necessary to cultivate in preschool children)

15. Understanding boundaries and limits – listening and understanding was linked to children's abilities to comply with instructions or rules of a classroom, such as sitting in one place, taking care of one's belongings, appropriate forms of expressing emotions. These latter behaviours being marked as 'learnt' and not what needs to be expected for entry to primary school itself, but as the child being ready for such behaviours to be cultivated. Further, it was also understood that while children might have lapses occasionally, throughout the period of schooling, in controlling behaviour according to rules and boundaries, they should at least have a knowledge of existence of such boundaries according to contexts. It was also argued that these boundaries itself may be very different in different contexts, and children may test these boundaries. Specifically, it was articulated that this needs to be understood as 'listening skills', and not necessarily as personal discipline, thus again stressing the interpersonal aspect of this skills, rather than as a quality of the child

VI. UNDERSTANDING/MANAGING EMOTIONS

16. Expressing feelings – under this head, though this was not adequately discussed /boundaries were not set (due to time constraints), teachers seemed to be explaining more about how children expressed themselves than feelings, explaining how children had the capacities to narrate incidents from home or imagination. They kept talking of how they (teachers) would be able to identify children's feelings rather than children identifying their own feelings or others' feelings. It was finally decided that identifying feelings need not be included in the checklist for this age children

VII. BEHAVIOURS TO DEFINITELY LOOK OUT FOR / MALADAPTIVE

17. Lack of complete interest in anything – after a lot of discussion it was argued that interest should not be tested, but an absolute lack of engagement / interest should be noted. It was argued that children can be passive, but maybe interested still, and thus, complete disengagement with everything should be noted. This was further explained as dull, lack of eye contact, complete lack of response to anything

18. Lack of complete awareness of self-harm (pain) / self-preservation

Appendix III: Interview Schedule for Identification of Local Age Norms for Adaptive Behaviours

DEVELOPMENTAL ASSESSMENT OF ADAPTIVE BEHAVIORS FOR SCHOOL READINESS

ID NO: | | | | | | | | |

(State) (District) (Village) (Centre)

Date:

Name of Field Investigator:

District Name:

Ward/Village Name:

Details of Parent:

Name: _____; Age:_____

Educational Qualifications:

Number of children in the household (and their age):

Which ECCE institution do the children attend (mention if child is out of school)?

I. SOCIO-EMOTIONAL COMPETENCE

1. **According to you what skills should children in this age group (preschool years) have to socially and emotionally adjust to different contexts?**

---

2. **Please indicate whether your child shows the following behaviours. Also indicate whether such behaviours are taught to or expected of children at home / in community in this age group?**

SL	BEHAVIOUR/TRAIT	FAMILY / COMMUNITY EXPECTATIONS			DESCRIPTION (Gather examples from parents to understand how this specific behaviour manifests in their children / in other children they have observed in the community of this age)
		Do you expect the child to have this behaviour?		What is the expected age for this behaviour?	
		Yes	No		
i.	Can separate from parents / stay away from home: (e.g., to go to school, anganwadi centre etc.)				
ii.	Can build relationships with new persons (e.g., peers at school, teachers)				
iii.	Understands differences in behaviour / differences in people and can adjust accordingly				
iv.	Can identify other people's emotions and act accordingly				
v.	Can control / regulate emotions as required by situation (e.g., control anger, sadness)				
vi.	Can understand norms of shared social space / resources (e.g., which contexts demand sharing space or resources and when this is not expected)				
vii.	Can cooperate with others (e.g., in play, to complete tasks at school or home)				

II. LANGUAGE/COMMUNICATION

3. According to you what language and communication skills should children in this age group (preschool years) have to be able to adapt to different contexts efficiently?

4. **Please indicate whether your child shows the following behaviours. Also indicate whether such behaviours are taught to or expected of children at home / in community in this age group?**

SL	BEHAVIOUR/TRAIT	FAMILY / COMMUNITY EXPECTATIONS			DESCRIPTION
		Do you expect the child to have this behaviour?		What is the expected age for this behaviour?	
		Yes	No		
i.	Is able to attend/ listen to what is being said				
ii.	Understands the need to communicate needs / contextually necessary information				
iii.	Communicate needs / contextually necessary information (verbally or non-verbally)				

III. PERSONAL CARE

5. **According to you what skills should children in this age group (preschool years) have in order to be able to ensure personal safety and personal care?**

_____

_____

6. **Please indicate whether your child shows the following behaviours. Also indicate whether such behaviours are taught to or expected of children at home / in community in this age group?**

SL	BEHAVIOUR/TRAIT	FAMILY / COMMUNITY EXPECTATIONS			DESCRIPTION
		Do you expect the child to have this behaviour?		What is the expected age for this behaviour?	
		Yes	No		
i.	Has achieved toilet control functions				
ii.	Can dress/ undress with simple clothes				

iii.	Has inclination to eat /follow food-related routines				
iv.	Can ask for help if required				
v.	Is able to identify and avoid danger / heed warnings of danger				

IV. LEARNING BEHAVIOURS / SOCIAL UNDERSTANDING

7. According to you what kinds of general information and behaviours should children in this age group (preschool years) have in order to be able to learn at school / about his surroundings/environment?

_____

_____

8. Please indicate whether your child shows the following behaviours. Also indicate whether such behaviours are taught to or expected of children at home / in community in this age group?

