

THE IMPORTANCE OF STUDENTS' MATERNAL ATTACHMENT AND HOMEROOM TEACHER-STUDENT ATTACHMENT-LIKE RELATIONSHIP FOR THE PSYCHOSOCIAL ADAPTATION OF SCHOOLCHILDREN WITH DISABILITIES

DAVID GRANOT

Department of special education, Oranim academic college of education, Israel.
E-mail: dudi_g@oranim.ac.il

Abstract— The present study explores the extent to which maternal attachment and teacher-student attachment-like relationships contribute to explaining the psychosocial and behavioral adaptation of students with disabilities in school. Participants included 65 dyads of Israeli homeroom teachers and their students with disabilities (mean age=10.9) (LD, ADHD, LD/ADHD comorbidity). Students attended regular schools and received assistance from integration teachers. Students were assessed based on the maternal attachment security scale and on appraisal of the teacher as a secure base. Homeroom teachers were appraised on the student-teacher security scale. Third-party teachers reported on students' school adaptation. Six hierarchical regression analyses were conducted to assess the contribution of students' attachment characteristics to their school adaptation. Results indicated that beyond the disability factor and age, teacher-student secure relationships reduced the students' problems with self-regulation, learning difficulties, and externalizing behavior, and improved frustration tolerance and task orientation. Implications for the role of teachers of students with disabilities are discussed.

Keywords— Children With Disabilities, Psychosocial Adaptation, Teacher-Student Attachment-Like Relationships.

I. INTRODUCTION

A large number of studies conducted among schoolchildren have shown that children whose relationships with their parents are characterized as secure rather than insecure generally demonstrate better psychosocial adaptation to the school environment [17] and fewer behavior problems [23]. Findings also indicate that students who receive emotional support from their teachers demonstrate better task-oriented cooperative engagement in the classroom and higher learning competence skills, and are better accepted by their peers [6], [16], [26] than are students who have a less positive relationship with their teachers [14], [26]. At the same time, few studies have investigated the role of teacher-student relationship among schoolchildren with disabilities [2]. Difficulties in psychosocial adjustment are characteristic of school-age children who are broadly defined as having learning disabilities (LD) and attention deficit hyperactivity disorder (ADHD) [13], [10] therefore, a positive relationship with the teacher is particularly important for the adaptive functioning of such students in school [22].

The present study

The present study is a part of a larger research investigating the effect of attachment characteristics of students with disabilities on their day-to-day student-teacher attachment-like relationship with their homeroom teachers [12]. In the present paper we report on a subset of the results, regarding the contribution of the quality of the attachment-like relationship between teachers and students with disabilities to the explanation of those students' psychosocial school adaptation, beyond the

contribution accounted for by children's disability. Consistent with the longer engagement of children with their mothers than with their fathers, the connection between mother and child is often more robust than that between father and child, which affects the child's attachment relationships and functioning [24]. According to Cassidy [8], negative emotion regulation is a central characteristic of mother-child attachment relationships. Therefore, we examined whether among students with disabilities as well, maternal attachment shows a distinct contribution to the explanation of the students' internalized problem behavior. To avoid relying on homeroom teacher and student reports in assessing both predictor and criterion variables, we asked the students' special-subject teachers to act as experienced professional third-party observers reporting on the students' school adaptation. Studies of teacher-student relationships have suggested that teacher' perceptions of their relationships with students and of the students' adaptation at school may be affected by the students' demographic and biological attributes such as age, gender, disability, socio-economic and family background, and difficult life events [3], [22]. Therefore, we controlled statistically for these influences.

Hypotheses

We hypothesized that (*H-I*) the maternal attachment security of students with disabilities explains the variance in the students' internalizing problem behavior, beyond the students' disabilities factor; and (*H-II*) both teachers' and students' perceptions of their day-to-day attachment-like relationships explain the variance in the psychosocial and behavioral

school adaptation of students with disabilities, beyond their disabilities.

