

Homework Stress and Learning Disability: The Role of Parental Shame, Guilt, and Need Frustration

Idit Katz

Ben-Gurion University of the Negev

Marianna Alesi

University of Palermo

Angelica Moè 

University of Padova

Using a cross-sectional design, this study examined the relationships between parental guilt, shame, need frustration, and homework stress in students with learning disabilities (LD) and typically developing students (TD) and their parents. One hundred and eight parent-child dyads (54 LD, 54 TD) completed questionnaires to assess homework stress, parental need frustration, guilt, and shame. Parents of students with LD reported more stress, need frustration, shame, and guilt than parents of TD students. For the LD group, shame mediated the association between parental need frustration and parental and child stress whereas guilt mediated the association between parental need frustration and parental stress. The theoretical and practical implications for lessening homework stress for students with LD and their parents are discussed.

Homework is a common educational practice intended to improve student learning (Cooper et al., 2006) and self-regulation (e.g., Zimmerman & Kitsantas, 2005). However, it is a source of stress in many families (Agha et al., 2020; Holland et al., 2021; Pressman et al., 2015), which can lead to reduced student effort (e.g., Trautwein et al., 2009), increased student disengagement (e.g., Reschly et al., 2008), and procrastination (Katz et al., 2014; Shih, 2019). Although these challenges are common in many families (e.g., Katz et al., 2011), they are more pronounced when a child has a learning disability (LD) (Barahmand et al., 2015; Carotenuto et al., 2017; Hsiao, 2018; Yotyodying & Wild, 2016).

The high stress related to homework for students with LD and their parents may be accounted for by the characteristics of the disability, which can make many aspects of homework more challenging. For example, students with LD may encounter problems understanding the assignment, remembering to do it, organizing the material needed to carry it out, and completing it (Bryan et al., 2001). In turn, dealing with their child's difficulties on a daily basis can cause parents to experience high levels of stress (Katz et al., 2012) and low self-efficacy (Barahmand et al., 2015; Yotyodying & Wild, 2016). These reactions, in turn, may result in avoidance-oriented coping (Carotenuto et al., 2017) or the adoption of

controlling practices (Dumont et al., 2014), which can be further detrimental to the child's learning, adjustment, and well-being.

Given the importance of relaxed and positive parental participation in learning for all students (Pomerantz et al., 2005), and students with LD in particular (Jakulski & Mastropieri, 2004), this study was designed to better understand the role of key parental factors that contribute to the stress they and their children experience. Whereas previous studies have focused on parental characteristics such as life satisfaction, locus of control (Karaman et al., 2019), psychological need frustration (i.e., the feeling of having no resources or skills to help, being forced to get involved in homework, and an uncomfortable and distant atmosphere) (Dumont et al., 2014; Moè et al., 2020), type of motivation, and parental efficacy (Grolnick, 2015), the current study considered the relatively unexplored factors of parental shame and guilt. Guilt and shame are often experienced but less often explicitly acknowledged emotions in parents (Bentley et al., 2016); nevertheless, they are considered a significant source of anguish in parents of students with LD (Simpson, 2015). Parental experiences of guilt and shame regarding their children's academic efforts are likely to be an influential factor shaping parental well-being (Orth et al., 2006), parental style (Moè et al., 2020), and family relationships (Cohen-Filipic & Bentley, 2015).

Requests for reprints should be sent to Angelica Moè. Electronic inquiries should be sent to angelica.moe@unipd.it.

Grounded in self-determination theory (Ryan & Deci, 2017), this study investigated whether parental need frustration when involved in their child's homework is associated with shame and guilt and whether these emotions, in turn, are related to parental and child stress. To better determine the specific ways in which parental guilt and shame can lead to high homework-related stress, students with LD and their parents were compared to typically developing (TD) students and their parents.

