

Chapter 5

Intrapersonal and Interpersonal Influences on School Transition

Linda J. Harrison

5.1 Introduction

My research began with a focus on very young children's experience of child care and, subsequently, their transition year in kindergarten, the first year of formal schooling. For the most part, my research has been enacted through the design and analysis of large-scale longitudinal research studies, including the *Sydney Family Development Project* (Harrison et al. 2007), *Child Care Choices* (Bowes et al. 2009) and the *Longitudinal Study of Australian Children* (Harrison et al. 2009; Sanson et al. 2002). New directions in my research include the application of person-centred approaches to the analysis of data as a means of understanding school transition processes in the interpersonal domain. I am also interested in recent theorising in the field of human development (e.g. Belsky and Pluess 2009) and what this brings to the study of intrapersonal and interpersonal influences on transition.

5.2 Theoretical Perspectives

5.2.1 Bioecological Models of Transition

Bronfenbrenner (1979, 2005a) describes the context of development as an ecological system that directly or indirectly influences the person and development in context as an interactive process among the person, his or her proximal and distal contexts and time. The bioecological model posits direct and indirect systems, of which the “microsystem”—described as reciprocal interaction between the

L.J. Harrison (✉)
Charles Sturt University, Bathurst, Australia
e-mail: lharrison@csu.edu.au

child and his or her immediate environment—is the most direct. According to Bronfenbrenner (2005b, p. 6), interactions at the level of microsystems (proximal processes) are ‘the primary engines of development’. While acknowledging that both direct and indirect influences are relevant to a full understanding of children’s transitions, I am primarily interested in these proximal processes and the connections between the intrapersonal and interpersonal worlds of the school student.

Proximal processes are highlighted, for example, in Birch and Ladd’s (1996) early model of school adjustment, which illustrates the interplay between child characteristics (psychological, organismic, behavioural) and interpersonal relationships—their type (school and nonschool) and contribution (emotionally supportive or stressful)—in explaining children’s perceptions (e.g. school liking), affect (e.g. anxiety), involvement (e.g. engagement, school avoidance) and performance (e.g. achievement). Birch and Ladd’s (1996) model has informed the selection of measures in my studies of children’s development across prior-to-school and school transitions. For example, I have included child characteristics of temperament as a psychological factor, gender and communication impairment as organismic factors and externalising and internalising behaviours as behavioural factors. I have also included child–parent attachment and student-teacher relationships as nonschool and school types of interpersonal factors and considered the emotionally supportive or stressful effects of attachment security and student-teacher closeness and conflict.

My research has examined contemporaneous links among child characteristics, interpersonal relationships and adjustment components of transition processes, an approach described by Rimm-Kaufman and Pianta (2000, p. 498) as the Indirect Effects Model in which ‘child characteristics interact with contexts through a transactional process – the child is affected by his or her context and the context, to some degree, is affected by the characteristics of the child’. This model also examines links between contexts (e.g. home and school) but is limited by a focus on one point in time. Longitudinal studies, on the other hand, are able to examine these processes over time, through what Rimm-Kaufman and Pianta (2000, p. 499) refer to as the Dynamic Effects Model, or the Ecological and Dynamic Model of Transition. This model proposes that ‘child characteristics and contexts interact through a transactional process’ which over time forms ‘patterns and relationships that can be described not only as influences on children’s development, but also as outcomes in their own right’. My research has examined longitudinal patterns by investigating trajectories in interpersonal relationships between the student and teacher from prior-to-school and school transition into the primary school years. Relationship trajectories are both a contributor to children’s learning and wellbeing and an outcome of interpersonal and intrapersonal processes. Longitudinal research conducted in the United States (Hamre and Pianta 2001; Howes et al. 2000) and Australia (Bowes et al. 2009; Harrison and Ungerer 2006) has reported continuities in the characteristics of teacher-student relationships from children’s preschool and child care through to the end of primary school. Further to this, longitudinal analyses have identified patterns of stable, increasing and declining conflict and closeness in

teacher-student relationships that differentially affect academic achievement (Harrison et al. 2012; Spilt et al. 2012).

