

# **Impact of Gender on Transitions to School: A Review of the Literature**

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## Executive Summary

Most children irrespective of their gender will navigate the transition from home and Early Childhood Education and Care (ECEC) services to primary school successfully. Understanding that gender intersects with other social, family and cultural factors may help to determine the amount and type of support needed for each child in the transition process. What we know about gender differences in early childhood, children's family and cultural backgrounds, prior participation in early childhood programs, and other factors can be used to further develop specific and successful transition programs for all children.

It is accepted that children's initial adjustment to school is paramount for their development, overall well-being and continuing academic success. Research indicates that successful transitions of children from home and ECEC services into the primary school can result in positive student engagement and enhanced social and educational outcomes. Within this context, there is also a significant body of educational and developmental research on gender, which suggests that boys and girls enter primary school with comparable levels of cognitive and academic skills, but with significant variance in their language, social, emotional and behavioural abilities. It has been suggested that when these variances are not effectively addressed that boys in particular are at greater risk of experiencing a poor transition, which can result in disengagement and/or poorer educational outcomes in their schooling. It is however important to understand that "not all boys are at risk and that their poor performance is not inevitable" (Watson, Kehler & Martino, 2010, p. 357). Rather, strength-based transition programs should focus on enabling children to develop relationships with their teachers and peers and on continuing to develop their abilities. A particular focus on enhancing children's language and socio-emotional skills through the transition process will support all children's initial adjustment to school and on-going academic and social success.

## Introduction

A substantial body of research supports the position that children's transition and initial adjustment to school is crucial for their development, well-being and academic learning as they progress through school (Dockett & Perry, 2013; Margetts, 2007). The importance of seamless transitions between early childhood services and schools to promote positive outcomes is emphasised in the research (Clark & Zygmunt-Fillwalk 2008; Dockett & Perry, 2007). However it is also asserted that children vary in their 'readiness' for this transition, with clear differences visible in children's cognitive, language and socio-emotional abilities at entry to school (Brinkman & Silburn 2009; Hartas, 2011; Lamb, Jackson, Walstab & Huo, 2015). While the overwhelming majority of the research is strongly focussed on the notion of children's readiness as distinct from the transition process; there is a dearth of literature that focusses on differences in transition or transition programs specifically related to gender.

## Background

Since the 1992 Ministerial Review of School Entry Age in Victoria (Collins, 1992), there has been a focus on concepts and programs related to 'school readiness' and 'school transition' in Victoria. Collins (1992) suggested that transition programs should create links between children, families, preschool services and the school. To this end, the Victorian State Government through its Department of Education and Training (DET) (in all its title iterations) has commissioned and undertaken a significant amount of work in this area. A number of important projects and literature reviews in recent years have considered both Australian and international research related to the transition of children from early childhood services and home into the primary school environment. The Centre for Equity and Innovation in Early Childhood (CEIEC) (2008), Astbury (2009), Nolan, Hamm, McCartin and Hunt (2009) and Dockett and Perry (2013) have all considered, reported on, and contributed to the available research, knowledge and practice base. Importantly, while these have been critical in framing and developing DET's transition programs, none of them have considered any significant research in relation to either readiness or gender-focussed transition programs.

## The Current Situation: Transition versus Readiness

In the Victorian Auditor-Generals Report 'Education Transitions', Doyle (2015) asserted that "Successful transitions into and between schools can make or break a young person's educational experience ... Poor transitions can lead students to disengage and result in poorer educational outcomes. Some children—such as Aboriginal children, children with disabilities, boys and children from low socio-economic backgrounds—are at greater risk of suffering from a poor transition" (p. ix). Certainly there is a substantial amount of evidence that supports this position (see for example, Magnuson, Kelchen, Duncan, Schindler, Shager & Yoshikawa, 2016; Fox & Geddes, 2016 and Dockett & Perry, 2013). Doyle (2015) further asserted that "To transition well, a child needs to understand what the next stage in their education looks like and they need to be prepared for the level and style of work expected of them at the next stage" (p. ix).