Homework Stress

Homework-related stress refers to a subjective experience of tension, irritability, lack of concentration, and confusion, often accompanied by physical symptoms such as sweating, headache, exhaustion, weight loss, weight gain, stomach problems, and/or difficulties sleeping (Galloway et al., 2013; Yeo et al., 2020). These symptoms can arise when doing homework or helping with homework (e.g., Solomon et al., 2002). Previous research has shown that student homework stress is related to situational factors (e.g., amount of homework and time needed to complete it; Kouzma & Kennedy, 2002) and personal factors such as self-efficacy (Murray et al., 2006), the value attributed to homework (Xu, 2005), perfectionism, and coping skills (Wuthrich et al., 2020). For parents, the more they perceive homework to be a burden, the lower their feelings of competence when helping their child (e.g., DiStefano et al., 2020; Dumont et al., 2012), and the more their motivation to be involved is extrinsic (i.e., based on rewards, social approval, or a desire to please somebody) (Grolnick, 2015; Pomerantz et al., 2007).

In a recent paper that examined parental stress over homework through the prism of self-determination theory (Moè et al., 2020), frustration of the basic psychological needs for competence, autonomy, and relatedness was found to be the main source of stress for parents and students alike. Parental stress increases when parents experience homework as need frustrating; that is, when they perceive a lack of competence and feel they (a) have insufficient resources or skills to be supportive, (b) have no choice, and (c) are forced to participate, or when the atmosphere is uncomfortable and harsh. Parents who experience need frustration tend to favor the adoption of controlling modalities rather than supportive practices (Yotyodying & Wild, 2016). In turn, the child may also experience homework as need frustrating and stressful. Parental and child stress is at its highest when students lack competence and struggle with assignments (Murray et al., 2006; Pomerantz et al., 2006), as is the case for many students with LD.

Homework and Students with Learning Disabilities

Learning disabilities are biologically determined neurodevelopmental disorders that lead to specific deficits in reading, writing, or mathematical skills. As such, LD falls into three main categories: dyslexia, writing disorders (including dysorthographia and/or dysgraphia), and dyscalculia

(American Psychiatric Association, 2013), affecting attention, memory, coordination, motivation as well as emotional and social skills (Fletcher & Grigorenko, 2017). Students with LD are more likely than their TD counterparts to have difficulties doing homework, because they struggle to write down homework assignments, understand task requirements and goals, choose the proper strategies, monitor the adoption of these strategies, and overcome distractions (e.g., Bryan et al., 2001).

Typically, students with LD have a poor academic self-concept, an entity theory of their abilities (e.g., the belief that they cannot improve much), and low self-esteem, all of which can impact effort, engagement, and performance (e.g., Hen & Goroshit, 2014). Further, many students with LD perceive homework as a reminder of their difficulties and a source of frustration (Margolis, 2005). As a result, they require more extensive support from their parents compared to TD students.

Parents may perceive their child as an extension of the "self" and thus consider their child's success or failure as a measure of their own personal worth (Ng et al., 2014). Parents of students with LD are exposed to their child's difficulties and failures every day while doing homework and, thus, often experience a continual painful and "narcissistic injury" (Simpson, 2015). This so-called injury may be accompanied by negative emotions such as shame and guilt, which are commonplace in parents of students with LD (Fernández-Alcántara et al., 2017; Simpson, 2015).

Shame and Guilt

Shame and guilt are self-conscious emotions linked to a negative evaluation of self (Tangney, 1999; Tangney et al., 2007). Guilt is about something done or not done; that is, specific behaviors enacted (or not) by the individual become the focus of the negative evaluation of the self. When people feel shame, on the other hand, the entire self is judged to be inadequate, unworthy, small, and inferior (Tangney et al., 2011).

Both shame and guilt are negative, unpleasant emotions. However, their consequences and implications for emotion, motivation, and interpersonal functioning are different. For example, to a greater extent than guilt, shame significantly predicts maternal depressive symptoms (Dunford & Granger, 2017) and the adoption of controlling behaviors (Yotyodying & Wild, 2016). By contrast, guilt, although previously identified as a source of parental distress (e.g., depression and anxiety; Dunford & Granger 2017; Liss et al., 2013), is also considered a motivator of positive parental behaviors (Borelli et al., 2017) when experienced moderately. Indeed, some researchers have posited that maternal guilt has an evolutionary basis to ensure that mothers provide the care needed to promote the survival of their offspring (e.g., Rotkirch & Janhunen, 2010). Thus, while both shame and guilt involve parental negative emotions, they can elicit different attitudes and behaviors.