5.2.2 Transactional/Dual-Risk Models

Sameroff's (1983, 1995) transactional model of child development proposes that individual vulnerabilities, which may be genetic, psychological or organismic, predispose children to be more adversely affected by environmental stressors. This model of dual or cumulative risk underpins many early intervention/compensatory programmes in early childhood, which aim to provide intensive, high-quality education and parent support for disadvantaged or "at risk" children. The expectation, and evidence, is that appropriate preventative intervention, through improving competence and promoting protective factors in the family (Greenberg 2006) or at school (Hamre and Pianta 2005), can tip the balance towards school success rather than failure. My work aligns with this approach to the extent that I am interested in the layering of risk (or protectiveness) that may occur during school transition via the interaction of child intrapersonal characteristics, such as temperament, and interpersonal relationships, particularly child-parent and teacher-student. Both domains, intrapersonal and interpersonal, have been shown to influence children's experiences during the transition and adaptation to school, but for the most part, they have been investigated separately.

5.2.2.1 Interpersonal Relationships

Attachment theory proposes that children's earliest relationships are formed through the day-to-day interactions that infants have with their parents, siblings, close relatives and regular child care providers. These relationships provide the child with the emotional security and confidence they need to venture into novel territory, to explore the world of objects and to engage socially with others. Three components of dyadic attachment relationships—emotion regulation, secure base behaviour and affective sharing—are thought to lay the foundation for individual development of self-regulation, self-awareness, self-reliance, autonomy and cognitive growth (Sroufe 1996). All three are important abilities for children's transition to the early years of school. Additionally, attachment theory posits that these early relationships provide a blueprint for the formation of future close relationships, including student-teacher relationships in kindergarten (Howes et al. 2000; Pianta et al. 1997). A significant international body of research has shown that insecurity, conflict and relational negativity in teacher-student relationships are associated with difficulties in school adjustment (Ahnert et al. 2006; Hamre and Pianta 2005; Harrison et al. 2007). In contrast, close teacher-child relationships can have a protective function during the stress of transition (Thyssen 2000).

5.2.2.2 Intrapersonal Qualities

Temperament is defined broadly as ‘constitutionally based differences in behavioural style that are visible from the child’s earliest years’ (Sanson et al. 2004, p. 143). Temperament is demonstrated through three broad domains: reactivity/negative emotionality (irritability, negative mood, high-intensity negative reactions), self-regulation (persistence, non-distractibility, self-soothing) and approach-withdrawal/inhibition-sociability. Of these, attention regulation, particularly persistence, is most strongly associated with enhanced school functioning (Sanson et al. 2004). However, reactivity/negative emotionality has also been linked to poorer outcomes for school performance, social behaviour and externalising/internalising problems in 3rd grade (Nelson et al. 1999) and for literacy and numeracy in kindergarten (Coplan et al. 1999). Only a small number of studies have examined the influences of temperament on children’s response to transition. Ahnert et al. (2004) studied changes in diurnal cortisol patterns, fussing/crying and child-mother attachment security during toddlers’ transition to centre-based child care in relation to child sex and temperament and the time mothers spent with their child before separation. They found that differences in transition experiences were not affected by temperament. Results for similar psychobiological studies using cortisol as a biomarker for children’s experience of stress over the period of school transition have been mixed. Findings indicate a universal stress response: ‘all children showed a healthy increase in cortisol levels’ (Turner-Cobb et al. 2008, p. 387), which was evident ‘on all school days compared to nonschool days’ across the first term of school (Russ et al. 2012, p. 470). Russ and colleagues explain this finding as follows: ‘in line with a repeated preparatory/reactive stress response, perhaps serving to equip the child for coping with the continual demands inherent in the school/peer environment’ (p. 470). For the children with greater temperament vulnerability, school transition was associated with higher cortisol response at school (Turner-Cobb et al. 2008) and an extended period of elevated cortisol into the evening (Russ et al. 2012), suggesting that transition was a more challenging experience for these children.

5.2.3 *Diathesis-Stress Theory and Differential Susceptibility Theory*

Temperament is, at least in part, genetically/biologically determined, and for this reason some research into the potential risks associated with difficult temperament has drawn on diathesis-stress theory, which posits that children who have a genetic predisposition to vulnerability (diathesis) and are exposed to difficult environments (stress) are at risk for poorer outcomes. Diathesis-stress theory can be likened to Sameroff’s transactional, cumulative risk model. For example, Blair (2002, p. 120) has shown that temperamentally difficult, ‘emotionally reactive children in unsupportive environments are likely at a high risk for ... poor school readiness’. The focus of diathesis-stress theory on vulnerability and

