Predictors of Positive Mood and Negative Mood among Children with Learning Disabilities and Their Peers

Adi Sharabi

Kibbutzim College and Tel Aviv University, Tel Aviv, Israel

Malka Margalit

Tel Aviv University, Tel Aviv and Peres Academic Center, Rechovot, Israel

Abstract

Positive and negative mood have often been considered indicators of wellbeing, affecting behavior and adjustment. This study evaluated the personal and familial predictors of positive and negative mood among 1,024 Israeli students (children with learning disabilities [LD]: 302 boys, 198 girls; children without LD: 308 boys, 216 girls). They were students in Grades 4-6 (ages 9-12). The authors aimed to identify the direct and indirect contributions of personal and familial factors to positive and negative mood. The participants' socio-emotional characteristics were assessed with questionnaires measuring mood, hope, effort, family climate, loneliness and the use of the Internet for communication with friends and virtual friends. Structural equation modeling (SEM) results confirmed the conceptual model and showed that the indirect effect of LD on positive and negative mood was mediated by effort, hope, family climate and loneliness. Gender predicted positive mood, loneliness and family cohesion. The differential contribution of types of e-communication extended the understanding of the model, and underscores the role that the children's perceptions and behavior play in their emotional outcomes.

Positive and negative mood have often been considered indicators of adjustment and psychological wellbeing (Forgas, 2013). Moods are fundamental psychological states that can arise endogenously or in response to an event. They influence how individuals interpret the world around them and are mediated by individuals' perceptions of their social connections and directing behavior (Kok et al., 2013). Their importance for children with learning disabilities (LD) has been documented, although these children are initially

identified by their academic challenges. Research has acknowledged their experiences of social and emotional distress (Bauminger & Kimhi-Kind, 2008; Bryan, Burstein, & Ergul, 2004; Sharabi & Margalit, 2011b), reporting increased loneliness, tendencies to depression and more social challenges when compared to their typically developing peers (Maag & Reid, 2006). Studies have also focused attention on the diminishment of their hopeful thinking and lower levels of effort investment (Heath & Wiener, 1996; Margalit, 2010). The recent increase in the use of e-communication for different types of social connections (with friends and with strangers) amplifies the distinctions between the experiences of loneliness among adolescents with LD and their peers (Sharabi & Margalit, 2011b). Differences in family climate between children and adolescents with LD have also been linked to the children's adjustment (Al-Yagon, 2012; Sullivan, 1993). However, a comprehensive model of the predictors of children's positive and negative mood, including personal and familial perceptions, has not yet been constructed.

The goals of the current study were to propose an integrated conceptual framework for predicting positive and negative mood among children with LD and their peers, using their participation in two types of e-communication and through personal and familial perceptions. We proposed three exogenous variables: LD, two types of e-communication and gender. The contribution of hope, effort, loneliness and family climate factors (cohesion and adaptability) were examined as mediators of mood. Figure 1 illustrates the proposed model, which is grounded in a theoretical rationale for integrating the predictors of mood.

Positive and Negative Mood: The Dependent Variables

Positive and negative mood are generalized, pervasive, affective states that are less intense than emotions, but have profound effects on thought processes, behaviors and wellbeing (Bono, McCullough, & Root, 2008; George, 2011). Mood may serve as an immediate and direct source of information about people's internal state of affairs and the available resources they have for meeting environmental challenges, preparing them to react by approaching or withdrawing from their goals (Larsen, 2000; Tillema, Cervone, & Scott, 2001). Research has demonstrated that positive and negative mood are two separate activation systems that operate independently, but also interact with each other (Carver & Scheier, 1990; Watson, Wiese, Vaidya, & Tellegen, 1999).Their impact on cognitive processing (such as attention and memory), academic performance and behavior have been widely documented in adult research (Hamann, 2009; Osaka, Yaoi, Minamoto, & Osaka, 2013). Several studies have considered negative mood as stronger than positive mood (Baumeister, 1999; Forgas, 2013), while others have emphasized the strength of positive affect in promoting wellbeing (Fredrickson & Joiner, 2002) and buffering the effects of negative affect (Riskind, Kleiman, & Schafer, 2013). Thus, both types of mood have important roles as indicators of wellbeing.

However, only a few studies have investigated moods reported by children with LD. For example, Sideridis (2007) documented the relationship between academic achievement

in math and affect. Several studies have focused attention on adolescents with LD, who reported higher levels of negative mood and lower levels of positive mood than their peers (Heath & Wiener, 1996; Lackaye, Margalit, Ziv, & Ziman, 2006; Sharabi & Margalit, 2011b). Given that children with LD participate in the current youth culture of using various types of e-communication, we must also consider their relationship with positive and negative mood.

E-communication

The Internet has grown rapidly as a major communication medium. More than half of all American youngsters have used online social networking sites. E-communication enables children and adolescents to expand their circle of friends, create social ties and share information about themselves (Madden et al., 2013). Adolescents report that social networking sites help them manage their relationships with their friends by supporting connections with existing friends and creating new friendships with individuals that they sometimes never meet (Lenhart & Madden, 2007). Among adolescents with LD, e-communication that supports existing friendship predicted reduced loneliness, while virtual friendships predicted higher levels of loneliness (Sharabi & Margalit, 2011a). The current study focused on a younger group of children, in order to explore the contribution of these two types of e-communication to their positive and negative mood.

Gender and LD

Research on the social and emotional experiences of children and adolescents with LD has focused on their cognitive and affective challenges (Al-Yagon & Margalit, 2013), showing the heterogeneity of their challenges, as well as gender and age differences. Inconsistent results were reported for gender comparisons among children with LD and their peers. In several studies, girls reported higher levels of negative mood than boys, lower levels of positive mood (Sharabi & Margalit, 2011b) and decreased levels of loneliness (Idan & Margalit, 2014). In other studies, no significant group or gender differences were found (Lackaye et al., 2006), implying the need to consider the roles of personal factors (i.e., hope) and interpersonal dynamics (i.e., family climate) as mediators.

Hope and Effort

Snyder (2002, p.249) defined hope as "the perceived capability to derive pathways to desired goals, and motivate oneself via agency thinking to use those pathways." This definition suggests that hope is not an emotion, but rather a dynamic, motivational, personality characteristic (Phan, 2013). Accordingly, the guiding assumption is that human actions are goal directed, and goals provide the targets for the sequences of mental actions. Agentic thinking refers to people's ability to motivate themselves to pursue goals. Pathways are the cognitive routes or strategies to achieving a goal (Snyder, 2002). High hope children can identify pathways and strategies for attaining these goals and master the mental energy needed to pursue these pathways. Although they may have confidence in their pathways, they can also identify alternative pathways when they encounter obstacles in achieving their goals (Hellman, Pittman, & Munoz, 2013).