Parents of students with LD tend to feel more guilt than parents of TD students (Fernández-Alcántara et al., 2017; Simpson, 2015). They tend to consider themselves

“bad” parents and irrationally blame themselves for their child’s difficulties. They may also feel guilty for not knowing how to help overcome their children’s challenges, behave impatiently toward their child, or adopt controlling or intrusive modalities (Borelli et al., 2017). Further, compared to parents of TD students, parents of students with LD experience shame more frequently and more intensely (Yotyodying & Wild, 2016), characterized by feelings of rejection, embarrassment, alienation, and unworthiness, resulting in poor coping and controlling parental strategies (Mills et al., 2007).

Study Aims and Hypotheses

This study examined the relationships between parental guilt, shame, need frustration, and homework stress in a sample of students with LD or TD and their parents. It was hypothesized that the more parents perceive homework as need frustrating (e.g., they feel helpless, lack connectedness, and have a sense of detachment), the more their involvement in homework evokes guilt and shame. Although their emotional resources are depleted due to the experience of need frustration, shame, and guilt, parents are still expected to help their children compensate for their deficiencies. The long-lasting parental experience of shame likely overwhelms parents’ emotional resources and leads to increased parental stress. In turn, their children may perceive this parental discomfort and the controlling behaviors accompanying it (Yotyodying & Wild, 2016) as sources of high stress (e.g., Wehmeyer et al., 2017). However, the enduring experience of guilt, although manifesting in high parental levels of stress, is not necessarily reflected in child stress, since guilt can motivate parents to change their behavior to overcome their guilt (Slobodin et al., 2020).

Specifically, it was hypothesized that:

- H1. Parents of students with LD experience higher levels of stress, need frustration, shame, and guilt than parents of TD students.
- H2. Students with LD experience higher levels of stress than TD students.
- H3. Parental guilt and shame mediate the association between the parental experience of need frustration and homework stress. Specifically, the parental experience of homework as need frustrating is associated with parental guilt and shame, which, in turn, is related to parental and child stress.

METHOD

Participants

One hundred and eight students attending public schools in Italy and their parents volunteered to participate. The sample was composed of 54 (24 girls) students with LD, matched for grade and gender with TD controls ($n = 54$, 22 girls), with a mean age of 11.25, $SD = 2.10$ (see Table 1). In accor-

TABLE 1
Number of Students in Each Group per Grade

Grade	Mean Age	Learning Disability	Typically Developing
3	8	2	2
4	9.15	10	10
5	10.14	15	14
6	11.09	5	6
7	12	10	11
8	12.50	1	1
9	14	4	4
10	14.88	4	4
11	16	2	2
12	17	1	0
Total		54	54

dance with the Italian Law on Learning Disabilities (2010), a national public health institution had previously diagnosed the students with LD as having dyslexia (20%), dyscalculia (8%), dysorthographia or dysgraphia (28%), or an LD with other comorbidities (44%). Most of the students with LD had a personalized didactic plan (PDP) at school consisting of accommodations (e.g., reduction in and adaptation of homework) and compensatory instruments (e.g., students are allowed to use a computer for writing or a calculator or concept maps during tests).

The associated parental sample consisted of 76 mothers and 19 fathers (13 did not declare their gender). Forty percent of the parents had academic degrees, 30% had a high school diploma, and 30% had a middle school diploma. Thirty-seven percent of the parents were housekeepers; 6% were store assistants, drivers, or employees; 24% were office workers; 16% were teachers; and 17% were freelancers. The parents’ mean age was 43.59, $SD = 5.89$.

Measures

Parental Basic Psychological Need Frustration

The Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Chen et al., 2015) in the Italian validation by Costa et al. (2018) was administered with the following stem: “When I am involved in my child’s homework . . .” The scale consists of 24 items that assess need satisfaction and need frustration. Parents were asked to rate their agreement with each item on a 5-point Likert scale ranging from 1 = full disagreement to 5 = full agreement. For each parent, the 12 items referring to need frustration (example item: “I feel forced to do many things I wouldn’t choose to do”) were averaged to obtain a total score for parental need frustration when involved in their child’s homework.

