

SCHOOL READINESS

School Transitions/School Readiness: An Outcome of Early Childhood Development ~ Perspective: Children's Social and Scholastic Development — Findings from the Pathways Project

Gary W. Ladd, PhD

Arizona State University, USA

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Introduction

The Pathways Project is an ongoing longitudinal study funded by the National Institutes of Health that was designed to expand our understanding of child, family, school and peer factors that influence children's progress and adjustment as they begin kindergarten at age five. Also of interest is the potential effect that early-established trajectories (i.e. "pathways") have on children's psychological, social and scholastic adjustment as they progress through the

elementary, junior high and high school years. The Project began in 1992 and, to date, we have followed the same children and families for over 10 years. We gather data on children's adjustment and progress every school year, and follow them (and their families) wherever they may move. Currently, the families and children who are participating in this project reside in 27 states within the USA.

Subject

Although the Pathways Project has many goals, one important objective (see others below) is to better understand how child, family, peer and school characteristics affect the attitudes children develop toward school and the level of participation children pursue in the classroom (e.g. engagement in academic and social tasks in the classroom; initiative toward schoolwork). The aims of this project are consistent with nationally recognized initiatives in the areas of school readiness, preventive education and the assessment of children's educational progress. Early findings from the Pathways Project have been reported in scientific journals and the national and international news media.

Problems

We began by studying the earliest level of formal schooling to understand how children cope with the transition to kindergarten, and to identify factors that may place children on "pathways" toward successful or unsuccessful social, psychological and school

adjustment. We are also interested in understanding how early developments in children's school careers shape their progress and success in later grades. Most recently, we have begun to investigate aspects of the child, family, peer and school contexts that may aid children during the transition to junior high and high school. Throughout the project, our work has been guided by key questions, such as "Can we understand what enables children to adapt to new challenges and succeed in school? What factors promote or interfere with children's success in school?" It is our goal to address these questions with findings that benefit parents, teachers and school administrators.

Research Context

Our primary research contexts are the school, the family and children's peer groups. We are exploring a number of factors that may affect children's success in school and life, including

attributes of the child, family, peer group, classroom and school. Our view is that each child has many attributes that they “bring” to school including gender, age, aptitude, language and prior experiences, all of which may affect the way they approach their classmates, teachers and the school environment. Included among these are specific child dispositions and social skills that are often manifest as attributes such as independence or autonomy, curiosity, aggressiveness, kindness and other forms of prosocial behaviour. We also consider that each of the child’s responses to school is affected by the type of support they receive from family, peers, teachers and others. And we recognize that children have varying instructional needs, and their ability to profit from school depends on the types of instructional settings they encounter as they move from home to school and from grade to grade. In the Pathways Project, we are interested in all of these factors and contexts, and are investigating them during each year of the study.

Key Research Questions

Although we are investigating many areas of children’s development, one of our guiding premises is that school adjustment depends on more than just the “obvious” or “known” predictors, such as children’s intellectual aptitude, language skills, family backgrounds and so on. These factors are important, but especially among younger children, we think that they do not tell the whole story about what leads children toward healthy social, psychological and scholastic adjustment in the school context. For example, our view is that there are complex chains or sequences of factors that affect how children achieve in school. First, how children act toward their classmates, and how children are treated by their classmates, may have an important bearing on the relationships they develop in the classroom. Behaviours such as whether children work or play among classmates in a manner that is active or passive, cooperative or argumentative, helpful or demanding, may have important consequences for children’s relationships with peers and teachers. Second, once relationships with teachers and classmates have formed, the quality of these relationships may affect how much children engage and participate in the school environment. Finally, we think that classroom participation and positive school attitudes are important early predictors of achievement - children who like school and participate more actively in classroom activities show much higher gains in achievement than do children who dislike school and evidence low levels of participation. Our definition of success in school is very straightforward, and encompasses several aspects of children’s school adjustment. A child can be seen as successful in school when she or he: (a) develops positive attitudes and feelings about school and learning, (b) establishes supportive social ties with teachers and classmates, (c) feels comfortable

and relatively happy in the classroom rather than anxious, lonely or upset, (d) is interested and motivated to learn and take part in classroom activities (participation, engagement), and (e) achieves and progresses academically each school year.