II. METHOD

Participants

The sample included 65 dyads of homeroom teacher-student with disabilities (receiving special assistance from "integration teachers" during school hours), 49.25% males, 25 having LD (13 boys, 12 girls), 20 ADHD (10 boys, 10 girls), and 20 comorbidity of LD and ADHD (10 boys, 10 girls). The teacher sample consisted of 65 experienced female teachers with masters-level education from 61 public schools. According to the policy of the Israeli Ministry of Education, LD diagnosis is based on criteria of the DSM 4th ed. [5], and an evaluation conducted by a psycho-educational professional. The students' ADHD diagnosis was based on a comprehensive clinical diagnostic assessment by pediatricians or psychiatrists/ neurologists specializing in attention disorders. The assessments revealed scores of standardized clinical range, using DSM 4th ed. [5] criteria.

Procedure

In the first phase of the study [12], data were collected by different interviewers (after ascertaining student's reading-comprehension competence) in the middle of the second trimester of the school year (Time 1). Each child was asked to complete the Attachment Security Scale-ASS; [19], the Children's Appraisal of Teacher as a Secure Base Scale-CATSBS; [2], and the Children's Socioeconomic-Family Background Indicators Questionnaire [27]. Next, the teachers were asked to complete the Student-Teacher Relationships Scale-STRS; [25]. Four months later (Time 2), the children's psychosocial adaptation in school was examined by means of 65 special-subject teachers (English, math, or language) who were administered individually the Teacher-Child Rating Scale – T-CRS; [15].

Student socioeconomic/family background indicators

The earning level of participating children's parents fell into the following categories: 45% minimum or low wage, 34% average wage, and 22% high and very high wage; 43% of participants lived in residences with less than one room per person, 32% had one room per person, and 25% more than one room per person. Difficult life-event reports (death in the family, parental divorce, serious illness) revealed that 58% of participants experienced no difficult life events, 28% one, and 14% two such events.

Student and homeroom teacher measures

Students' maternal attachment security

Student completed the Attachment Security Scale ASS; [19]. Items on the ASS address the degree to which children perceive their mothers as responsive and available, the extent to which they can rely on their mothers in times of stress, and whether the children report ease and interest in communicating

with their mothers. The 15 items are rated on a scale of 1-4. ASS exhibited high internal consistency ($\alpha = .80$).

Students' perception of the teacher as an attachment figure

Students completed the Children's Appraisal of Teacher as a Secure Base Scale CATSBS; [2], a 25-item instrument that evaluates teachers from both a positive-availability/acceptance and a negative-rejection perspective on a 7-point scale. The present study revealed high negative correlations ($r = -0.83$, $p < 0.05$) between the two sub-scales, creating a multicollinearity problem [7]. Therefore, the rejection subscale values (8 items) were reversed into the absence of teacher rejection responses, creating a scale for an overall student appraisal of the teacher as a secure figure (25 items) (Cronbach's $\alpha = .87$).

Teacher perceptions of the relationship

Student-teacher relationship was measured by the Student-Teacher Relationships Scale STRS; [26], a 28-item questionnaire assessing three attachment relationship dimensions: conflicts, closeness, and dependence [9]. Based on Fodor's [10] recommendation regarding dimension reduction in regression analysis, we reversed the conflict and dependence subscale values (17 items) into the absence of conflict and dependence, creating a scale for an overall security in the student-teacher relationship (28 items). The overall teacher security scale showed good internal consistency (Cronbach's $\alpha = .91$), higher than the Cronbach's alpha for each of the three sub-scales separately.

Students school psychosocial functioning

The reports of the special-subject teachers regarding the students' psychosocial functioning in school were measured using the Teacher-Child Rating Scale - T-CRS [15], a 38-item teacher report rating measure designed to assess students' emotional, behavioral, social, and learning skills. The first part contains 18 behavior-oriented items measuring school adjustment problems categorized into three scales: "acting-out-externalized problem behaviors" ($\alpha = .89$), "shy-anxious-internalized problem behaviors" ($\alpha = .70$), and "self-regulation learning problems" ($\alpha = .79$). The second part consists of 20 items assessing student strength attributes: "frustration tolerance" ($\alpha = .73$), "task orientation" ($\alpha = .71$), and "sociability" ($\alpha = .86$).