Hope is related not only to a positive future outlook, but also to effort and academic engagement (Adelabu, 2008). Students who exhibit heightened feelings of hope are more likely to invest time and effort in school activities, and to achieve academic success (Valle, Huebner, & Suldo, 2006). Studies have revealed that adolescents with LD often reported lower levels of hope and less investment of effort than their peers without LD (Lackaye et al., 2006). A longitudinal study that examined the developmental trajectory of hope over four years among adolescents revealed that girls reported higher levels of hope than boys in Grade 7, but lower levels of hope by Grade 10 (Heaven & Ciarrochi, 2008).

Loneliness

Social relations play an important role in children's wellbeing. Therefore, it is not surprising that loneliness has been considered a distressful emotional experience that affects children's quality of life and is considered a major developmental risk for their future adjustment (Margalit, 2010). Studies have also documented the contribution of loneliness to additional psychological problems such as social phobia, depression, and anxiety (Lasgaard, Goossens, Bramsen, Trillingsgaard, & Elklit, 2011). In addition, increased feelings of loneliness were found to be related to poorer academic achievement (Cheng & Furnham, 2002). However, studies have found inconsistent results with regard to loneliness among children with LD. Several studies documented their social distress. Children with LD reported higher levels of loneliness from an early age (Al-Yagon, 2003; Yu, Zhang, & Yan, 2005). In contrast, several other studies (Wiener, 2003) that sensitized awareness to environmental factors and focused attention on the important contribution of parental roles and family climate to feelings of social alienation failed to find increased levels of loneliness among children with LD.

Family Climate

The family system plays a major role in children's adaptation and development (Al-Yagon, 2012). Olson identified two main dimensions of the family system: adaptability and cohesion (Olson & Gorall, 2003). Adaptability refers to the ability of the family system to be flexible in their adaptation to environmental changes such as recognizing the special and extended needs of children with LD. Cohesion reflects the emotional bonding and closeness between family members, and their ability to provide social support for the struggling child.

In an earlier study (Idan & Margalit, 2014), adolescents with LD reported lower levels of family adaptability and decreased family cohesion. They considered their family more rigid and less able to adapt to the new reality presented by the adolescent with LD. While family cohesion was negatively related to loneliness in both groups (with and without LD), family adaptability was negatively related to loneliness only among adolescents without LD (Idan & Margalit, 2014).

Theoretical Integration and the Purpose of the Present Study

In summary, research has demonstrated that the mood of children with LD reflects their struggle with challenges and is related to lower levels of hope and effort, high levels of loneliness and differential use of e-communication. In addition, the studies have also confirmed the value of families as a source of support. Utilizing a comprehensive theoretical framework may facilitate the identification of mood predictors and ultimately advance the approaches to supporting the students' wellbeing. Based on prior studies that examined the relationships between these measures separately, the current study proposed an integrated conceptual framework through which we may better understand how e-communication, LD and gender interact with individual perceptions (hope and effort) and interpersonal perceptions (loneliness and family climate) as well as predict positive and negative mood. Thus, as presented in Figure 1, our aim is to present and examine the complex and interactive nature of several predictors of children's wellbeing. We hypothesize that positive and negative mood will be explained, not only directly by the children's characteristics as exogenous variables (LD and gender), as well as their technology supported interpersonal forms (e-communication, and virtual friendship) but also indirectly by personality and familial characteristics. Acknowledging earlier research that emphasized the significant role of family climate variables as well as children's hopeful thinking, effort investment and loneliness distress, we expected that these variables would mediate the impact of the personal and interpersonal exogenic variables. Especially, we expected that the children's LD would predict, directly and indirectly, the emotional experiences and wellbeing. Yet, LD is just one of the four exogenous variables, focusing attention on the prediction of the gender, and technology-supported interpersonal relations mediated by the family variables (cohesion and adaptability), as well as of hopeful thinking, social distress (loneliness) and effort investment.

Method

Participants

The sample consisted of 1,024 children with and without LD: students in Grades 4 to 6 (ages 9-12) from 28 large elementary schools in urban areas of central Israel. The participants were divided into two groups: 500 children with LD (302 boys, 198 girls) and 524 students without LD (308 boys, 216 girls). The non-LD comparison group was matched by gender and class to the children with LD in their classes, and in every class they were randomly selected. There were no significant differences between the two groups of children in the proportion of the sample by gender (χ^2(1df) =0.28, p=.60) or by class (χ^2(2df) =0.19, p=.91).

Students in the LD group were previously diagnosed with LD as their primary disability using the Israeli Ministry of Education's criteria and the Israeli Special Education Law. These criteria included the presence of a verbal and/or performance IQ score in the average range or above (ranging from 85 to 120), achievement scores at least one standard deviation below the expected score in one or more areas of academic functioning, and

evidence of a processing deficit in one or more cognitive or linguistic domains. Each child was diagnosed in reading, writing, and/or mathematics. The most common difficulties in reading and writing were slow reading and spelling inaccuracies.

The local municipal psycho-educational agencies and each school's psycho-educational team conducted the diagnostic evaluations. Assessments included the Wechsler Intelligence Scale for Children-Third Edition (Wechsler, 1991) and/or the Kaufman Assessment Battery for Children (Kaufman & Kaufman, 1983), the Bender-Gestalt Test (Koppitz, 1975), and the Hebrew adaptation of the Rey Auditory Verbal Learning Test (Vakil & Blachstein, 1993), as well as evaluations of reading and writing levels in Hebrew. Due to confidentiality directives, group data were available for this study, rather than specific information about individual children's disabilities. Students with special difficulties other than LD were not included in the sample.

Instruments

Mood. The Hebrew adaptation (Margalit & Ankonina, 1991) of the Mood Scale (Moos, Cronkite, Billings, & Finney, 1987) is a 20-item measure of students' perceived mood. The scale is divided into two subscales: 10 positive mood items (e.g., "happy," "in control," "friendly") and 10 negative mood items (e.g., "sad," "tired," "worried") rated on a 5-point Likert-type scale, ranging from 1 (not at all appropriate) to 5 (very appropriate). In the current study, a Cronbach's alpha of .81 was obtained for the positive mood items, and .80 for the negative mood items.

Use of the Internet for communication. Two items from the Internet Self-Report Scale (Sharabi & Margalit, 2011a) were used in this study to assess two types of e-communication on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (a lot). The first item assessed the extent of e-communication with friends: "I keep in touch with my friends from everyday life on the Internet." The second item assessed e-communication with virtual friends: "I have friends who I know only through the Internet."

Hope. The Hebrew adaptation (Sharabi, Levi, & Margalit, 2012) of the Children's Hope Scale (Snyder, 2002) taps the belief in one's ability to pursue desired goals and use strategies to achieve them. The scale consists of six statements to which children respond on a 5-point Likert-type scale, ranging from 1 (almost never) to 5 (almost always). There are three agency items (e.g., "I think I am doing pretty well") and three pathways items (e.g., "I can think of many ways to get things in life"). The hope score is the average of the six items on the scale. Thus, a higher score reflects a higher level of hope. In the current study, internal consistency (Cronbach's alpha) for the scale was .74.

Effort. The Effort Scale (Sharabi et al., 2012) consists of four items to which children respond on a 5–point Likert-type scale, ranging from 1 (almost never) to 5 (almost always), with items such as "I don't give up even when it is difficult for me." In the current study the internal consistency for the measure (Cronbach's alpha) was .70.