Parental Shame and Guilt

The Shame and Guilt scale (Orth et al., 2006) was administered with the following stem: “When I am involved in my

TABLE 2
Mean Values (SD) for the LD and TD Groups: Main Effect for Group

Variable	Cronbach's Alpha	Learning Disability	Typically Developing	F (1, 107)	p	η^2
Parental need frustration	.85	2.17 (0.79)	1.56 (0.79)	15.99	<.001	.13
Parental shame	.74	1.00 (1.06)	0.28 (0.89)	21.07	<.001	.17
Parental guilt	.75	1.46 (1.22)	0.65 (0.70)	17.93	<.001	.14
Parental stress	.94	2.96 (0.75)	2.23 (0.78)	23.94	<.001	.18
Student stress	.87	4.72 (2.89)	4.55 (2.15)	0.12	.73	.01

child's homework" It consists of four items that refer to shame (example item, "I feel like a failure") and four that refer to guilt (example item: "I should have behaved differently"). The parents were asked to rate their agreement with each item on a 6-point Likert-type scale ranging from 0 = not at all right to 5 = completely right. For each parent, the four items referring to parental guilt when involved in their child's homework were averaged to create a measure of parental guilt. Likewise, the four items referring to parental shame when involved in their child's homework were averaged to create a measure of parental shame. (See the Appendix for a complete list of items in Italian, and the original English version.)

Homework Stress

The Homework Stress Questionnaire (HSQ; Katz et al., 2012) in the Italian validation by Moè et al. (2020) was administered separately to parents and students. It lists 20 behaviors (for students: "I put off homework until later"; for parents: "My child puts off homework until later") to be rated twice. First, parents and students report how frequently a given situation occurs while involved in homework, on a scale ranging from 1 = never to 5 = always. Then, parents and students report how stressful the situation is for them, on a scale ranging from 1 = not at all to 5 = very much. A separate mean stress score for parents and students was computed by averaging each item's frequency \times experienced stress ratings (with potential scores ranging from 1 to 25). (See Table 2 for Cronbach's alphas for all the variables.)

Procedure

The study was approved by the local Ethics Committee (protocol number 2608) and involved students attending public schools in southern Italy.

Nonprofit associations specialized in supporting students in doing their homework by providing compensatory tools, suggesting strategies, and providing suitable technological devices were contacted and helped with recruitment of the LD students. The TD students were then gathered at school and matched for grade and gender. The students with LD reported receiving support with homework for up to 10 hours

a week: $M = 4.15$ ($SD = 6.35$) by parents and $M = 6.07$ ($SD = 4.92$) by those specialized persons. The TD students reported receiving parental help with homework for a total of 7.19 hours a week, $SD = 8.21$.

Psychologists from the above-mentioned institutions and teachers from the schools contacted the children's parents to describe the research project. Then, one of the researchers met the parents and explained study goals and procedures. Those who agreed to participate provided written informed consent for their own and their children's participation in the study. Subsequently, parents received a booklet to be returned within a week in a sealed envelope signed with an individual code to ensure proper matching with the students' questionnaires. The envelope contained the parent questionnaire and a demographics sheet asking them to indicate their age, gender, highest educational level, occupation, as well as the child's age, gender, and grade. The parents of students with LD were also asked to provide detailed information on LD, the age at which their child was diagnosed, and whether the child had a PDP.

Students were individually administered the HSQ in a quiet room in their school or the special association. Testing was adapted to the LD students' needs; for example, a trained research assistant read aloud the items if necessary. All questionnaires were completed in a paper-and-pencil format between September 2019 and January 2020, before the COVID-19 lockdown.