III. RESULTS

Preliminary analyses

Preliminary analyses proved non-significant associations between predictor variables, students' attachment and attachment-like relationships, and demographic variables (gender, age, socioeconomic level, difficult life-events, and disabilities). Criterion variables (student psychosocial adaptation indices), were related to the students' central demographic variables in two cases: age showed a significant

positive relation with student *sociability* ($r = .29$, $p < .05$), and therefore, in the subsequent analysis age was statistically controlled for; and one-way-ANOVAs showed that the three groups of disabilities were significantly different in their *learning self-regulation problem* levels and in *task orientation* in class (Table I).

As can be seen in Table I, two ANOVAs revealed that student in the LD/ADHD group ranked highest in

problems in learning self-regulation and lowest in *task orientation*; the opposite was true for the LD group. These findings are consistent with previous findings indicating that children with comorbid LD/ADHD show lower academic orientation than children with one or no disability [20]. Therefore, in the subsequent analyses we controlled statistically for the disability factor.

Table I: Means and standard deviations of student's self-regulation learning problems and task orientation by disabilities group (LD, ADHD, LD/ADHD)

Psychosocial measures	1		2		3		<i>F'</i> (2, 64)	Contrasts
	LD group		ADHD group		LD/ADHD group			
	M	SD	M	SD	M	SD		
Self-regulation learning problems	2.50	0.81	2.90	0.86	3.10	0.74	3.40*	3>1
Task orientation	2.80	0.69	2.30	0.79	2.00	0.71	5.4**	1>3

$P < 0.06^{\#}$, $p < 0.05$. ** $p < 0.01$

Table II: Hierarchical regression analyses of students' psychosocial adaptation by attachment-based variables, with age and disability factors as moderator variables

Predictor measures and step	Acting out- externalizing			Shy-anxious- internalizing			Self-regulation learning problems			Frustration tolerance			Task orientation			Sociability		
	β	R^2	ΔR	β	R^2	ΔR	β	R^2	ΔR	β	R^2	ΔR	B	R^2	ΔR	β	R^2	ΔR
Step 1		0.08	0.08		0.08	0.08		0.11*	0.11		0.05	0.05		0.16**	0.16		0.08 [#]	0.08
Student age	0.17			0.28			0.10			0.10			0.02			0.28*		
Student disability group factor	0.24			0.10			0.33**			-0.21			-0.40**			-0.02		
Step 2		.21*	0.21		.24*	0.24		0.28*	0.17		0.19*	0.19		0.37***	0.18		0.17*	0.09
Student age	0.05			0.21			0.05			0.05			0.11			0.33*		
Student disability group	0.16			0.05			0.28*			-0.13			-0.32**			0.01		
ASS: Student attachment security	-0.07			-0.32*			-0.08			0.01			0.16			0.22		
CATSB: Student overall appraisal of teacher as secure figure	0.11			-0.01			-0.26*			0.01			0.14			0.04		
STRS: Teacher overall security in student-teacher relationship	-0.39*			-0.15			-0.17			0.39*			0.29*			0.10		
ANOVAs	Total F			Total F			Step 1 Total			Total F			Step 1 Total			Step 1 Total		
	(5,62)=3.00 (p<0.05)			(5,62)=3.52 (p<0.01)			F(2,62)=3.87 (p<0.05)			(5,62)=2.60 (p<0.00)			F(2,62)=5.71 (p<0.05)			F(2,62)=2.30 (p<0.05)		
							Step 2 Total						Step 2 Total			Step 2 Total		
							F(5,62)=4.51 (p<0.001)						F(5,62)=6.55 (p<0.00)			F(5,62)=2.31 (p<0.05)		

$P < 0.06^{\#}$, $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Contribution of the various attachment-based variables to students' psychosocial adaptation

To identify the unique contribution of student and teacher attachment and attachment-like indicators to the explanation of the psychosocial adaptation of students with disabilities, beyond that explained by student age and disability group, we conducted six hierarchical regression analyses (Table II).