compensation, some argue, limits understandings of children's experiences to the negative effects of intrapersonal or interpersonal adversity, at the expense of possible positive effects (Belsky and Pluess 2009). Differential susceptibility theory, in contrast, distinguishes between 'vulnerability', which is inherently linked to adversity and risk, and 'heightened susceptibility' which can be linked to positive and negative influences (Belsky et al. 2007, p. 301). Differential susceptibility theory proposes that 'some children ... will be more susceptible than others to both the adverse and beneficial effects of, respectively, unsupportive and supportive contextual conditions' (Belsky and Pluess 2009, p. 886). Further, it suggests that vulnerable individuals 'most adversely affected by many kinds of stressors may be the very same ones who reap the most benefit from environmental support and enrichment, including the absence of adversity' (p. 886). A differential susceptibility model of development suggests not just dual risk but dual gain, demonstrated by 'a crossover interaction' between the moderator (heightened susceptibility) and 'the negative and positive aspects of the environment' (p. 888). For example, Kochanska et al. (2007) reported that toddlers with more difficult temperaments (high on fearfulness) were more affected by both negative (power assertion) and positive (supportive) parenting practices than their temperamentally less difficult peers.

Whilst there is a growing body of research conducted in the home, or with parents, that supports the differential susceptibility thesis (Belsky et al. 2007; Belsky and Pluess 2009), fewer studies have examined evidence for this theory in out-of-home environments. Those that have focus in the main on child care settings, where quality of care is conceptualised as either a negative (low-quality) or a positive (high-quality) influence. These studies have shown mixed support for a differential susceptibility explanation. For example, Volling and Feagans (1995) found that children's nonsocial play activity was predicted by quality of child care in highly fearful children, but not low-fear children. Similarly, Pluess and Belsky (2009) showed that teacher-rated behaviour problems in kindergarten were higher when the quality of child care attended was lower, and lower when quality was higher, for children with difficult temperaments, but not for children with easy temperaments. De Schipper et al. (2004), in an examination of behaviour problems in day care in relation to difficult temperament and the experience of multiple child care arrangements, found that attending several parallel care arrangements interfered with children's adaptation to day-care settings for children who showed more irritable distress, but not for children with low levels of irritable distress. However, the interaction between temperament difficulty and multiple care was only evident for child internalising problems, not for externalising or general wellbeing in day care. A further study, designed to test the links between temperamental irritability and caregivers' sensitive interaction in day care as a predictor of child-carer attachment, found no support for the expectation of differential susceptibility (de Schipper et al. 2008).

A comparative analysis of the effectiveness of diathesis-stress versus differential susceptibility models has been applied to an examination of the long-term outcomes of high- and low-quality child care for children with and without difficult temperament (Belsky and Pluess 2012). Using adolescents' self-ratings of

externalising problems as the outcome measure, results showed that problems were highest for the children with more difficult temperaments who had received low-quality child care in the years prior to starting school; however, there was no evidence that these children had received greater benefit from attending higher-quality care. Belsky and Pluess (2012) conclude that these ‘results prove more consistent with a diathesis-stress model of environmental action than a differential-susceptibility-related one’ (p. 2).

Taking the work of Belsky and Pluess (2009, 2012) and others into account, there is clear evidence that some children are temperamentally more susceptible than others to the negative influence of poor-quality environments and some evidence that they may also be more susceptible to positive influences. Children’s school transition will not only be differentially affected by individual temperament but also by the developmental history each child brings to their transition. Australian research has shown that temperament characteristics contribute to children’s interpersonal experiences in prior-to-school (Bowes et al. 2009) and school settings (Murray 2008). Children with more difficult temperaments as toddlers were rated by their preschool teachers as being less prosocial with peers and having a less close relationship with the teacher (Bowes et al. 2009). At school age, children rated by their parents as being more temperamentally difficult were less likely to share their feelings with the teacher and more likely to experience conflict in the teacher-student relationship (Murray 2008).

5.3 Implications for Practice and Research

5.3.1 Research Design

Researching within the theoretical frameworks of bioecological, transactional, diathesis-stress and differential susceptibility models begins with the assumption that individual development is a two-way process that occurs within and is influenced by the wider environments of home, child care, early education, school and community. The implication is that research designs must take account of these contexts by including appropriate measures of family circumstances, including levels of stress or support; children’s prior-to-school child care or preschool experience, including levels of quality; and current features of the school classroom, including teacher-student relationships. All of these are likely to have direct or indirect influence on children’s experience of school transition and, when included in large-scale studies (sample size > 100) using statistical analysis techniques for modelling complex interactions amongst influencing factors, are able to explain children’s different outcomes and developmental pathways through school. *The Child Care Choices* (CCC) study, for example, which collected data on a sample of over 400 children annually for a period of 7 years, assessed the combined effects of 38 distinct variables, including longitudinal indicators of social-emotional characteristics and