SL	**BEHAVIOUR/TRAIT**	**FAMILY / COMMUNITY EXPECTATIONS**			**DESCRIPTION**
		Do you expect the child to have this behaviour?		**What is the expected age for this behaviour?**	
		Yes	**No**		
	Social Understanding				
i.	Has knowledge of the differences in the roles of people in the family / community (e.g., grandparents, post-man, etc)				
ii.	Has knowledge of and recognises differences between various social occasions (e.g., different types of festivals or functions celebrated by the family/community)				
	Learning Behaviours				
iii.	Is able to understand (even if he/she doesn't always follow) rules and boundaries and the				

	consequences of breaking them				
iv.	Is able to follow instructions or directions				
v.	Shows curiosity				
vi.	Shows imagination				
vii.	Show sitting tolerance (i.e., the ability to sit in one place and complete a task according to age; typically about 15 minutes)				
viii.	Can pay attention to and engage with what is being taught				
ix.	Shows persistence in learning / completing tasks				

V. MALADAPTIVE BEHAVIOURS

9. According to you what kinds of maladaptive behaviours may be commonly seen in children in this age group (preschool years), and that one must look out for?

_____

_____

10. Please indicate whether your child shows the following behaviours. Also indicate whether such behaviours are taught to or expected of children at home / in community in this age group?

SL	**BEHAVIOUR/TRAIT**	**FAMILY / COMMUNITY EXPECTATIONS**			**DESCRIPTION**
		Do you expect the child to have this behaviour?		**What is the expected age for this behaviour?**	
		Yes	**No**		
i.	Has difficulty accepting authority				
ii.	Is disruptive for no reasons (e.g., when there is no apparent cause such as being tired, or when a novel situation provokes this reaction, etc)				

iii.	Does not like interpersonal contact / wants to be alone / enjoys being solitary				
iv.	Unable to make friends/maintain relationships				
v.	Lies or steals constantly / regularly				
vi.	Shows persistent sad affect (continuously for several days or weeks together at a time)				
vii.	Lacks interest in everything				
viii.	Shows complete lack of self-preservation instinct				
ix.	Has severe physical /motor difficulties which causes difficulties in everyday routines				
x.	Is overly dependent on others (family members/ teachers/peers) for no particular reason (e.g. tendency to cling on)?				

Appendix IV: Adaptive Behaviour Checklist

CBPS TOOL TO MEASURE ADAPTIVE BEHAVIOUR IN PRE-SCHOOL CHILDREN

Respondent Details

Name of child: _____ _____

(First Name) (Second Name)

Age of the child: _____ _____

(Years) (Months)

School/Centre:

_____

Annual Fees:

_____

Medium of Education: _____

Mother Tongue: _____

Duration of stay in Bangalore/Karnataka (in years): _____

Details	Mother	Father
Name		
Educational Qualifications		
Occupation		
Income		

Locality/Residence:

_____

Caste (Tick the answer): General/SC/ST/OBC/Not Applicable

Religion:

_____

Vehicle:

_____

Assets:

Survey Details	Yes	No
If tool was self-filled by respondent- Tick Yes, else tick No		
If tool was filled by investigator, name of investigator		
Language in which it was filled		
Date		

Questionnaire

Instructions: The items below indicate behaviours/traits that children are able to perform *majority of the times, and NOT all the times.*

SL No	Behaviour/Trait	Yes	No
1	My child is able to stay away from us (parents) to attend anganwadi/school		
2	My child is able to use social behaviours like helping, sharing, adjusting to build relationships with other adults and peers at the anganwadi/school		
3	My child understands that there are individual differences among people, and adjusts to these differences among peers and teachers in the anganwadi/school		
4	My child is able to identify various emotions and what causes them (e.g., anger, sadness), and adapts appropriately when these different emotions are expressed by peers, teachers or others at anganwadi/school		
5	My child can recognise his/her own feelings in a situation(e.g., sadness, anger) and can indicate this or appropriately manage this		
6	My child is able to understand the difference between objects in the anganwadi /school that belong to him/her (mine), to others (yours/his /hers) and objects to be commonly shared by everyone (ours)		
7	My child cooperates with teachers and peers at anganwadi/ school by coordinating his/her efforts with others in undertaking shared activities		
8	My child pays attention when spoken to by the teacher		
9	My child understands that he/she must communicate in order for the teacher or others to understand his/her requirements (such as wanting to go to the toilet, or if hungry or thirsty)		
10	My child uses language appropriately to express his/her wants or needs to the teacher, such as wanting to go to the toilet or drink water		
11	My child has achieved toilet control. He/she does not urinate or eliminate in places other than a toilet (or spaces designated for this) and can wait till he/she gets to a toilet before urinating or eliminating in the daytime		
12	My child is able to wear and remove simple clothes		
13	My child follows regular and established eating routines and behaviours		

14	My child asks for help when he/she finds something difficult, or is stuck in a situation or problem		
15	My child understands potential dangers that need to be avoided like traffic, electricity, fire, etc and stays away from them		
16	My child recognises and understands differences in social roles, such as that of a mother, father, child, doctor, teacher, and so on		
17	My child understands and differentiates between various social occasions like birthdays, marriages, festivals and so on		
18	My child understands norms and rules at anganwadi /school (e.g., if asked to walk in a line, or wait his/her turn),even if he/she doesn't always follow it.		
19	My child is able to understand and follows teacher's instructions or directions for activities or class work		
20	My child shows curiosity about new objects or people and makes efforts to know more about it		
21	My child is able to imitate others' actions or his/her own emotions in play (e.g., play-acts a teacher, mother, doctor etc.; or acts out situations to show how he/she expresses anger, fear, and soon).		
22	My child is able engage with a given task for 10-15 minutes undisturbed(e.g., puzzles, looking at picture books or listening to stories) in school (or at home)		
23	While the teacher is teaching, my child is able to avoid distraction and attend to relevant information or task being presented by the teacher		
24	My child is able to persist or continue with a task/activity, despite initial difficulty or failure, by holding back his/her negative feelings or emotions that emerge during the task/activity		