Herein lies a significant and perpetuating problem. Not with the Auditor-Generals report per se, but with what presents as the continuing focus of 'preparing' and 'being ready' for what comes next throughout the literature. Transition is a process which does not end when children start school; it is not about 'preparing' children for the type and standard of work expected which will vary from school to school, class to class and teacher to teacher; it is about creating a relatively seamless process whereby children can continue their learning and development from home and ECEC services into the primary school. The continuing work of DET in this area (Semann et al., 2016) is testament to this view, whereby narrow criteria of school readiness are replaced by a more educationally relevant and child focussed transition to school at its core. Dockett, Perry and Kearney (2010) stated "'Lack of readiness' is not a problem of children being insufficiently skilled to learn at school, but instead it is where there is a mismatch between the attributes of individual children and families, and the ability and resources of the school and/or system to engage and respond appropriately" (p. 1). Suggesting that it is not the child's 'readiness' for school but the schools readiness for the child that supports successful transition.

The focus of this review is to consider the available and relevant research on gender differences of children entering primary school. This is to identify both their attributes and

potential developmental, maturational and learning difficulties and to consider these in relation to further developing transition programs which maximise children's adjustment to, and on-going academic and social success in, primary school.

### Development, Learning and Gender: Interactive Effects

There is a virtual absence of empirical data on what constitutes successful transitions for children into primary schools on the basis of gender, let alone on how this could be measured. However there is a significant body of evidence that demonstrates that girls out-perform boys on some academic indicators including literacy (Eivers, Brendgen & Borge, 2010; Magnuson et al., 2016; Watson, Kehler & Martino, 2010) and that children with significant social and behavioral difficulties at school entry continue to experience problems throughout the school years (Anderson, 2015; Eivers et al., 2010).

The educational and developmental research on gender indicates that boys and girls enter primary school with comparable levels of academic and intellectual skills (Magnuson et al., 2016), but with significant discrepancies in language, social, behavioural, emotional and language abilities, where boys are consistently found to experience more challenges (Denham, Bassett, Thayer, Mincic, Sirotkin & Zinsler 2012 a). The evidence strongly suggests an interactive effect of these developmental difficulties which impacts on boy's adjustment to school and learning (Weiland & Yoshikawa, 2013).

Importantly, socio-cultural and post-structural critiques (see for example, Alloway, Freebody, Gilbert & Musoratt, 2002; Moss, 2007; Watson, Kehler, Martino, 2010) also question the extent to which the differences between boys and girls are biologically determined and the role of other social, cultural and institutional factors - social class, socio-economic status, race, cultural and ethnic backgrounds - on behaviour, engagement and achievement. Constructions of masculinity and femininity are socially and culturally bound and children bring with them to both ECEC services and school classrooms expectations about how the gender with which they identify are expected to behave in a range of areas including but not limited to literacy (Martino & Kehler, 2007) and physical activity (Watts, 2013).

Acknowledging and exploring the many different backgrounds that children bring with them to the classroom is necessary to develop effective and respectful relationships.

The role of schools and educators as such, in supporting successful transition is to work from where each child is at, asking which children are at greatest risk for failure in any given curriculum area and what are the other critical factors (socio-economic status, ethnicity, parental support and expectations) that may affect their engagement and achievement in any given domain.

### Executive Function and Emotional Regulation

Executive functions are essentially higher order cognitive processes such as cognitive flexibility, working memory and interference control (Stahl, 2013). Research posits a primary role of executive functions in predicating the conscious regulation of thought and behaviour in developing the emotional, social and intellectual skills of children and in mediating positive behaviour in preschool and primary school (Vitiello & Williford, 2016).

The ability to manage and modify emotions effectively and to express them appropriately, a core component of executive function is necessary to help children to cope effectively across differing situations (Cole, Martin, & Dennis, 2004). The capacity of children to moderate their emotions has been found to be correlated with children's adaptation to the classroom and to school overall and with the achievement of academic success. (Miller, Seifer, Stroud, Scheinkopf, & Dickstein, 2006). The inability of children to manage negative emotions may inhibit their capacity to focus on learning in the classroom, whereas those who can sustain a positive emotional frame may be better placed to stay engaged with tasks in the classroom (Denham, Bassett, Way, Mincic, Zinsler & Graling, 2012b; Cole et al., 2004). Similarly, Egger and Angold (2006) have suggested that the ability of children to determine and anticipate the emotions of other children and their reactions to emotional events is critical for managing emotions and their resultant behaviours, which over time will result in lowering problem behaviour. This is of primary importance given that in young children, behaviour deemed to be challenging which is more commonly reported for boys, can indicate

issues with the comprehension of emotions and not only language or other intellectual abilities (Hughes & Ensor, 2009).