cognitive abilities, child care experience and carer-child relationship closeness and conflict, as predictors of children's learning, behaviour and attitudes in the year before starting school and at the end of the first year of school (Bowes et al. 2009). A similar approach has been taken in the *Longitudinal Study of Australian Children* (LSAC) (Harrison et al. 2009), which is following 5,000 babies and 5,000 4–5-year-old children over a period of 16 years. Data collection includes biennial assessments of family functioning and parenting, children's education and child care experiences and outcomes for child health, learning and socio-emotional development. As well as including a broad range of domains, the CCC and LSAC studies also tap different perspectives, by including children as well as parents and teachers as respondents. From age 5 to age 6, children were asked to report how they felt about school, their teachers and peers. The large-scale, longitudinal nature of these and other such studies makes it possible for researchers to examine different pathways of development, prior to, during and after children's school transition. For example, by analysing teachers' ratings of relationship closeness and conflict with the LSAC study children at ages 4–5, 6–7 and 8–9 years, Harrison et al. (2012) were able to identify normative/adaptive and less adaptive trajectories over time. A pattern of teacher-child interpersonal difficulty, characterised by either consistently high levels of conflict or increasing levels, was found to predict poorer literacy and numeracy achievement at age 10–11 compared to the normative pattern of consistently low teacher-student conflict. The theoretical frameworks discussed in this chapter also rely on the inclusion of indicators of individual characteristics, measuring the intrapersonal domain. Diathesis-stress and differential susceptibility models need to include a marker of vulnerability or heightened susceptibility, such as a difficult or negative temperament, described by high reactivity, irritability or fearfulness. In studying differential responses to school transition, it is important therefore to include a measure that captures difficult temperament. Studies have drawn on parent-reported child temperament, observations of childhood inhibition and child self-report questionnaires, as well as parent self-reports of their own temperament as a genetic marker for intrapersonal disorders such as social phobia.

5.3.2 Practice: What Works for Whom?

Recent theorising asserts that 'differential susceptibility is a new way to address the perennial issue of what works for whom' (van IJzendoorn and Bakermans-Kranenburg 2012, p. 773). Research with children in prior-to-school settings has shown that more fearful children are more susceptible to caregiver stress than less fearful children: specifically, child wellbeing in child care was lower when caregivers were more stressed and higher when caregivers were less stressed, but only for the temperamentally susceptible children (Groeneveld et al. 2012). Children with a relatively easy temperament were less affected by caregiver stress. Extrapolating these findings to school transition suggests that children who are more temperamentally reactive, fearful or socially anxious will benefit

the most from low stress, supportive classrooms and suffer the most from high-stress classrooms. Teachers, parents and schools need to appreciate that classroom climate and teachers' interpersonal availability are particularly important for children with a difficult temperament.

Classroom research has yet to be carried out to investigate the interaction between temperament characteristics and features of the classroom environment on children's transition to school. The challenge is to frame such research within a model that effectively sets out and assesses the processes that might be expected from differential susceptibility or diathesis-stress theory.

5.4 Challenges and Issues

5.4.1 *Measurement: Types, Sources and Timing of Data Collection*

Large-scale studies tend to cover a wide range of constructs but are often restricted in the depth and breadth of what can be measured. *The Longitudinal Study of Australian Children*, for example, relies primarily on questionnaire-type measures with "closed" response options. Observation and other in-depth sources of data collection are not possible for such a large and dispersed sample. The logistics of this national study also require that each wave of data collection extends for most of a year. This has meant, for example, that families could have been asked to report on their child's first experiences of school many months after starting school. For this reason, LSAC tends to include general measures of school adjustment and achievement, rather than specific measures that tap time-definite events.

Longitudinal studies of children's development are able to gather information on temperament characteristics in infancy or at an early age. Parents are acknowledged as the best source of information on child temperament (Sanson et al. 2004). However, there is some evidence that mothers' ratings of the child's behavioural characteristics tend to reflect not only the child's unique temperament but also their own intrapersonal qualities. For example, Pesonen et al. (2008) found that maternal mental health was moderately correlated with ratings of infant temperament and that these maternal and infant characteristics together predicted child temperamental negativity, extraversion and effortful control 5 years later. This and other longitudinal studies raise questions about the continuity or stability of child temperament over time, as well as the environmental influences that contribute to changes in temperament. A challenge for the researcher, therefore, is when to measure temperament and how best to model it in longitudinal analyses. The potential for overlap in measures assessed concurrently is an issue, especially as the "lines" between temperament characteristics and the social behaviours that are of interest in studies of school transition (e.g. feelings/attitudes towards peers and adults, parent-child relations, adjustment) 'are often blurred' (Sanson et al. 2004, p. 145). Alternately, whilst longitudinal studies can test the predictive validity of early indicators of

temperament, such an approach ignores the ‘changes (that) might be stimulated by changes in the child’s environment’ (Sanson et al. 2004, p. 160), as when the child enters a new kindergarten class at school transition.