As shown in Table II, age and disability were introduced in the first step of the regression equation. Age was the single variable that contributed to the explanation of student sociability, explaining 17% of variance. As expected, as students mature, they exhibit greater sociability toward peers. Likewise, the student disability factor contributed significantly to the explanation of self-regulation learning problems and task orientation. The greater the extents of students' disability, the greater were the problems in

their learning self-regulation (13% of explained variance) and the lower their task orientation (16% of explained variance). The three attachment and attachment-like indicators introduced in the second step of the regression equation contributed and significantly added to the explained variance of five psychosocial adaptation indices: the more secure the students felt in their maternal attachment relationship, the fewer internalized (shy-anxious) behavioral problems they displayed (24% of significant explained variance). The more secure students and the teachers perceived their relationship to be, the fewer were the students' externalized behavioral problems (21% of significant explained variance), the fewer were their self-regulation learning problems (17% of explained variance), the greater were their levels of frustration tolerance (19% of explained variance), and the more task-orientation behaviors they exhibited (18% of explained variance).

IV. DISCUSSION

Consistent with *H-I*, the hierarchical regression analysis indicated that only a secure maternal-attachment relationship consistently reduced students' internalizing problem behavior. These findings suggest that greater ability to cope with stress and anxiety in the school environment is more a function of the relationship with the primary attachment figure (chiefly the mother) than with the alternative attachment figures of convenience (teachers), even in middle childhood and early adolescence. Support for this claim can be found in Kerns, Abraham, Schlegelmilch, and Morgan [18], whose study indicates that secure mother-child attachment in later middle childhood is associated with a less negative mood in daily student interactions.

Consistent with *H-II*, the hierarchical regression analysis revealed that secure teacher-student attachment-like relationships had a consistent effect on four psychosocial aspects, reducing children's externalizing behaviors and self-regulation learning problems, and improving their frustration tolerance and task-orientation performance, beyond the effects of the disability factor. As can be seen, teachers' perceptions of the relationship were associated with three psychosocial dimensions, whereas the students' perceptions of the relationship were associated with only one aspect. A possible explanation is found in Granot [12], showing that compared to the students' tendency to perceive student-teacher relationships through their subjective individual attachment system, teachers perceive the relationship through a more objective exploratory lens. Consequently, the teachers' more professional perceptions of the relationships also make a larger contribution to the explanation of the students' psychosocial school adaptation than do the students' perceptions. Finally, only age was associated with better student sociability. These results can be explained by two main causes. According to an environmental explanation proposed by Morrison and Cosden [21], schools that initiate intervention address the special socio-emotional needs of children with disabilities and improve their social skills in the course of the school years. The second explanation is developmental. Forgan and Vaughn [11] showed that similarly to students without disabilities, students with disabilities increase the amount of their friendships with peers in the transition from elementary to middle school.

Study limitations

The findings are based on concurrent associations; therefore the direction of the effects remains unclear. Moreover, the literature suggests that students' prior behavior problems and social abilities are related to the student-teacher relationship, raising further concerns about a third-variable bias.

Study implications

The conclusion of the study is that secure attachment-like relationships between teachers and students with disabilities function as a protective factor for the students' psychosocial and behavioral adaptive functioning. Teachers need training to address the therapy-like aspects of their relationships with students with disabilities.