The Family Climate Scale (FACES III). The Family Adaptability and Cohesion Evaluation Scale (Olson, 1986) assesses the degree of flexibility and cohesion within the

family. The Hebrew adaptation (Teichman & Navon, 1990) of the scale consists of 20 items with a 5-point Likert-type scale, ranging from 1 (almost never) to 5 (almost always), comprising two subscales of 10 items each. The adaptability subscale refers to the flexibility within the family, focusing on how the family system balances stability versus change (e.g., "We shift household responsibilities from person to person"). The cohesion subscale refers to emotional bonding, family boundaries, and time spent together (e.g., "Family members feel closer to other family members than to people outside the family"). The scores are the averages of the items on each one of the subscales. Thus, a higher score reflects a higher level of adaptability and cohesion within the family. In the current study, a Cronbach's alpha of .69 was obtained for adaptability and .80 for cohesion.

Loneliness. The Hebrew adaptation (Margalit, 1991) of the Loneliness Scale (Asher, Parkhurst, Hymel, & Williams, 1990) consists of 16 primary items rated on a 5-point Likert-type scale, ranging from 1 (never) to 5 (always), for example, "I have many friends in my class", "I have nobody to talk to in my class", "I am lonely." The additional eight filler items cover various activity areas and were not included in the analysis. Higher scores reflect higher levels of loneliness. In the current study, a Cronbach's alpha of .92 was obtained.

Procedure

Prior to data collection, approval was obtained from the Israeli Ministry of Education, the schools, and the parents. Teachers and school counselors identified the fourth to sixth grade students with LD in their schools. Students with and without LD from the same classes completed the set of questionnaires about mood, hope, effort, family climate, loneliness, and Internet use as a group in their classrooms during school hours. Students were informed that participating in the study was voluntary and that the information would remain confidential. The examiner read some of the items aloud for those students with LD who were entitled to such accommodations. Completion of the questionnaires took from 35 to 45 minutes. Afterwards, the students with LD were matched with students without LD by class and gender, and randomly selected.

Data Analysis

In the first stage, the Statistical Package for the Social Sciences (SPSS 21) was used for computing the descriptive statistics, Cronbach's alphas, and bivariate correlations to examine the relationships between the measures. In addition, to test group differences (children with LD vs. non-LD/boys vs. girls/learning), analyses of variance were performed including partial η^2 as an estimate of effect size (Cohen, 1988).

The conceptual model illustrated in Figure 1 was tested and analyzed using structural equation modeling (SEM), carried out using AMOS 21.0 (Arbuckle, 2012). We used SEM, since Path analysis is a special case of SEM, and has a more restrictive set of assumptions than SEM (McDonald, 1996; Xue, 2007). It corrects for measurement error and can estimate both direct and indirect (mediated) effects simultaneously. The SEM analyses provided information about the direct and indirect associations between mood (positive and negative),

hope, effort, family climate (adaptability and cohesion), loneliness, two types of e-communication, and belonging to the LD/non-LD groups and gender. An additional advantage of using SEM is that it produces estimates of total effects (i.e. the sum of the overall direct effects and overall indirect effects). In evaluating the fit of models, multiple indices of fit, corresponding to different types of fit evaluation (Hoyle & Panter, 1995), were reported. Constructs were represented with item parcels (i.e. sums of items), with parcels created randomly (Bandalos & Finney, 2001).

Figure 1:
Predictors of positive and negative mood: The conceptual model
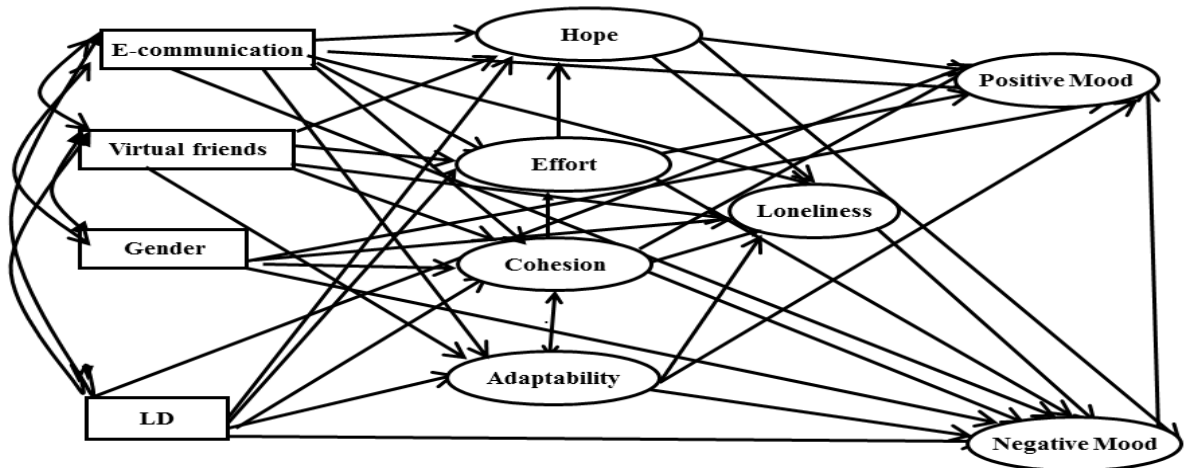
The model was tested using several indices (Hu & Bentler, 1999). Specifically, the fit was assessed using Hu and Bentler's (1999) root mean square error of approximation (RMSEA) and Bollen's goodness-of-fit index (GFI). According to Hu and Bentler (1999), values of 0.06 and lower on the RMSEA, and 0.95 and higher on the GFI indicate a good fit between the model and the data. In addition to reporting the chi-square test statistic and the chi-square by degrees-of-freedom value as measures of absolute fit, a normed-fit index (NFI) and comparative fit index (CFI) were reported as measures of incremental fit (Bentler & Bonett, 1980).

       Before turning to the results, it is important to add a word of caution about the language we use in reporting the findings of our study. The results are explicated in terms of associations rather than effects, as causal effects cannot be established in the absence of experimental data. However, an important feature of SEM analysis is that it allows for distinctions between direct, indirect, and total effects. Thus, in discussing the SEM results, we have chosen to use the word "effect", but its use does not imply that causality has been established with any certainty.

Results

Descriptive Analysis

To decrease the chance of Type 1 errors, a multivariate analysis of variance (MANOVA) was conducted with groups (LD/non-LD) and gender (boys/girls) as the independent variables, and positive and negative mood, hope, effort, loneliness, family adaptability, family cohesion and two internet e-communication types as the dependent variables. The MANOVA yielded a main effect for group, $F (9, 1012) = 6.86, p< .001$, partial $\eta^2 = .057$; and a main effect for gender, $F (9, 1012) = 5.49, p< .001$, partial $\eta^2 = .047$; but the interaction was not significant. The follow-up univariate analysis (see Table 1) revealed a main effect for children with LD on the following variables: e-communication with friends and virtual friends, loneliness, hope, effort and family adaptability. The follow-up univariate analysis for gender revealed significant differences in the following measures: negative mood, loneliness, e-communication with friends, effort and family cohesion. The correlation analysis revealed that for both groups of children, e-communication with friends was associated with positive mood, while e-communication with virtual friends was related to the negative mood.