Interpersonal relationships pose another measurement challenge in large-scale, longitudinal research. While studies of children’s transition to child care have a history of using observational measures of child-teacher interaction and relationships (e.g. Ahnert et al. 2004; de Schipper et al. 2008; Howes et al. 2000; Pianta et al. 1997), studies of school transition/adjustment have tended to rely on teachers as the primary source of data on student-teacher relationships (e.g. Bowes et al. 2009; Hamre and Pianta 2001; Howes et al. 2000). In the few studies that have included children’s perspectives on relationship quality, for example, via child-teacher drawings (Harrison et al. 2007) or rating scales assessing children’s feelings about the teacher (Valeski and Stipek 2001), teacher support (Mantzicopoulos and Neuharth-Pritchett 2003) or teacher acceptance (Harrison et al. 2007), results show relatively weak ($r < .30$) correlations with teachers’ ratings. There is clearly some overlap between children’s and teachers’ perspectives on the interpersonal dynamics of teacher-student interactions in the classroom but also some differences. It is important, therefore, that researchers include student-generated data as well as teacher reports when assessing student-teacher relationships or the supportiveness of the classroom environment.

5.4.2 Analysis Techniques: Variable-Centred Dimensions Versus Person-Centred Prototypes

Approaches to data analysis in large-scale research studies of school transition or school adjustment have tended to employ regression analyses which rely on correlational associations between variable-centred dimensions, both as predictors and as outcomes. These dimensions are typically measured on a linear scale from higher to lower, for example, of ratings of introversion problems or teacher-student relationship closeness, or scores on a test of receptive vocabulary. In contrast, person-centred studies employ cluster analysis, latent class analysis or other techniques to generate relatively homogeneous subgroups, or prototypes, of people who have similar profiles on a selected set of variables or repeated measures of a single variable. In my own research, person-centred techniques have identified different longitudinal patterns of student-teacher relationships and shown that patterns of increasing conflict with teachers from age 4–5 to age 8–9 predicted poorer academic achievement (Harrison et al. 2012). In other work, studying children’s school transition year, cluster analysis was used to combine three dimensions of student-teacher relationship (closeness, conflict and dependency) to identify four distinct relationship profiles. Two of these, typified by low closeness and either conflict or independence, were associated with poorer learning and social skills at school (Harrison 2012). In the application of research to practice, it may be that such typologies or prototypes are more meaningful for teachers, who are able to “recognise” similar patterns in their classrooms.

5.5 Future Directions

5.5.1 *International Policy Directions in School Transition*

Recent research in Australia, the United States, Canada and the United Kingdom (Bowes et al. 2009; Bradbury et al. 2011; Claessens 2009; Duncan et al. 2007) points to a growing recognition of the importance of the early years by governments and public policy makers. The political focus on ensuring that children enter school “ready to learn” is translated in large-scale international studies into a search for the prior-to-school and school entry predictors that differentiate children’s subsequent achievement at school. In essence, this approach aims to identify pathways in children’s learning and development from preschool to school and through their primary school years. For example, Duncan et al. (2007) identified key dimensions of children’s school entry “readiness to learn” as general cognitive ability (e.g. oral language), basic skills in mathematics and literacy (e.g. number/letter recognition), attention-related skills (e.g. task persistence, self-regulation, impulsivity) and socio-emotional skills and behaviours (e.g. internalising and externalising behaviours). These were tested for their predictive significance on academic achievement in primary school in six different longitudinal studies from three countries. After accounting for child, family and contextual influences, the results showed a general pattern of ‘relatively strong prediction from school-entry reading and math skills, moderate predictive power for attention skills, and few to no statistically significant coefficients on socio-emotional behaviors’ (Duncan et al. 2007, p. 1437). Similar results were also identified by Claessens (2009) in her analysis of three waves (from age 4–5 to 8–9 years) of the LSAC dataset: school achievement in early and middle primary school was predicted by children’s cognitive skills, academic skills (particularly early numeracy) and hyperactivity/inattention at age 4–5 years. The results from these and other similar studies have provided the “evidence” for policies focusing on improving school readiness, particularly for disadvantaged or “at risk” children, through government-funded prekindergarten or preschool programmes (reviewed in Harrison et al. 2011). The assumption that a “school ready” child, with competencies in early reading and numeracy, will succeed at school positions the child as in some way ‘responsible for their own success or failure’ (Dockett and Perry 2004, p. 172) and fails to account for the complexities of school transition.