Recent Research Results

The following is a summary of five guiding premises and associated project discoveries:

Premise 1. The early behavioural dispositions that children manifest in school antecede their psychological and school adjustment in this setting.

Although aggression and anxious-withdrawal are “known” risk factors for dysfunction,^{1,2} they have not been investigated prospectively in school contexts from early childhood through adolescence, or differentiated as antecedents of children’s psychological and school adjustment. Thus, a continuing aim has been to examine the presence, co-occurrence and stability of these dispositions, and the links between these propensities and children’s adjustment.

Exemplary discoveries

Our findings show that aggressive dispositions were moderately stable from kindergarten to grade 6 (e.g., .56), whereas anxious- withdrawn behaviour was not stable until grades 2 (.36) and 3 (.51).^{3,4} The percentages of children in a community sample ($n= 2775$) that could be classified into distinct risk groups were: 15% aggressive; 12% anxious-withdrawn, and 8.5% aggressive-withdrawn (comorbid).⁵ Predictive analyses showed that aggressive children who exceeded a risk criterion in kindergarten exhibited increases in psychological and school maladjustment two years later.⁶ Anxious-withdrawn dispositions predicted early and later increases in internalizing problems.⁵ Overall, the findings corroborate the premise that aggression and anxious-withdrawal are risks for later maladjustment.

Premise 2. The nature of the relationships that children form with classroom peers antecedes their psychological/ school adjustment.

Few have examined the adaptive significance of the multiple forms of relationship children participate in simultaneously in classrooms. This premise was examined by investigating the stability of children’s classroom relationships, as well as concurrent and longitudinal links with psychological and school adjustment, and the extent to which different relationships were distinctly versus contingently predictive of specific forms of adjustment. Except for victimization, the types of relationships children formed in kindergarten were moderately stable to grade 6 (e.g. peer acceptance, .47; peer rejection, .37; mutual friendships, .30).^{4,6-8} From K to grade 1, peer rejection predicted lower psychological and school adjustment, whereas peer acceptance and

friendship predicted better adjustment in both domains.⁵ The premise that relationships differentially contribute to adjustment was examined by investigating links between participation in different types of peer relationships and changes in children’s adjustment.⁹ Victimization, for example, more than other relationships, forecasted decrements in emotional adjustment that were not predictable from other forms of relationships. Peer acceptance was uniquely linked with gains in children’s class participation and achievement. Overall, results corroborated the inference that adjustment is affected by the diverse experiences children encounter in different peer relationships, and that certain relationships have greater adaptive significance depending on the type of adjustment examined.

Premise 3. There are predictable links between early behavioural dispositions and the types of relationships children form in classrooms.

To investigate this premise, we observed children’s behaviour as they began school with unfamiliar peers, and assessed their emergent peer relationships over a two- to five-year period. It was hypothesized that aggressive dispositions would lead to the formation of adverse relationships, anxious-withdrawn dispositions to isolation, and prosocial dispositions to positive relationships. Results from kindergarten to grade 2 and grade 5^{6,7,10} have shown that, compared to normative matched controls, children with aggressive dispositions were more likely to develop early-emerging and sustained peer rejection, whereas those with anxious-withdrawn dispositions tended to remain friendless. Growth curve analyses over grades K-4 showed that anxious-withdrawn children became increasingly excluded from peer activities over time.⁵ These findings corroborated the premise that aggressive and withdrawn dispositions antecede the onset and duration of children’s relationship difficulties. Prosocial dispositions, as expected, anteceded positive relationship trajectories.

Premise 4. The contributions of children’s classroom relationships to psychological and school adjustment are not entirely redundant (e.g. “markers”) with those attributable to their behavioural dispositions.