Students with LD expressed lower levels of hope and effort as well as fewer e-connections with everyday friends through the Internet. They reported more e-connections with strangers, considered themselves lonelier than their peers, and assessed their family system as more adaptable to changes. No significant differences were found in mood or family cohesion. With regard to gender differences, boys indicated that they had higher levels of negative mood and loneliness. They connected with virtual friends more than girls did. They invested less effort in their studies and reported lower levels of cohesiveness in their families. No significant differences were found in the remaining measures. Table 2 shows the correlations among the research variables.

Estimations of the Model

SEM was used to identify the factors that explain positive and negative mood, and their relationship to learning disabilities, e-communication with friends and virtual friends, gender, family cohesion and adaptability, loneliness, effort, and hopeful thinking. This section describes the estimations of the hypothesized base-model via SEM (AMOS 21.0), which measured the interactions between the model's components.

According to the conceptual model (see Figure 1), learning disabilities, gender and the two e-communication measures (the exogenous variables) were expected to contribute (i.e. have direct paths) to effort, hope, the two family measures (cohesion and adaptability) and loneliness (the mediating endogenous variables), as well as to positive and negative mood (the endogenous variables). Direct paths were also expected between the mediating endogenous variables – family cohesion and adaptability, loneliness, effort and hope – and positive and negative mood. This model also assumed relationships among all of the exogenous variables themselves. Specifically, it was also expected that the mediating family

measures of cohesion and adaptability would have direct paths with hope, effort and loneliness. Given that gender differences were identified in several of the research measures, they were also included in the model. The measurement model established the connections between the constructs in the model and the underlying data that defined them.

Testing of the current model was conducted in two steps of estimation: (1) the base model and (2) the modified model composed only of the pathways that emerged as significant in the first step.

Table 1

Group and Gender Means, SDs and F Scores

Variable	SLD	Non-SLD	F(1,1024)	Partial Eta^2	Boys	Girls	F(1,1024)	Partial Eta^2
Positive mood	4.14(0.65)	4.15 (0.65)	.42	.000	4.16 (0.66)	4.14 (0.64)	34	.000
Negative mood	2.43(0.81)	2.34 (0.82)	3.34	.003	2.46 (0.80)	2.29 (0.82)	10.61**	.010
E-communication	3.25 (1.63)	3.52 (1.55)	10.00**	.010	3.45 (1.55)	3.30 (1.65)	2.40	.002
Virtual friend	2.04 (1.45)	1.87 (1.38)	3.63	.004	2.14 (1.51)	1.69 (1.22)	25.53**	.024
Hope	3.98 (0.68)	4.18 (0.64)	27.37**	.026	4.06 (0.68)	4.11 (0.64)	1.14	.001
Effort	4.16 (0.73)	4.31 (0.65)	12.83**	.012	4.20 (0.71)	4.30 (0.67)	4.88*	.005
Adaptability	3.33 (0.68)	3.22 (0.69)	5.62*	.005	3.27 (0.70)	3.27 (0.66)	.00	.000
Cohesion	4.19 (0.63)	4.22 (0.63)	.29	.000	4.17 (0.66)	4.26 (0.59)	4.79*	.005
Loneliness	1.89 (0.81)	1.74 (0.77)	9.30**	.009	1.87 (0.82)	1.73 (0.75)	7.78**	.008

Note. Numbers in parentheses are standard deviations.

* *p*< .05; ** *p*< .01

The Base Model

The first step in the analysis was to test the measurement model of the scales. This involved a confirmatory factor analysis procedure that tested assumptions about the factor structures of the various scales. Parceling, a measurement practice used with latent-variable analysis techniques, was used to reduce the number of items (Little, Cunningham, Shahar, & Widaman, 2002). In this approach, items from the same scale are aggregated into multiple parcels (i.e., mini scales) and then used as indicators of the latent variable. This approach is commonly employed to obtain more consistently distributed variables and to reduce the number of parameters in the structural equation model, thereby creating a more optimal

variable-to-sample-size ratio. A parcel can be defined as an aggregate-level indicator that comprises the average of two or more items. In this model, two parcels were created for every latent variable. The random assignment of items to parcels led to the creation of parcels that contained roughly equal common factor variance (Little et al., 2002).

Table 2

Pearson's Correlations among Variables for Students with and without LD

LD Group (*n* = 500)

Variable	1	2	3	4	5	6	7	8	9
1.Positive Mood	-	-.34**	.53**	.45**	.31**	.48**	-.45**	.23**	.05
2. Negative Mood	-.48**	-	-.27**	-.25**	.11*	-.17**	.51**	-.03	.14**
3. Hope	.55**	-.44**	-	62**	.31**	42**	-35**	.09*	.01
4. Effort	.46**	-.40**	.65**	-	.231**	.44**	-.28**	.06	-.02
5. Family Adaptability	.19**	.02	.10*	.05	-	.49**	-.09*	13**	.26**
6. Family Cohesion	.47**	-.30**	.42**	.38**	.42**	-	-.28**	.07	.06
7. Loneliness	-.52**	.54**	-.49**	-.34**	-.10*	-.34**	-	-.22**	-.02
8. E-commun-Ication	.16**	-.08	.08	.01	.04	.02	-.23**	-	.32**
9. Virtual Friends	.05	.14**	-.09*	-.14**	.12**	.01	.05	.33**	-

*p<.05; **p<.01   Non-LD Group (n = 524)

SEM analysis demonstrated a good fit between the conceptual model (see Figure 1) and the studied measures: the χ^2 test was significant, χ^2 (df=70, N=1,024) = 108.499, *p=*.002, and indices values were high: NFI = .985, CFI= .995, GFI = .988, and RMSEA = .023. In sum, step 1 revealed a good fit between the conceptual model and the empirical data. However, given that several paths were not significant, we expected that a modified model would result in a better fit.

The Modified Model

The second step in the analysis tested a modified and more concise model of students'

positive and negative mood (see Figure 2) by considering only the paths that emerged as significant in the base model (Byrne, 2001). This analysis revealed a very strong fit between the modified model and the empirical findings: the χ^2 test was non-significant, χ^2 *(88df, N=1024) = 98.041, p = .218,* and the indices-of-fit values were high: NFI =.986, CFI=.999 GFI = .990, and RMSEA = .011.