5.5.2 *Continuities in School Transition*

The Child Care Choices study examined children’s academic competencies and approaches to learning in early childhood education and care (ECEC) settings in the year before starting school and again in the first year of school. The set of predictors included child and family characteristics, as well as features of children’s ECEC experience. At both time points, children’s abilities in literacy and numeracy

were predicted by numeracy skills and behavioural difficulties in their ECEC settings at age 3–4. Children with higher ratings on aggressive social interaction had lower scores for academic ability (Bowes et al. 2009). Socio-emotional adjustment, in ECEC and at school, including prosocial behaviour, socio-emotional difficulties, teacher-child relationship and child-reported feelings about school, was also predicted by children's earlier behavioural difficulties as well as by relationships with caregivers. In this study, not only were early signs of intrapersonal and interpersonal difficulties continuous with later difficulties at school transition, but early problem behaviour was a predictor of academic progress across the 2-year transition from prior-to-school ECEC to school. These findings echo earlier reports from a national survey of kindergarten teachers in the United States whose predominant concern in regard to the essentials of being ready to start school was about 'regulatory aspects of children's behavior' (reviewed in Blair 2002, p. 112). Self-regulation ability aligns with temperamental qualities of persistence, non-distractibility and being able to cope when faced with difficult social situations. These qualities are also connected with and supported by more positive relationships with teachers. Interpersonal connection between children and their adult carers/teachers was also found to have continuity from children's earliest experience of child care through to the first year of school (Bowes et al. 2009). Attending to the intrapersonal and interpersonal in children's earliest, and all subsequent, experiences of education and care, including at school, is therefore an essential requirement for a positive and effective school transition.

References

- Ahnert, L., Gunnar, M. R., Lamb, M. E., & Barthel, M. (2004). Transition to child care: Associations with infant-mother attachment, infant negative emotion, and cortisol elevations. *Child Development, 75*(3), 639–650.
- Ahnert, L., Pinquart, M., & Lamb, M. E. (2006). Security of children's relationships with non-parental caregivers: A meta-analysis. *Child Development, 77*(3), 664–679.
- Belsky, J., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2007). For better and for worse: Differential susceptibility to environmental influences. *Current Directions in Psychological Science, 16*(6), 300–304.
- Belsky, J., & Pluess, M. (2009). Beyond diathesis stress: Differential susceptibility to environmental influences. *Psychological Bulletin, 135*(6), 885–908.
- Belsky, J., & Pluess, M. (2012). Differential susceptibility to long-term effects of quality of child care on externalizing behaviour in adolescence. *International Journal of Behavioral Development, 36*(1), 2–10.
- Birch, S. H., & Ladd, G. (1996). Interpersonal relationships in the school environment and children's early school adjustment: The role of teachers and peers. In J. Juvonen & K. R. Wentzel (Eds.), *Social motivation. Understanding children's school adjustment* (pp. 199–225). Cambridge, UK: Cambridge University Press.
- Blair, C. (2002). School readiness. Integrating cognition and emotion in a neurobiological conceptualisation of children's functioning at school entry. *American Psychologist, 57*(2), 111–127.
- Bowes, J., Harrison, L. J., Sweller, N., Taylor, A., & Neilsen-Hewitt, C. (2009). *From child care to school. Influences on children's adjustment and achievement in the year before school and the*