A significant number of research investigations have found correlations among indicators of theory of mind such as false belief understanding, executive function (EF), and social competence (Astington, 2003; Hughes & Leekham, 2004; Razza, 2009). In a longitudinal study of a low-income sample of 68 five year old children attending Head Start, significant bidirectional associations between false belief understanding and social competence in kindergarten and the first year of primary school were found and executive function in preschool was correlated positively with social competence both in preschool and the first year of primary school (Razza, 2009). A similar study of 364 children attending Head Start and private childcare in Northern Virginia (Denham, 2012b) found that children's emotional knowledge or executive function contributed to later prosocial behaviour. They also found a negative association between aggressive preschool behaviour and concurrent and early school success, with evidence of social-emotional behavior influencing associations between executive function and school outcomes.

Children with difficulties of executive function, such as being unable to contain their prevailing negative behavioural responses when their emotions are elevated could be particularly at risk for difficult social-emotional behaviour which can inhibit their learning in the classroom (Denham et al. 2012a; Denham et al., 2012b; Röthlisberger, Neuenschwander, Cimeli, Michel & Roebbers, 2012).

Evidence from a broad and extensive research base suggests that the development of executive function is more likely to be delayed in boys than girls, with resultant impacts on social skills, peer and teacher relationships and academic outcomes (Devine & Hughes, 2014; Weiland & Yoshikawa, 2013). Importantly a number of interventions aimed to improve executive functions in young children have been found to be effective in boys and girls. Small group interventions with 135 children enrolled in Swiss prekindergarten (5-year-olds) and kindergarten (6-year-olds) were found to develop significant improvements in children's working memory, cognitive flexibility processes and in interference control for the 6 year old children (Röthlisberger et al., 2012). Similarly other group training programs, particularly

using curriculum interventions, have been found to be effective in improving executive function (Bierman, Nix, Greenberg, Blair, & Domitrovich, 2008; Weiland & Yoshikawa, 2013) while the benefits of individualised programs at this time have yielded more limited results with improvements seen in working memory and cognitive flexibility (Thorell, Lindqvist, Bergman, Nutley, Bohlin, & Klingberg, 2009) but less empirical evidence for interference control (Rueda, Rothbart, McCandliss, Saccomanno, & Posner, 2005).

Task engagement is a main method of facilitating learning in schools, essentially highlights the degree that students positively, and actively participate in class experiences in manners deemed suitable to meet the task requirements (Ponitz, Rimm-Kaufman, Grimm, & Curby, 2009). The results of a number of research investigations indicate that task engagement is somewhat representative of the executive function and attentional skills of children, which have also been comprehensively associated with early academic attainment (Brock, Rimm-Kaufman, Nathanson, & Grimm, 2009). In a study designed to investigate engagement with tasks as a mediator between social competence at the beginning of the school year and improvements in the literacy and language skills of children exhibiting challenging behaviours, Vitiello and Williford (2016) found that the correlation between improvements in literacy and language and social abilities was significantly mediated by task engagement. While the indirect effect size was comparatively small, this was evident particularly in whole group learning tasks rather than during free play. The findings indicate that well established social skills assist children with challenging behaviours, particularly boys to engage in classroom activities and to develop stronger language and literacy gains and improved behavioural outcomes.

Similarly, in another whole-group intervention, Weiland and Yoshikawa (2013) found that in a kindergarten program that instigated a coaching scheme (direct teaching with specific language) that the program resulted in significant effects on measures of literacy, mathematical and language skills. Lesser effects were found on a measure of emotion recognition and executive functioning of a large sample of four and five year old children. The results suggested that structured teaching programs with preschool children may result in benefits for executive function and language skills, both of which are imperative for the development and maintenance of social competence.