In the modified model, the exogenous variable LD had a direct path to hope (β = -.07, *p*<.01), effort (β = -.11, *p*<.01) and family adaptability (β =.08, p =.014). Children with LD rated their families as more flexible, and reported lower levels of hope and effort in

Figure 2:
Predictors of positive and negative mood: The modified model
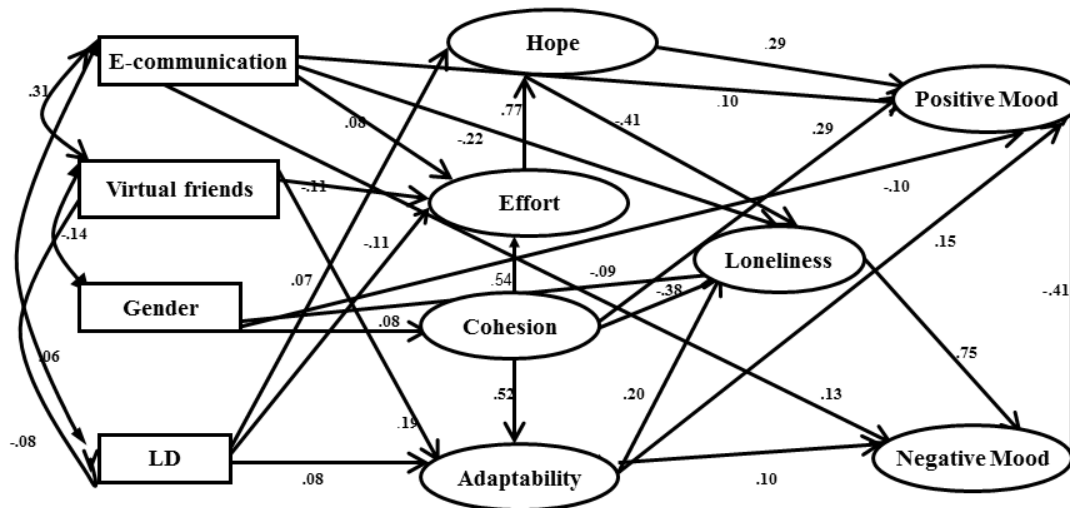
Chi square=98.04 , df=88, p=.218, CFI=.999, GFI=.990, NFI=.986, RMSEA=.011

engagement. The exogenous variable of e-communication with friends had a direct path to positive mood (β = .10, *p*<.01) and negative mood (β = .13, *p*<.01), loneliness (β = -.22, *p*<.01) and effort (β = .08, p=.019). The exogenous variable of e-communication with virtual friends (strangers) had a direct path to effort (β = -.11, *p*<.01) and adaptability (β = .19, *p*<.01). Students with higher levels of e-communication with friends had higher levels of positive mood as well as increased negative mood. They reported lower levels of loneliness and more engagement in academic effort. However, children who e-communicated with strangers considered their families more flexible and reported less academic effort. The exogenous variable of gender had a direct path to the endogenous variables of positive mood (β = -.10, *p*<.01)*,* loneliness (β = -.09, *p*<.01) and family cohesion (β =.08, p =.014). Boys

rated their families as more cohesive, and reported higher levels of loneliness and lower levels of positive mood than girls.

The following mediating variables had a direct path to positive mood: hope (β =.29, p<.01), family cohesion (β = .29, p<.01) and family adaptability (β = .15, p<.01). Students with higher levels of hope reported higher levels of positive mood, as did students with higher family cohesion and adaptability. In addition, two mediating variables had a direct path to negative mood: family adaptability (β = .10, p<.01) and loneliness (β =.75, p<.01). Students who reported higher levels of family flexibility and increased loneliness also reported higher levels of negative mood.

Hope had a direct path to loneliness (β =- .41, p<.01) and positive mood (β = .30, p<.01). In addition, there was a direct path from effort to hope (β = .77, p<.01). Direct paths were found from cohesion to adaptability (β = .53, p<.01), effort (β = .54, p<.01), loneliness (β = -.38, p<.01) and positive mood (β = .29, p<.01), emphasizing the important positive role of family cohesion. Adaptability had a direct path to loneliness (β = .20, p<.01), negative mood (β = .10, p<.01) and positive mood (β = .15, p<.01). The endogenous variable of negative mood had a direct path to positive mood (β = -.41, p<.01), meaning that students who reported higher levels of negative mood had lower levels of positive mood.

The exogenous variables were also related. LD was negatively associated with e-communication with friends (β =-.08, p<.01) and positively related to virtual friends (β =.06, p=.056). E-communication with virtual friends was also related to e-communication with friends (β =.31, p<.01) and gender (β =-.14, p<.01).

Summary of the Model

The modified model can be summarized as follows (see Table 3). The measures that contributed directly to positive mood were hope, negative mood, family cohesion and adaptability, gender, and e-communication with friends. LD contributed to positive mood only indirectly through family adaptability, as well as through effort and hope.

Negative mood was predicted directly by loneliness, e-communication with friends, and family adaptability. Indirectly, LD contributed to negative mood through loneliness, effort through hope, and family adaptability. Hope was predicted directly and indirectly by LD, directly by effort, and indirectly by family cohesion, e-communication with friends (a positive relationship) and with strangers (a negative relationship). Family variables (adaptability and cohesion) contributed differently to mood (positive and negative), loneliness, hope, and effort. LD and virtual friends contributed only indirectly to positive and negative mood.

Table 3

Direct, Indirect and Total Effects

Effect	Direct	Indirect	Total
On Mood (positive)			
• LD	.00	-.06**	-.06**
• Gender	-.10**	.08**	-.02
• E-communication	.10**	.04*	.14**
• Virtual friends	.00	-.03	-.03
• Hope	.29**	.13**	.42**
• Effort	.00	.32**	.32**
• Loneliness	.00	-.31**	-.31**
• Family adaptability	.15**	-.11**	.04
• Family cohesion	.29**	.31**	.61**
• Negative mood	-.41**	.00	-.41**
On Mood (negative)			
• LD	.00	.07**	.07**
• Gender	.00	-.09**	-.09**
• E-communication	.13**	-.18**	-.06*
• Virtual friends	.00	.08**	.08**
• Hope	.00	-.31**	-.31**
• Effort	.00	-.24**	-.24**
• Loneliness	.75**	.00	.75**
• Family adaptability	.10**	.15**	.25**
• Family cohesion	.00	-.28**	-.28**
On Hope			
• LD	- .07*	-.09**	-.16**
• Gender	.00	-.03*	.03*
• E-communication	.00	.06*	.06*
• Virtual friends	.00	-.09**	-.09**
• Effort	.77**	.00	.77**
• Family cohesion	.00	.41**	.41**
On Loneliness			
• LD	-.00	.08**	.08**
• Gender	-.09*	-.04*	-.13**
• E-communication	-.22**	-.02*	-.24**
• Virtual friends	.00	.07**	.07**

• Hope	-.41**	.00	-.41**
• Effort	.00	-.31**	-.31**
• Family adaptability	.20**	.00	.20**
• Family cohesion	-.38**	-.06*	-.44**
On Effort			
• LD	-.11**	.00	-.11**
• Gender	.00	.05*	.05*
• E-communication	.08*	.00	.08*
• Virtual friends	-.11**	.00	-.11**
• Family cohesion	.54**	.00	.54**

*p<.05, **p<.01

Negative mood was predicted directly by loneliness, e-communication with friends, and family adaptability. Indirectly, LD contributed to negative mood through loneliness, effort through hope, and family adaptability. Hope was predicted directly and indirectly by LD, directly by effort, and indirectly by family cohesion, e-communication with friends (a positive relationship) and with strangers (a negative relationship). Family variables (adaptability and cohesion) contributed differently to mood (positive and negative), loneliness, hope, and effort. LD and virtual friends contributed only indirectly to positive and negative mood.