- first year of school. Findings from the Child Care Choices Longitudinal Extension Study.* NSW Department of Community Services. http://www.community.nsw.gov.au/docswr/_assets/main/documents/research_childcare_school.pdf. Accessed 1 Aug 2012.
- Bradbury, B., Corak, M., Waldfogal, J., & Washbrook, E. (2011). *Inequality during the early years: Child outcomes and readiness to learn in Australia, Canada, United Kingdom, and United States.* IZA Discussion Paper No. 6120. Social Science Research Network. <http://ssrn.com/abstract=1965137>. Accessed 15 July 2012.
- Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (2005a). Ecological systems theory. In U. Bronfenbrenner (Ed.), *Making human beings human: Bioecological perspectives on human development* (pp. 106–173). Thousand Oaks: Sage.
- Bronfenbrenner, U. (2005b). The bioecological theory of human development. In U. Bronfenbrenner (Ed.), *Making human beings human. Bioecological perspectives on human development* (pp. 3–15). Thousand Oaks: Sage.
- Claessens, A. (2009, December). *School readiness and achievement in middle childhood.* Paper presented at the 2nd Growing Up in Australia: Longitudinal Study of Australian Children (LSAC) Research Conference, Melbourne.
- Coplan, R. J., Barber, A. M., & Gagne-Seguin, D. G. (1999). The role of child temperament as a predictor of early literacy and numeracy skills in preschoolers. *Early Childhood Research Quarterly*, 14(4), 537–553.
- de Schipper, C., Tavecchio, L. W. C., & van IJzendoorn, M. H. (2008). Children's attachment relationships with day care caregivers: Associations with positive caregiving and child's temperament. *Social Development*, 17(3), 454–470.
- de Schipper, C., Tavecchio, L. W. C., van IJzendoorn, M. H., & van Zeijl, J. (2004). Goodness-of-fit in centre day care: Relations of temperament, stability and quality of care with the child's adjustment. *Early Childhood Research Quarterly*, 19(2), 257–272.
- Dockett, S., & Perry, B. (2004). Starting school. Perspectives of Australian children, parents and educators. *Journal of Early Childhood Research*, 2(2), 171–189.
- Duncan, G. J., Dowsett, C. J., Claessens, A., Magnuson, K., Huston, A. C., Klebanov, P., Pagani, L., Feinstein, L., Engel, M., Brooks-Gunn, J., Sexton, H., Duckworth, K., & Jape, C. (2007). School readiness and later achievement. *Developmental Psychology*, 43(6), 1428–1446.
- Greenberg, M. T. (2006). Promoting resilience in children and youth. Preventative interventions and their interface with neuroscience. *Annals of the New York Academy of Sciences*, 1094(1), 139–150.
- Groeneveld, M. G., Vermeer, H. J., van IJzendoorn, M. H., & Linting, M. (2012). Stress, cortisol and well-being of caregivers and children in home-based child care: A case for differential susceptibility. *Child Care, Health and Development*, 38(2), 251–260.
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72(2), 625–638.
- Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development*, 76(5), 949–967.
- Harrison, L. J. (2012, April). *Teacher-student relationship profiles in Australian children.* Paper presented in the symposium, Teacher-child relationships from an attachment perspective. International Conference on Interpersonal Relationships in Education, Vancouver.
- Harrison, L. J., & Ungerer, J. A. (2006, July). *Child and teacher perspectives on their relationship with each other: Concurrent and longitudinal relations.* Paper presented in the symposium, Gender differences in child-teacher relations and school adjustment, Biennial meetings of the International Society for the Study of Behavioral Development, Melbourne.
- Harrison, L., Clarke, L., & Ungerer, J. (2007). Children's drawings provide a new perspective on linkages between teacher-child relationship quality and school adjustment. *Early Childhood Research Quarterly*, 22(1), 55–71.