Two rather separate literatures have grown up around premises 1 and 2 (i.e. later dysfunction is attributable either to “risky” behavioural dispositions or to participation in “risky” relationships). For decades, many investigators have regarded the explanatory power of one of these two “main effects” perspectives as dominant over the other.¹¹ An aim for this project is to move beyond “main effects” perspectives by utilizing a child by environment model in which risk/protective factors are seen as originating within the child and the relational environment.

In two prospective longitudinal studies³ with kindergarten samples, we found that children whose interactions were more prosocial during the first 10 weeks of kindergarten tended to develop mutual friends and higher levels of peer acceptance by week 14. In contrast, children whose interactions were characterized by aggressive behaviour became more disliked by classmates and had fewer friends. Direct paths were found between children's classroom relationships and participation, the strongest of which emanated from negative relationship features (i.e. peer rejection), lending support to the hypothesis that such features impede subsequent adaptive participation and achievement. It would appear that young children's use of force or coercive tactics is likely to subvert others' aims and interests, causing peers to develop adversarial reactions (e.g. rejection). Once formed, relationship adversity appears to impede children's classroom participation and achievement.

Additional investigations were conducted to explicate the possible functions of classroom peer relationships for aggressive children. Principal aims were to determine whether aggressive children's participation in different types of classroom relationships might increase (e.g. exacerbate) or decrease (i.e. compensate for) their probability of developing psychological and school dysfunction. One example of this line of work is a prospective longitudinal study in which we assessed not only children's aggressive dispositions but also relationship risks (i.e. classroom peer rejection, victimization) and protective features (i.e. classroom peer acceptance, mutual friendships) over a two-year period.⁶ Children who manifested higher levels of aggression as they began kindergarten evidenced significant increases in maladjustment in later grades on nearly all of the investigated indices of psychological and school functioning. Further, corroboration was found for the premise that positive relationships buffer children from psychological and school maladjustment. After accounting for children's initial aggressive risk status, early peer acceptance predicted relative declines in attention problems and misconduct, and relative gains in cooperative participation and school liking. This evidence suggests that acceptance by classmates provides children with a sense of belongingness and inclusion in peer activities that decreases the likelihood that they will engage in resistive behaviour patterns, form negative school attitudes and disengage from school tasks.

Premise 5. In addition to behavioural risks, chronic rather than transient exposure to relational adversity (e.g. peer rejection, victimization), deprivation (e.g. friendlessness) or advantage (e.g. peer group acceptance) has greater consequences for children's psychological and school adjustment.

Few have investigated whether children's future adjustment varies as a function of sustained versus transient participation in peer relationships, and no one has investigated whether a history of peer relationship difficulties shapes adjustment beyond the more immediate strains of contemporary peer relationships. To address these limitations, we investigated how enduring relational adversity (e.g. chronic rejection, victimization) and/or advantage (e.g. stable peer acceptance, friendships) interfaced with children's aggressive dispositions to influence their adjustment.⁶ Variable-oriented analyses yielded findings consistent with an additive child by environment model: with few exceptions, participation in peer relationships predicted adjustment beyond children's aggressive risk status. Some evidence supported a moderated child by environment model in that relational adversity or advantage appeared to exacerbate or compensate for dysfunctions linked with aggressive dispositions. Moreover, compared to early onset, the chronicity of children's aggressive risk status and history of exposure to relational stressors/supports bore a stronger association to changes in maladjustment. Person-oriented analyses comparing children who were aggressive but had different relational risk/support histories (ARR group: higher ratio of relational stressors to supports; ARS group: higher ratio of supports to stressors) and children who were not at risk (RF group: risk free) revealed that only the ARR group showed significant increases in psychological and school maladjustment trajectories across the early grades. Even more intriguing was the finding that children in the ARS group evidenced significant decrements in maladjustment over the same period. These findings corroborated the inference that a powerful behavioural risk (aggressiveness) can be exacerbated by chronic relational risks but buffered by stable relational supports, illustrating the importance of research on children's relationship histories.