Discussion

The objective of the present study was to examine the personal and familial predictors of positive and negative mood among children with LD and their typically developing peers. Although negative emotional experiences are often dramatic and impactful, and have captured researchers' interest more than positive experiences, the current study investigated both (positive and negative) emotional experiences and showed their relationships to children with LD. The study demonstrated a strong fit between the conceptual model and the empirical findings as well as the pattern of relationships between the model's components. The results underscored the complexity of LD related challenges, but pointed to the need to include personal and familial qualities in predicting outcomes. The model provided important information about the different direct and indirect effects of gender, e-communication, hopeful thinking, loneliness and perceptions of family characteristics on children's wellbeing as reflected in their mood. Before addressing the results of the SEM analyses, the following section briefly discusses the findings of the preliminary analysis.

Preliminary Analysis

As a preliminary analysis, the two groups of children were compared with regard to the tested variables. Children with LD reported lower levels of hope and effort, and higher levels of loneliness than their typically developing peers. They considered their family more

flexible than that of their peers. In part, these results supported early studies that focused on adolescents with LD who reported lower levels of hope and effort, and increased loneliness (Lackaye et al., 2006). The family climate results also supported in part the results of family climate differences among adolescents with and without LD (Idan & Margalit, 2014). Similarly, younger children with LD in the current study reported that the adaptability and flexibility of their family climate were higher than that of their typically developing peers. However, the expected differences in family cohesion were not found in the current study. With regards to gender differences, boys reported higher levels of negative mood and increased loneliness compared to girls, and they had more virtual friends. Girls reported higher levels of effort investment than boys, and they considered their families as more cohesive and supportive.

However, the reported differences should be treated with caution (as further explained in the limitation section), considering the large sample, medium effect size of the general MANOVA, and especially the small effect sizes of the univariate analyses. No significant interaction was found, and both variables were considered in the model.

Estimation of the Model

The results supported the hypotheses in part, emphasizing the important role of personal and familial perceptions in predicting the children's wellbeing. In line with the proposed conceptual model, the results showed that positive and negative mood were predicted by personality and familial characteristics, which mediated the exogenous variables: the children's characteristics (LD and gender), as well as their technology, supported interpersonal behavior (e-communication, and virtual friends). Acknowledging the significant roles of family climate variables as well as children's hopeful thinking , effort investment and loneliness distress that have been identified by earlier research, the current model confirmed that these variables mediated the impact of the personal and interpersonal exogenous variables. Thus, the roles of family cohesion and adaptability, as well as of hopeful thinking, loneliness and effort investment were confirmed in the model together with the direct contribution of exogenous variables.

In the current study, learning disabilities contributed to positive and negative mood only through hope, effort and family adaptability. An earlier study showed that children with LD were less hopeful and invested less effort in their studies (Al-Yagon, 2011; Lackaye et al., 2006). Regarding the first mediator variable – children's hope – the present study provided additional support for the relevance of hope theory in explaining the association between LD and mood. Hope was positively associated with positive mood and negatively associated with the experience of loneliness that contributed to negative mood.

With regard to the mediator of loneliness, LD contributed to it only indirectly, together with additional factors that will be further clarified. The outcomes of experiencing loneliness support its importance as a risk to wellbeing. While loneliness contributed to negative mood, an examination of the factors that contributed to loneliness revealed a complex picture. Loneliness was predicted negatively by gender (boys more lonely than

girls) and by the two family measures: negatively by family cohesion, and positively by family adaptability. It was also negatively predicted by e-communication with friends and by hope. Thus, these results extended our understanding of the research inconsistencies with regard to the relationship between loneliness and LD (Pavri & Monda-Amaya, 2000; Wiener, 2003; Yu et al., 2005).

Several personal and familial factors including LD and gender contributed to experiences of loneliness and accentuated the advantages of the comprehensive conceptual model. Gender also predicted family cohesion (with girls in more cohesive families), and positive mood. Yet, these connections have to be treated with caution, since although they were significant in fact they were low. The current study also pinpointed the comprehensive aspects of loneliness. As expected, it was related to social connections with children who used e-communication for supporting existing social relationships and reported lower levels of loneliness. Social support from the cohesive family also contributed to reducing loneliness. The family's flexibility was negatively related to loneliness, perhaps reflecting the impact of reduced stability and the psychological price of making changes within the family system (Olson & Gorall, 2003). Hopeful thinking also contributed to reducing loneliness, underscoring the personality aspects in the construct.

The family's adaptability and cohesion provided an index of the family context. The learning disabilities in the current study contributed directly to the family's flexibility, but not to its cohesion. These families have to adapt to the changes dictated by the extended needs of their child's challenges. The increased flexibility takes an emotional toll, reflected in higher levels of loneliness and higher levels of negative mood. However, the family's flexibility also contributed to positive mood when it was combined with family cohesion and hope, reflecting the importance of different relationships. For example, regardless of their academic challenges, children with LD who were engaged in their academic work and made a focused effort in school felt more hopeful, and experienced higher levels of positive mood and lower levels of loneliness. Indeed, the family's increased flexibility may result in increased distress expressed in greater loneliness and higher levels of negative mood. However, the increased openness to change may also predict positive mood, when combined with the family's social support (i.e., cohesion) and hope. While prior studies have examined the impact of LD on separate aspects of children's perceptions, the proposed conceptual model in the current study demonstrates that LD should be treated only as a risk factor. When it is mediated by personal strengths such as hope, social initiatives using e-communication, and combined familial strengths such as cohesion and flexibility, different outcomes may be expected.

The use of e-communication with friends and strangers was also associated with LD, and contributed to the mood outcomes directly and indirectly. Prior studies of e-communication reported that adolescents used it to preserve and support existing social relationships with actual friends from everyday life, and predicted lower levels of loneliness (Sharabi & Margalit, 2011a, 2011b). In the current study, e-communication with friends predicted both types of mood among children with and without LD. These findings provided

further support to the consideration of positive and negative mood as two separate systems that operate independently but also interact with one another (Watson et al., 1999). E-communication with strangers predicted family adaptability, negatively predicted effort, and was associated indirectly with both types of mood.

These results underscore the relationship between positive and negative mood in the present study. They provide support to the construct of two separate yet interacting activating systems and to the research that has documented the power of positive mood to buffer the effects of negative mood (Riskind et al., 2013). In the current study, girls expressed higher levels of positive mood than boys. Gender comparison has yielded inconsistent results regarding socio-emotional aspects within different age groups (Idan & Margalit, 2014; Lackaye et al., 2006; Sharabi & Margalit, 2011b). In a study that compared gender differences in adolescents with LD, boys reported lower levels of negative mood and higher levels of positive mood than girls (Sharabi & Margalit, 2011b), but in another study, the gender differences were not significant (Lackaye et al., 2006).