- Harrison, L. J., Ungerer, J. A., Smith, G. J., Zubrick, S. R., & Wise, S., with Press, F., Waniganayake, M. and the LSAC Research Consortium. (2009). *Child care and early education in Australia. The Longitudinal Study of Australian Children. Social Policy Research Paper No. 40*. Canberra: Australian Government Department of Families, Housing, Community Services and Indigenous Affairs. http://www.fahcsia.gov.au/sites/default/files/documents/05_2012/sprp_40.pdf. Accessed 14 May 2012.
- Harrison, L., Sumsion, J., Press, F., Wong, S., Fordham, L., & Goodfellow, J. (2011). *A shared early childhood development research agenda: Key research gaps 2010–2015*. Research report commissioned by the Australian Research Alliance for Children and Youth for the Australian Government Department of Education, Employment and Workplace Relations. <http://www.deewr.gov.au/Earlychildhood/Resources/Documents/ASharedECDResearchAgenda.pdf>. Accessed 12 July 2012.
- Harrison, L. J., Spilt, J. L., & Walker, S. (2012, July). *Trajectories of teacher-student relationships to age 8 years and achievement in literacy and numeracy in a nationally representative study of Australian 4–5 year olds*. Paper presented in Symposium 80: Stability and change in teacher-student relationships at school transition and through the elementary school years. Biennial meetings of the International Society for the Study of Behavioral Development, Edmonton.
- Howes, C., Phillipsen, L. C., & Peisner-Feinberg, E. (2000). The consistency of perceived teacher-child relationships between preschool and kindergarten. *Journal of School Psychology, 38*(2), 113–132.
- Kochanska, G., Aksan, N., & Joy, M. E. (2007). Children's fearfulness as a moderator of parenting in early socialization. *Developmental Psychology, 43*(1), 222–237.
- Mantzicopoulos, P., & Neuharth-Pritchett, S. (2003). Development and validation of a measure to assess Head Start children's appraisals of teacher support. *Journal of School Psychology, 41*(6), 431–451.
- Murray, E. (2008). *Children's perspectives on the first year of school: Adjusting to the personal, interpersonal and institutional aspects of school*. Unpublished dissertation. Charles Sturt University.
- Nelson, B., Martin, R. P., Hodge, S., Havill, V., & Kamphaus, R. (1999). Modeling the prediction of elementary school adjustment from preschool temperament. *Personality and Individual Differences, 26*(4), 687–700.
- Pesonen, A.-K., Räikkönen, K., Heinonen, K., Komsu, N., Järvenpää, A.-L., & Strandberg, T. (2008). A transactional model of temperamental development: Evidence of a relationship between child temperament and maternal stress over five years. *Social Development, 17*(2), 326–340.
- Pianta, R. C., Nimetz, S. L., & Bennet, E. (1997). Mother-child relationships, teacher-child relationships, and school outcomes in preschool and kindergarten. *Early Childhood Research Quarterly, 12*(3), 263–280.
- Pluess, M., & Belsky, J. (2009). Differential susceptibility to parenting and quality child care. *Developmental Psychology, 46*(2), 379–390.
- Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An ecological perspective on the transition to kindergarten: A theoretical framework to guide empirical research. *Journal of Applied Developmental Psychology, 21*, 491–511.
- Russ, S. J., Herbert, J., Cooper, P., Gunnar, M. R., Goodyer, I., Croudace, T., & Murray, L. (2012). Cortisol levels in response to starting school in children at increased risk for school phobia. *Psychoneuroendocrinology, 37*(4), 462–474.
- Sameroff, A. J. (1983). Developmental systems: Contexts and evolution. In P. Mussen (Ed.), *Handbook of child psychology* (Vol. 1, pp. 237–294). New York: Wiley.
- Sameroff, A. J. (1995). General systems theories and psychopathology. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology* (Vol. 1, pp. 659–695). New York: Wiley.
- Sanson, A., Nicholson, J., Ungerer, J., Zubrick, S., Wilson, K., Ainley, J., Berthelson, D., Bittman, M., Broom, D., Harrison, L. J., Rodgers, B., Sawyer, M., Silburn, S., Strazdins, L., Vimpani, G., & Wake, M. (2002). *Introducing the longitudinal study of Australian children. LSAC Discussion Paper No. 1*. Melbourne: Australian Institute of Family Studies. <http://www.growingupinaustralia.gov.au/pubs/discussion/dp1/discussionpaper1.pdf>. Accessed 12 June 2012.

- Sanson, A., Hemphill, S. A., & Smart, D. (2004). Connections between temperament and social development: A review. *Social Development, 13*(1), 142–170.
- Spilt, J. L., Hughes, J. N., Wu, J.-Y., & Kwok, O.-M. (2012). Dynamics of teacher-student relationships: Stability and change across elementary school and the influence on children's academic success. *Child Development, 83*(4), 1180–1195.
- Sroufe, L. A. (1996). *Emotional development: The organization of emotional life in the early years*. Cambridge, UK: Cambridge University Press.
- Thyssen, S. (2000). The child's start in day care centre. *Early Child Development and Care, 161*(1), 33–46.
- Turner-Cobb, J. M., Rixon, L., & Jessop, D. S. (2008). A prospective study of diurnal cortisol responses to the social experience of school transition in four-year-old children: Anticipation, exposure, and adaptation. *Developmental Psychobiology, 50*(4), 377–389.
- Valeski, T. N., & Stipek, D. J. (2001). Young children's feelings about school. *Child Development, 72*(4), 1198–1213.
- van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2012). Differential susceptibility experiments: Going beyond correlational evidence: Comment on beyond mental health, differential susceptibility articles. *Developmental Psychology, 48*(3), 769–774.
- Volling, B. L., & Feagans, L. V. (1995). Infant day care and children's social competence. *Infant Behavior and Development, 18*, 177–188.