The evidence that boys may be at higher risk for problems of adjustment to school and subsequent learning problems has led to these studies of gender differences in executive function and behavioural self-regulation as a potential explanation. However, there are variations in the relative degree of gender differences found depending on the children's age, the types of measures used, and the context in which self-regulation was measured (Gestsdottir et al., 2014). As such while the results of investigations suggest that there are gender differences in the self-regulation abilities they should be treated with caution until further replicating research is conducted.

## Emotional Skills

A secure base for developing positive interactions with others is associated with the ability to perceive, define and anticipate the principle emotions of others (Denham et al., 2012a). In a study designed to measure the associates of individual variances in children's early peer play, Mathieson and Banerjee (2011) found distinctively different patterns for girls and boys. In boys, high understanding of emotions and language skills, were found to predict interactive peer play, while low understanding of emotions and language skills were found to predict disconnected play. In girls, 'most like' nominations, a sociometric measure of popularity was found to be predicted by reciprocated peer play and socio-moral reasoning about peer conflict situations. Similar findings have been described in research by Cole, Martin and Dennis (2004) and Colwell and Lindsay (2005).

Research by Broekhuizen, Mokrova, Burchinal, Garrett-Peters & The Family Life Project Key Investigators (2016) was conducted in a culturally diverse group of 1175 children in low SES provincial American communities. They found that children who participated in pre-kindergarten and kindergarten programs with improved emotional and organisational classroom quality exhibited greater social abilities and less challenging behaviours in both prep and year one than children who did not. Analysis of the results when children were in year one suggested that their social competence and behavioural difficulties were strongly predicted by the emotional and organisational quality of pre-kindergarten programs and that emotionally safe environments may have particular benefits in moderating boys externalising

behaviours. The findings indicate that quality emotional environments may moderate emotionally based social skill and behaviour problems in early school years classrooms.

The expression of particular emotions by young children relates to their peer status, and ratings of their success at school, friendliness and receptiveness by teachers. Positive emotions, which have been found to be more prevalent in preschool girls, are vital for initiating, managing and maintaining social interactions (Collwell & Lindsay, 2005). Opposite to this, children who demonstrate more negative emotions in preschool are more frequently seen as difficult by teachers and other children and demonstrate less persistence and eagerness to learn (Miller, Fine, Gouley, Seifer, Dickstein, & Shields 2006; Walker, 2009).

Research consistently demonstrates that girls in preschool and the early years of primary school express more positive emotions, as well as more sad and fearful feelings than boys, while boys have been found to exhibit more externalizing negative emotions such as anger and frustration which underpin more aggressive behaviours (Denham et al., 2012a; Ewing & Taylor, 2009).

### Social Skills Development, Relationships and Learning

There is extensive and growing evidence that indicates that for children as young as two to three years of age, the attainment of social abilities is vital developmentally, of which the achievement or lack of achievement has significant implications for future behavioural adjustment (Hane & Fox, 2006; Hartas, 2011). While the development and continuation of friendships and strong social relationships has been found to enhance adjustment to school (Mathieson & Banerjee, 2011), a lack of prosocial behaviours (helpful, kind, considerate, cooperative) has been found to be a predictor for subsequent problems of poor well-being and lowered socio- emotional adjustment (Asendorpf, Denissen, & van Aken, 2008).

The evidence that boys are more susceptible to developmental difficulties and develop at a slower rate than girls in the early years is substantial; particularly in relation to language and socio-emotional abilities (Australian Institute of Health & Welfare (AIHW), 2015; Wake et al., 2008). Similar to findings from previous Australian Early Development Census

data (AEDC, 2009; AEDC, 2012), in 2015 15.7 % of girls as compared to 28.2% of boys were found to be developmentally vulnerable at school entry. The primary gender differences, which were found across all socio-economic groups, were in the areas of 'Social competence' and 'Emotional maturity' as well as language abilities (AEDC, 2015; Lamb et al., 2015). Social and emotional measures of vulnerability explained a significant portion of this gender variation (Doyle, 2015; Lamb et al., 2015).