Conclusions, Implications, Limitations and Future Directions

In conclusion, the results of this study supported the proposed conceptual model of the relationships between predictors of students' positive and negative mood. The results emphasized the heterogeneous characteristics of students with LD, showing that personal characteristics, types of e-communication and family qualities mediate their effect on adjustment and wellbeing. The importance of positive mood and negative mood as two separate activation systems should be considered in future studies. The results demonstrated that children who are hopeful have a more positive mood, and family cohesion positively predicts effort in school, hope, and positive mood, and negatively predicts loneliness and negative mood. This applies to children with and without LD.

Implications. The study has important practical implications for education and family intervention. It is essential to sensitize teachers not only to the academic challenges and needs of students with LD, but also to the children's personal and familial characteristics. The introduction of hope intervention approaches to educational systems (Davidson, Feldman, & Margalit, 2012), and the supporting curriculum and strategies that help to promote a classroom climate of hopeful thinking may enhance the students' positive mood and resiliency. The study also calls for the development of an educational awareness of the possible complex contribution of e-communication among children. The planned responsiveness of families and educators to the virtual connections among children, and to the different uses of e-communication and their emotional outcomes, may lead to planning future interventions.

The study also focused attention on the important role of family variables, especially family cohesion. The significance of cohesion and support within the family were emphasized. They predicted not only positive mood, but also the adaptability of the family to changes, children's investment in learning, and decreased loneliness. These results call for

focused effort at empowering families through family therapy and parental counseling in order to enhance their closeness, support and cohesion, as well as their abilities to adapt to the changing demands in their environment. Future programs have to sensitize parents to their important role in enhancing their children's wellbeing through parental counseling that emphasizes the critical role of family climate in children's school engagement and well-being.

Limitations. Several limitations in this study call for further research. First, the study focused on the heterogeneous, self-reported characteristics of students with LD. Information from additional sources such as teachers and parents may provide an extended perspective for understanding the wellbeing of children with LD. In addition, the correlational nature of the study requires caution in interpreting its conclusions, emphasizing the need for longitudinal studies that follow the direction of developmental paths and further clarify the impact of the various predictors. More studies are needed to clarify how e-communication and friendship are related to face-to-face companionship with peers, as well as to the loneliness experience.

Future directions. Different research methodologies such as in-depth interviews and daily diary methods will enrich our understanding of the factors that contribute to the wellbeing of children with and without LD, promote an understanding of their struggles and happiness, and lead to the development of effective contextual support.

Considering the indirect impact of the LD, and the small effect sizes of the comparisons, this comprehensive model may refer to children in general, with and without LD. Future studies are needed to further examine the distinct aspects as well as shared characteristics among children with and without LD, as well as between different levels and subgroups of LD.

While it is important to focus attention on the social and emotional aspects of children with LD, there is also the danger of denying their academic and cognitive challenges. We can suspect that they have many negative experiences with academic and social failure during their development. Still, we also hope that many of them experience some success and fulfillment when they overcome those difficulties. In order to determine the mechanisms that promote children's resilience and success, we need to acknowledge as well as put forward a coherent and comprehensive analysis of their challenges and strengths within various familial and educational systems in broader cultural contexts.

References

Adelabu, D. H. (2008).Future time perspective, hope, and ethnic identity among African American adolescents. *Urban Education, 43*(3), 347–360**.**

Al-Yagon, M. (2003). Children at-risk for developing learning disorders: Multiple perspectives. *Journal of Learning Disabilities, 36*(4), 318–335**.**

Al-Yagon, M. (2011). Fathers' coping resources and children's socioemotional adjustment among children with learning disabilities. *Journal of Learning Disabilities, 44*(6), 491–507.

Al-Yagon, M. (2012). Adolescents with learning disabilities: Socioemotional and behavioral functioning and attachment relationships with fathers, mothers, and teachers. *Journal of Youth and Adolescence, 41*(10), 1294–1311.

Al-Yagon, M., & Margalit, M. (2013). Social cognition of children and adolescents with LD: Intrapersonal and interpersonal perspectives. In K. Harris, S. Graham & L. Swanson (Eds.), *Handbook of learning disabilities* (pp. 278-292). New York: Guilford Press**.**

Arbuckle, J. L. (2012). *IBM SPSS Amos 21: User's guide.* Chicago, IL: IBM SPSS.

Asher, S. R., Parkhurst, J. T., Hymel, S., & Williams, G. A. (1990). Peer rejection and loneliness in childhood. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 253–273). Cambridge, England: Cambridge University Press**.**

Bandalos, D. L., & Finney, S. J. (2001). Item parceling issues in structural equation modeling. In G. A. Marcoulides & R. E. Schumacker (Eds.), *New developments and techniques in structural equation modeling* (pp. 269-296). Mahwah, NJ: Lawrence Erlbaum.

Baumeister, R. F. (1999, August). *Bad is stronger than good.* Paper presented at the Annual Convention of the American Psychological Association, Boston.

Bauminger, N., & Kimhi-Kind, I. (2008). Social information processing, security of attachment, and emotion regulation in children with learning disabilities. *Journal of Learning Disabilities, 41*(4), 315–332.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588–606**.**

Bono, G., McCullough, M. E., & Root, L **.**M. (2008). Forgiveness, feeling connected to others, and well-being: Two longitudinal studies. *Personality and Social Psychology Bulletin, 34*(2), 182–195.

Bryan, T., Burstein, K., & Ergul, C. (2004). The social-emotional side of learning disabilities: A science-based presentation of the state of the art. *Learning Disabilities Quarterly, 27*(1), 45–51.

Byrne, B. M. (2001). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Mahwah, NJ: Lawrence Erlbaum.

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*(1), 19–35**.**

Cheng, H., & Furnham, G. (2002). Personality, peer relations, and self-confidence as predictors of happiness and loneliness. *Journal of Adolescence, 25*, 327–339**.**

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Davidson, O. B., Feldman, D. B., & Margalit, M. (2012). A focused intervention for first-year college students: Promoting hope, sense of coherence and self-efficacy. *The Journal of Psychology: Interdisciplinary and Applied, 146*(3), 333–352.

Forgas, J. P. (2013). Don't worry, be sad! On the cognitive, motivational, and interpersonal benefits of negative mood. *Current Directions in Psychological Science, 22*(3), 225–232.

Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science, 13*(2), 172–175.

George, J. M. (2011). Dual tuning. *Organizational Psychology Review, 1*(2), 147–164.

Hamann, S. (2009).Towards understanding emotion's effects on memory. *Emotion Review, 1*(2), 114–115.

Heath, N. L., & Wiener, J. (1996). Depression and nonacademic self-perceptions in children with and without learning disabilities. *Learning Disabilities Quarterly, 19*(1), 34–44 **.**

Heaven, P., & Ciarrochi, J. (2008). Parental styles, gender and the development of hope and self-esteem. *European Journal of Personality, 22*(8), 707–724**.**

Hellman, C., Pittman, M., & Munoz, R. (2013). The first twenty years of the will and the ways: An examination of score reliability distribution on Snyder**'**s Dispositional Hope Scale. *Journal of Happiness Studies, 14*(3), 723–729.

Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. In R. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 158–176). Thousand Oaks, CA: Sage.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1–55**.**

Idan, O., & Margalit, M. (2014). Socioemotional self-perceptions, family climate, and hopeful thinking among students with learning disabilities and typically achieving students from the same classes. *Journal of Learning Disabilities*, *47*(2), 136–152.

Kaufman, A. S., & Kaufman, N. L. (1983). *Kaufman Assessment Battery for Children: Administration and scoring manual*. Circle Pines, MN: American Guidance Service**.**

Kok, B. E., Coffey, K. A., Cohn, M. A., Catalino, L. I., Vacharkulksemsuk, T., Algoe, S. B., Fredrickson, B. L. (2013). How positive emotions build physical health: Perceived positive social connections account for the upward spiral between positive emotions and vagaltone. *Psychological Science, 24*(7), 1123–1132**.**

Koppitz, E. M. (1975). *The Bender-Gestalt Test for Young Children: Research and application*. Orlando, FL: Grune & Stratton**.**

Lackaye, T., Margalit, M., Ziv, O., & Ziman, T. (2006).Comparisons of self-efficacy, mood, effort **,**and hope between students with learning disabilities and their non-LD-matched peers. *Learning Disabilities Research & Practice, 21*(2), 111–121.

Larsen, R. J. (2000). Toward a science of mood regulation. *Psychological Inquiry, 11*, 129–141**.**

Lasgaard, M**.**, Goossens, L., Bramsen, R. H., Trillingsgaard, T., & Elklit, A. (2011). Different sources of loneliness are associated with different forms of psychopathology in adolescence. *Journal of Research in Personality, 45*(2), 233–237.

Lenhart, A., & Madden, M. (2007). How teens manage their online identities and personal information in the age of MySpace. *Pew Internet & American Life Project*. Retrieved from http://www.pewinternet.org

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*(2), 151–173 **.**

Maag, J. W., & Reid, R. (2006). Depression among students with learning disabilities: Assessing the risk. *Journal of Learning Disabilities, 39*(1), 3–11**.**

Madden, M., Lenhart, A., Cortesi, S., Gasser, U., Duggan, M., Smith, A., & Beaton, M. (2013). *Teens, social media, and privacy*. Washington, DC: Pew Internet & American Life Project**.**

Margalit, M. (1991). Understanding loneliness among students with learning disabilities. *Behavior Change, 8*, 167–173**.**

Margalit, M. (2010). *Lonely children and adolescents: Self perceptions, social exclusion and hope*. New York: Springer**.**

Margalit, M., & Ankonia, D. B. (1991). Positive and negative affect in parenting disabled children. *Counseling Psychology Quarterly, 4*(4), 289–299.

McDonald, R. P. (1996). Path analysis with composite variables. *Multivariate Behavioral Research, 31*(2), 239–270.

Moos, R. H., Cronkite, R. C., Billings, A. G., & Finney, J. W. (1987). *Revised health and daily living form manual.* Palo Alto, CA: Veterans Administration and Stanford University Medical Centers**.**

Olson, D., & Gorall, D. M. (2003). Circumplex model of marital and family systems. In F. Walsh (Ed.), *Normal family processes* (3rd ed., pp. 514–547). New York: Guilford.

Olson, D. H. (1986)**.** Circumplex model VII: Validation studies and FACES III. *Family Process, 26*, 337–351**.**

Osaka, M., Yaoi, K., Minamoto, T., & Osaka, N. (2013). When do negative and positive emotions modulate working memory performance? *Scientific Reports, 3*, 1–8.

Pavri, S., & Monda-Amaya, L. (2000). Loneliness and students with learning disabilities in inclusive classrooms: Self-perceptions. *Learning Disabilities Research & Practice, 15*(1), 22–33.

Phan, H. P. (2013). Examination of self-efficacy and hope: A developmental approach using latent growth modeling. *The Journal of Educational Research, 106*(2), 93–104.

Riskind, J. H., Kleiman, E. M., & Schafer, K. E. (2013). "Undoing" effects of positive affect: Does it buffer the effects of negative affect in predicting changes in depression? *Journal of Social and Clinical Psychology, 32*(4), 363–380.

Sharabi, A., Levi, U., & Margalit, M. (2012). Children's loneliness, sense of coherence, family climate, and hope: Developmental risk and protective factors. *The Journal of Psychology, 146*, 61–83**.**

Sharabi, A., & Margalit, M. (2011a). The mediating role of Internet connection, virtual friends, and mood in predicting loneliness among students with and without learning disabilities in different educational environments. *Journal of Learning Disabilities, 44*(3), 215–227.

Sharabi, A., & Margalit, M. (2011b). Virtual friendships and social distress among adolescents with and without learning disabilities: The subtyping approach. *European Journal of Special Needs Education, 26*(3), 379–394**.**

Sideridis, G. D. (2007). Why are students with LD depressed? A goal orientation model of depression vulnerability. *Journal of Learning Disabilities, 40*(6), 526–540**.**

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry, 13*(4), 249–275**.**

Sullivan, G. C. (1993). Towards clarification of convergent concepts: Sense of coherence, will to meaning, locus of control, learned helplessness and hardiness. *Journal of Advanced Nursing, 18*(11), 1772–1778.

Teichman, Y., & Navon, S. (1990). Family evaluation: The circumplex model. *Psychology, 2*, 36–46.

Tillema, J. L., Cervone, D., & Scott, W. D. (2001). Negative mood, perceived self-efficacy, and personal standards in dysphoria: The effects of contextual cues on self-defeating patterns of cognition. *Cognitive Therapy and Research, 25*(5), 535–549.

Vakil, E., & Blachstein, H. (1993). Rey Auditory - Verbal Learning Test: Structure analysis. *Journal of Clinical Psychology, 48*(6), 883–890**.**

Valle, M. F., Huebner, E. S., & Suldo, S. M. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology, 44*(5), 393–406**.**

Watson, D., Wiese, D., Vaidya, J., & Tellegen, A. (1999). Two general activation systems of affect: Structural findings, evolutionary considerations and psychobiological evidence. *Journal of Personality and Social Psychology, 76*(5), 820–836**.**

Wechsler, D. C. (1991). *Wechsler Intelligence Scale for Children* (3rd ed.). San Antonio, TX: Psychological Corp**.**

Wiener, J. (2003). Resilience and multiple risks: A response to Bernice Wong. *Learning Disabilities Research and Practice, 18*(2), 77–81.

Xue, Q. L. (2007). Lecture 3: Introduction to path analysis. The Johns Hopkins University, USA. Retrieved from http://ocw.jhsph.edu/courses/structuralmodels/PDFs/ Lecture3.pdf

Yu, G., Zhang, Y., & Yan, R. (2005). Loneliness, peer acceptance and family functioning of Chinese children with learning disabilities: Characteristics and relationships. *Psychology in the Schools, 42*(3), 325–331**.**