Finally, Ladd and Troop¹⁰ examined the contributions of aggressive and anxious behavioural dispositions and histories of peer relationship adversity and deprivation from early (K) to middle-childhood (grade 4). Estimation via SEM of hypothesized and alternative models showed that chronic friendlessness, rejection and victimization were positively and directly linked with later forms of maladjustment. Because these paths were adjusted for children's behavioural dispositions and concurrent peer relationships, the results constitute a more stringent test of chronic relationship adversity models.^{12,13}

Conclusions

Our findings corroborate multiple theoretical positions. First, the direct link between children's early behavioural dispositions and later maladjustment is consistent with "child effects" models, in which it is argued that early-emerging dispositions directly contribute to later maladjustment. Second, a tenet of environmental perspectives is substantiated by evidence indicating that

children’s chronic peer relationship experiences, not just their dispositional characteristics, are directly linked with later maladjustment. However, in contrast to these “main effects” perspectives, it can be argued that our findings fit best within a child by environment model. Differences in children’s peer relationships and particularly their histories of relationship adversity, deprivation or advantage—elements of their rearing environments—were found to: (a) contribute additively to the prediction of maladjustment, beyond that forecasted by behavioural dispositions, and (b) in several cases, mediate the link between early dispositions and later maladjustment.

Novel Inferences Corroborated by Project Findings

- Early behavioural dispositions antecede children’s adjustment. These same behavioural dispositions are precursors of the relational ecology (i.e. form/nature of relationships) that children develop in school.
- Although children’s dispositions and peer relationships are significant antecedents of future adjustment, the predictive power of either factor alone is less than their additive or contingent contributions.
- Enduring relationship adversity (e.g. peer rejection), deprivation (e.g. friendlessness), or advantage (e.g. peer acceptance) are more closely associated with children’s adjustment trajectories than are more transient or proximal experiences within these same relationship domains.
- Risky behavioural dispositions may be exacerbated by enduring relationship adversity (e.g. chronic victimization), and buffered by stable relationship advantage (e.g. stable peer group acceptance).

Implications for Policy and Service

Applications: Implications of Pathways Project Findings for Educators and Schools

We hope that findings from the Pathways Project will allow families and schools to anticipate children’s needs as they enter school and progress through the elementary and middle-school years. If so, we will be in a better position to provide children with a good start toward a quality education, and enable larger numbers of children to receive the greatest benefits from their school experiences.

The implications considered here are based on findings for the period of kindergarten and the early grade school years. Additional results that apply to later grade levels and longer periods of schooling will be available in the near future.

How can we place children on trajectories that lead to successful (as opposed to unsuccessful) trajectories toward social, psychological and scholastic competence? Our findings suggest that there may be a number of ways that parents, teachers and school administrators can help children find successful pathways to health and well-being during the school years. The following service and policy recommendations are consistent with evidence obtained from the Pathways Project:

- Increase the probability that children will form *positive feelings/attitudes toward school* as they enter kindergarten. In our samples, 25 to 35% of children had mixed or negative attitudes toward school by the second month of kindergarten. Also, once children formed a negative impression of school, their attitudes often became substantially more negative as they progressed from grade to grade. Thus, before children enter school, a key objective is to establish a line of communication with families and preschool/childcare teachers that enables children to develop realistic expectations about: (a) the purpose of school, and (b) what they will be asked to do in kindergarten/grade 1, including social as well as scholastic tasks (e.g. make friends, form a relationship with the teacher, participate actively in classroom learning activities).
- As children enter kindergarten, family members and school personnel should pay attention to (and try to improve, if necessary) children’s feelings toward school, and the *quality of the relationships they form with classmates and teachers*. Our work suggests that, among young children, much of the “glue” that helps children identify with or become “attached” to the school environment is social rather than scholastic in nature. With respect to this, there is a pivotal “cycle” or chain of events that emerges from our findings: (1) As children enter kindergarten, those who act cooperatively toward others and refrain from aggressive/antisocial acts develop more supportive classroom social relationships with peers and teachers. (2) Those children who do develop secure and supportive ties become more interested and involved in learning activities, and are better able to cope with challenges in the classroom. (3) The engagement that seems to grow out of children’s supportive peer and teacher relationships promotes higher levels of learning and translates into greater gains in achievement over the school year. To help children profit from this cycle, it would be

beneficial to institute relationship-formation activities early in the school year that would be designed to: (a) help children learn prosocial skills and refrain from aggressive/antisocial behaviours; (b) encourage every child to make at least one friend in their classroom, and (c) establish supportive interactions with their classroom teacher.