Similar 'achievement gaps' between boys and girls have been identified in literacy achievement. It has often been established that girls out-perform boys on standardised tests (including PISA) and literacy benchmarks (Watson, Kehler & Martino, 2010). However, Collins, Kenway and Macleod (2010) and analysis undertaken by the Department for Children, Schools and Families (DCSF) (2007) suggests that other socio-cultural factors including socio-economic status, family background and ethnicity have a greater influence on achievement levels than gender alone. Literacy programs and curriculum changes targeted specifically at boys are not shown to be effective as they involve gender stereotyping that may ignore children's actual inclinations and restrict the choices that either boys or girls can make (Keddie & Mills, 2008; Younger & Warrington et al., 2005).

There is consistency in research findings that early childhood education programs can have worthwhile short-term influences on the early academic abilities of children, though these effects can vary across programs (Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2004; Magnussen et al., 2015). However less consistent positive outcomes have been found with respect to the behaviour or self-regulation abilities of children, and a limited number of structured studies have considered whether program impacts differ by gender (Burchinal, Magnuson, Powell, & Hong, 2015; Magnussen et al., 2015).

Differences in language and socio-emotional skills are believed to result in differences in the quality of the teacher-child relationship, as well as how boys and girls spend their time both in the classroom and in unstructured play (Colwell & Lindsey, 2005; Magnussen et al., 2015). Specifically, learning preferences are thought to be gendered; girls are depicted as having more positive and less oppositional relationships with their teachers than boys (Berthelsen & Walker, 2009; Ewing & Taylor, 2009, McBryde, Ziviani & Cuskelly, 2004). Girls

have also been found to participate more than boys in intellectually stimulating experiences and prosocial imaginative prosocial play involving language particularly during play, which is self-directed (Goble, Martin, Hanish, & Fabes, 2012). Despite this, drawing direct correlations between learning styles and gender risks oversimplifying the complexity of factors that influence academic achievement and loses sight of each child as an individual learner (Coffield, Moseley, Hall & Ecclestone, 2004; Younger & Warrington et al., 2005).

It has been posited that as girls have better self-regulatory emotional abilities (executive function) and better connections with teachers than boys that there is an increased likelihood of further development of their social competencies through increased attention to their teachers scaffolding strategies. Girls are considered more probably to conform to the expectations of behaviour set by teachers, which will in turn result in more positive interactions encouraging prosocial behaviour and self-regulation and assisting with adjustment to school (Entwisle, Alexander & Olsen, 2007; Magnuson, 2015). Research has consistently found that teachers generally perceive girls more favourably and as being more 'ready' for school than boys and with superior adjustment once they begin school. Importantly teachers also perceive children exhibiting more inhibitory behaviours such as shyness and withdrawal, more often reported as girls rather than boys, as less school ready (McBryde et al., 2004).

The actual prevalence of behavioural difficulties and the exhibition of behaviours which are characterised as challenging (dangerous or disruptive to learning of self or others) among children in preschool is hard to ascertain with any surety, as there is significant variance in the reported prevalence rates of challenging behaviours in the literature (Herrera & Little, 2005). It has been reported by Lavigne et al., (1996) that moderate-to-severe behavioural difficulties are displayed by approximately 5% - 14% of preschool-aged children overall. While direct associations between children's social competence, or lack thereof, and challenging behaviour cannot be made, analysis of data from the 2015 AEDC (Lamb et al., 2015) suggests that this may be an underestimate, with findings that approximately 13.5% of girls and 30.5% of boys are developmentally vulnerable or at risk in relation to measured 'Social competence'. Further findings 13.2% of girls and 30.4% of boys are developmentally

vulnerable or at risk in relation to measured 'Emotional maturity' presents as likely to exacerbate already evident social skill and behavioural difficulties.

The prevalence rates reported are significant, particularly for the high proportion of boys represented as at risk, as early behaviour problems in kindergarten and on beginning primary school remain relatively stable and, for a small but significant group of young children these behaviours are associated with adverse long term developmental outcomes (Anderson, 2015; Eivers et al., 2010). These include problems at school in terms of both adjustment and lack of academic success, and significant well-being and behavioural difficulties throughout the primary and secondary school years (Conti-Ramsden & Botting, 2004).