REFERENCES

- [1] Al-Yagon, M., (2009). Comorbid LD and ADHD: socio-emotional and behavioral adjustment and parent's positive affect. *European Journal of Special Needs*, 24(4), 371-391.
- [2] Al-Yagon, M., & Margalit, M. (2006). Loneliness, sense of coherence and perception of teachers as a secure base among children with reading difficulties. *European Journal of Special Education*, 21(1), 21-37.
- [3] Al-Yagon, M., & Mikulincer, M. (2004). Socioemotional and academic adjustment among children with learning disorders: The meditational role of attachment-based factors. *Journal of Special Education*, 38(2), 111-123.
- [4] Al-Yagon, M., & Mikulincer, M. (2006). Children's appraisal of teacher as a secure base and their socio-emotional and academic adjustment in middle childhood. *Research in Education*, 75, 1-18.
- [5] American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders*. (4th ed., text revision). Washington DC: Author.
- [6] Baker, J. A. (2006). Contributions of teacher-child relationships to positive school adjustment during elementary school. *Journal of School Psychology*, 44, 211-229.
- [7] Baron, R., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Personality and Social Psychology*, 51, 1173-1182.
- [8] Cassidy, J. (1994). Emotion regulation: Influence of attachment relationships. *Monographs of the Society for Research in Child Development, Serial, No. 240*, 59(2-3), 228-250.
- [9] Davis, H. A. (2003). Conceptualizing the role and influence of student-teacher relationships on children's social and cognitive development. *Educational Psychologist*, 38(4), 207-234.
- [10] Fodor, I. K. (2002). *A survey of dimension reduction techniques*, US Department of Energy, Lawrence Livermore National Laboratory.
- [11] Forgan, J. M. & Vaughn, S. (2010). Adolescence with and without LD make transition to middle school. *Journal of Learning Disabilities*, 33, 33-43.
- [12] Granot, D. (2014). The contribution of homeroom teachers' attachment style and students' maternal attachment to the explanation of attachment-like relationships between teachers and students with disabilities. *American Journal of Educational Research*, 2(9), 764-774.
- [13] Greenham, S. L. (1999). Learning disabilities and psychosocial adjustment: A critical review. *Child Neuropsychology*, 5(3), 171-196.
- [14] Hamre, B. K., & Pianta, R. C. (2007). Learning opportunities in preschool and early elementary classrooms. In R. C. Pianta, M. J. Cox, and K. Snow (Eds.). *The new American elementary school* (pp. 49-84). Baltimore: Paul H. Brookes.
- [15] Hightower, A. D., Work, W. C., Cowen, E. L., & Lotyczewski, B. S. (1986). The teacher-child rating scale: A brief objective measure of elementary

- children's school problem behaviors and competencies. *School Psychology Review*, 15, 393-409.
- [16] Hughes, J. N., Luo, W., Kwok, O., & Loyd, L. (2008). Teacher-student support, effortful engagement, and achievement: A three year longitudinal study. *Journal of Educational Psychology*, 100, 1-14.
- [17] Kerns, K. A. (2008). Attachment in middle childhood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 366-382). New York: Guilford.
- [18] Kernes, K. A., Abraham, M. M., Schlegelmilch, A., & Morgan, T. A. (2007). Mother-child attachment in later middle childhood: Assessment approaches and associations with mood and emotion regulation. *Attachment and Human Development*, 9, 33-53.
- [19] Kernes, K. A., Klepac, L., & Cole, A. (1996). Peer relationships and preadolescents' perceptions of security in the child-mother relationship. *Developmental Psychology*, 32, 457-466.
- [20] McNamara, J. K., Willoughby, T., Chalmers, H., & YLC-CURA. (2005). Psychosocial status of adolescents with learning disabilities with and without comorbid attention deficit hyperactivity disorder. *Learning Disabilities Research & Practice*, 20(4), 234-244.
- [21] Morrison, G. M. & Cosden, M. A. (1997). Risk, resilience, and adjustment of individuals with learning disabilities. *Learning Disability Quarterly*, 20, 43-60
- [22] Murray, C., & Pianta, R. C. (2007). The importance of teacher-child relationships for adolescents with high incidence disabilities. *Theory into Practice*, 46, 105-112.
- [23] O'Connor, E. E., Collins B. A. & Supplee, L. (2012). Behavior problems in late childhood:" the roles of early maternal attachment and teacher-child relationships trajectories. *Attachment & Human Development*, 14(3). 265-287.
- [24] O'Connor, E. & McCatrny K. (2007). Examining teacher-child relationships and achievement as a part of an ecological model of development. *American Educational Research Journal*, 44(2), 340-369.
- [25] Pianta, R. C., & Steinberg, M. S. (1992). Teacher-child relationships and the process of adjusting to school. *New Directions for Child Development*, 57, 61-80.
- [26] Sabol, T. J., & Pianta, R. (2012). Recent trends in research on teacher-child relationships. *Attachment & Human Development*, 14(3), 213-231.
- [27] Yair, G. (1991). The deprivation index: Paradoxes and empirical assessment, policy implications. *Megamot*, 34, 5-26 (Hebrew).