- Enroll children in early childhood programs that help them develop social and relationship before they enter grade school. Children who already possess friendship-making skills and cooperative behaviours have an increased chance of forging supportive relationships at school that may help them succeed in kindergarten and the primary grades.
- Soon after children enter kindergarten, they should be encouraged to take an active and cooperative role in classroom activities. Our work suggests that young children must behaviourally engage the learning environment to profit from it. Children who avoid (“move away”) or resist (“move against”) the social or academic challenges of early schooling appear to be at high risk for school disengagement and underachievement. Both *active* participation in classroom activities (e.g. getting involved, showing initiative), and *cooperation/compliance with the culture of the classroom* (i.e. adhering to the social rules and role expectations of the classroom) are strong predictors of early achievement.
- Establish programs or activities that *prevent* children’s exposure to major stressors, such as “bully-free” classrooms and group activities in which peers are not permitted to harass or reject others. Programs of this nature are strongly recommended because these experiences appear to have long-lasting negative social and psychological effects on children, and often alienate them from schooling (e.g. lead to negative school attitudes, increase school avoidance and absences, limit gains in achievement). In recent years, a number of programs have been designed to address these problems in schools (e.g. S.A.F.E. program; “Don’t suffer in silence,” establishing “bully-free” schools, coaching methods for helping children develop social skills, cooperative group activities for promoting tolerance and peer acceptance, and practices such as “You can’t say you can’t play.”)

References

1. Cairns RB, Cairns BD. *Lifelines and risks: Pathways of youth in our time*. Cambridge; New York: Cambridge University Press; 1994.
2. Harrist AW, Zaia AF, Bates JE, Dodge KA, Pettit GS. Subtypes of social withdrawal in early childhood: Sociometric status and social-cognitive differences across four years. *Child Development* 1997;68(2):278-294.
3. Ladd GW, Birch SH, Buhs E. Children’s social and scholastic lives in kindergarten: Related spheres of influence? *Child Development* 1999;70(6):1373-1400.

4. Ladd GW. Probing the adaptive significance of children's behavior and relationships in the school context: A child by environment perspective. *Advances in Child Development and Behavior*. In press.
5. Gazelle H, Ladd GW. Anxious solitude and peer exclusion: A diathesis-stress model of internalizing trajectories in childhood. *Child Development* 2003;74(1):257-278.
6. Ladd GW, Burgess KB. Do relational risks and protective factors moderate the linkages between childhood aggression and early psychological and school adjustment? *Child Development* 2001;72(5):1579-1601.
7. Ladd GW, Burgess KB. Charting the relationship trajectories of aggressive, withdrawn, and aggressive/withdrawn children during early grade school. *Child Development* 1999;70(4):910-929.
8. Ladd GW, Profilet SM. The Child Behavior Scale: A teacher-report measure of young children's aggressive, withdrawn, and prosocial behaviors. *Developmental Psychology* 1996;32(6):1008-1024.
9. Ladd GW, Kochenderfer BJ, Coleman CC. Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment? *Child Development* 1997;68(6):1181-1197.
10. Ladd GW, Troop WP. The role of chronic peer difficulties in the development of children's psychological adjustment problems. *Child Development*. In press.
11. Parker JG, Rubin KH, Price JM, DeRosier M. Peer relationships, child development, and adjustment: A developmental psychopathology perspective. In: Cicchetti D, Cohen D, eds. *Developmental psychopathology: Vol. 2. Risk, disorder and adaptation*. New York: John Wiley & Sons; 1995:96-161.
12. Dohrenwend BP, Dohrenwend BS. Socioenvironmental factors, stress, and psychopathology. *American Journal of Community Psychology* 1981;9(2):128-164.
13. Johnson JH. *Life events as stressors in childhood and adolescence*. Newbury Park, CA: Sage; 1988.