## Language

Comprehending the impact of language and other influences on the growth of social and emotional abilities and behaviours in children has ramifications for early year's education programs. A robust research basis for the relationship of language with social and behavioural issues is evident (Hartas, 2011) with high rates of concurrent language and challenging behaviour having been reported in young children (Lindsay, Dockrell & Strand, 2007). Importantly it has been clearly demonstrated the problems experienced by children with language and associated behavioural issues remain marked through the early years and into later childhood, adolescence and into adulthood (Conti-Ramsden & Botting, 2004). This may be critical to developing gender based transition programs given the most recent AEDC (2015) findings that approximately 14% of girls and 21 % of boys are developmentally vulnerable or at risk in relation to intellectual and language ability measures.

There are consistent findings in the literature of a relationship between children's language and social skills, as rated by both parents and teachers (Eivers et al, 2015; Hartas, 2011, 2012). In a study that analysed parent survey responses on measures of language, social and cognitive abilities in a cohort of 14,961 children significant associations between the vocabulary of children and the ratings by parents of challenging behaviour at ages three and five were found (Hartas, 2011). It was more probable that parents would rate their children as having behavioural issues if they had lower than average vocabulary. In line with earlier

studies (Dockrell, Lindsay, Palikara & Cullen, 2007; Pike et al., 2006), the parent rated expressive language skills of children at three years and at the beginning of school were not predictive of the ratings by parents at age five of prosocial behaviour or socio-emotional or behavioural, problems. However, as also concordant with other research (Lindsay et al., 2007) children's language was found to be "a strong predictor of teacher-rated child behaviour, suggesting that teacher views about children's language in the classroom are likely to influence their perception of children's behaviour" (Hartas, 2011, p. 88).

In Australian literature (see for example Berthelsen & Walker, 2009; Berthelsen, Nicholson & Walker, 2009) where data from the Longitudinal Study of Australian Children (LSAC) has been analysed, girls are consistently rated by teachers as achieving higher results than boys on language and literacy, behaviour and in their relationships with teachers. Consistent with this, children with enhanced early vocabulary and executive function have also been found to achieve better academic results than boys throughout primary school (McClelland, Acock, & Morrison, 2006).

## Comment

It is acknowledged that a broad range of factors that may influence transition outcomes related to gender have not been the main focus of this review. The quality and amount of preschool experiences (Sylva et al, 2004), the family background of children (Cooper, Osborne, Beck & McLanahan, 2011), biological dispositions, differential parenting practices and the influence of different social and cultural expectations for boys and girls (Gestsdottir et al., 2014) and a range of other factors have significant influences on children's adjustment to school and on-going academic and social success. These factors have previously received extensive examination and discussion throughout the literature (see for example CEIECE, 2008; Dockett Perry, 2007, 2010, 2013) and the information and analysis primarily of empirical research in this review needs to be considered in conjunction with these studies and reports.

As has been described, the successful adjustment of children in the initial years of school is of vital importance for their ongoing learning, and has ramifications for future

academic attainment, positive social outcomes and well-being. Children's language, social, emotional and behavioural competencies and executive function abilities are critically important in early school adjustment. The effects of these skills or lack of skills are integrated and multi-directional. That is, for example, deficits in language skills may impact self-regulation, executive function and behaviour which can further impact the development of social skills and impact on relationships with peers, teachers and learning.

Over the three waves of the AEDC – 2009, 2012, and 2015 - some changes have been noted on measures across the five domains of early childhood development. The proportion of children rated as developmentally vulnerable in the physical health and well-being domain has remained stable, has increased slightly in the social competence domain remained stable in the emotional maturity domain, decreased significantly in the language and cognitive skills domain and steadily decreased in the communication skills and communication domain (Lamb et al, 2016). Irrespective of improvements in the quality of early childhood programs and school transition programs since 2009, approximately 20% of children (one in five) will be developmentally vulnerable when they enter primary school each year with the greater proportion of these being boys. Overall, girls are less likely than boys to be vulnerable to language, social, emotional, and executive function difficulties. They are also more likely to exhibit more acceptable classroom behaviours, more positive approaches to learning and to develop better relationships with teachers than boys who have been found to be socially and emotionally vulnerable on entry to school. Transition programs need a particular focus on developing the social, emotional, behavioural and language skills of all children.

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