Data Analyses

First, we checked for the normal distribution of all the variables: the skewness and kurtosis were within the parameters (-2 to $+2$, and -7 to $+7$, respectively). Then, using SPSS 26, a series of ANOVAs were completed to compare the mean scores of the two groups: LD vs. TD students and their parents. Pearson correlations were also run to assess the relationships between the variables in each group and the feasibility of conducting the multigroup analysis. Finally, structural equation modeling (SEM; Arbuckle & Wothke, 2006) with multigroup analysis (Hayes, 2018) was conducted using AMOS 26 to test the hypothesized mediation model. Two models investigated parental need frustration as the exogenous independent variable and child and parental stress as outcome variables. The mediator was shame in Model 1 and guilt in Model 2. To determine whether the mediation model was significant, we examined the confidence interval of the

TABLE 3
Intercorrelations among the Variables

Variable	1	2	3	4	5
1. Parental need frustration	–	.569**	.379**	.443**	.226
2. Parental stress	.576**	–	.536**	.539**	.302*
3. Parental shame	.246	.348**	–	.521**	.485**
4. Parental guilt	.120	.175	.372**	–	.112
5. Student stress	.114	.242	.091	.292*	–

Note. Variables above the diagonal, LD = learning disability; below, TD = typically developing.

** $p < .01$.

* $p < .05$.

indirect effect through bootstrapping analysis. Bootstrapping is a statistical resampling method that estimates the parameters of a model and its standard errors strictly from the sample (Preacher & Hayes, 2004).

RESULTS

Mean-Level Differences

Confirming H1, parents of students with LD experienced significantly more stress and need frustration and felt more shame and guilt than parents of students with TD. However, disconfirming H2, no difference was found in student stress level (see Table 3 for mean values).

Model 1. Shame as Mediator

The fit of the first model with the data was excellent: $\chi^2/df = 0.713$, $p = .731$, $CFI = 1.00$, $NFI = .99$, $RMSEA = .01$. The nested model comparison for Model 1 revealed no significant differences between groups ($\Delta\chi^2(4) = 6.60$, $p = .15$), as shown in Figure 1 and Table 4. However, we continued the mediation investigation by following the scope of this study regarding possible differences between the groups and considering the mean-level differences and the correlational differences observed.

The analysis revealed a significant association between parental need frustration and parental shame and stress for the LD group. Parental shame, in turn, was positively associated with parental and student stress. These associations suggest that the more parents of LD students experienced that their needs were frustrated while involved in homework, the more they felt ashamed and stressed.

For the TD group, parental need frustration was not associated with parental shame but was positively associated with parental stress. Furthermore, for this group, parental shame was positively associated with parental but not student stress. These associations suggest that the more parents of TD students experienced need frustration when involved with homework, the more stressed they became. However, shame did not mediate these relationships.

Since parental need frustration was not associated with parental shame for the TD group, the mediation hypothesis was investigated solely for the LD group. As shown in Ta-

ble 5, parental shame fully mediated the association between parental need frustration and student stress. Furthermore, parental shame partially mediated the association between parental need frustration and parental stress, confirming H3 solely for the LD group.

Model 2. Guilt as Mediator

The fit of the second model with the data was good: $\chi^2/df = 1.72$, $p = .18$; $CFI = .98$; $NFI = .96$; $RMSEA = .07$. The nested model comparison for Model 2 revealed significant differences between groups ($\Delta\chi^2(4) = 12.36$, $p = .01$), as shown in Figure 1 and Table 4. For the LD group, the analysis revealed a significant association between parental need frustration, parental guilt and stress, and student stress. Parental guilt, in turn, was positively associated with parental stress but not with student stress. These associations suggest that the more parents of LD students experienced need frustration while involved in homework, the more guilty and stressed they felt. Their children also experienced higher levels of stress.

For the TD group, parental need frustration was not associated with parental guilt but was positively associated with parental stress. In addition, parental guilt was negatively associated with student stress but not with parental stress. These associations suggest that the more parents of TD students experienced frustration when involved in homework, the more stressed they were. However, guilt did not mediate these relationships.

Since parental need frustration was not associated with parental guilt for the TD group, the mediation hypothesis was investigated solely for the LD group. Furthermore, since parental guilt was not associated with student stress in the LD group, parental guilt was investigated as a mediator between parental need frustration and parental, but not student stress. As shown in Table 5, parental guilt partially mediated the association between parental need frustration and stress, confirming H3 solely for the LD group.

DISCUSSION

This study aimed to better understand the role of parental shame and guilt in the stress experienced by LD students and their parents while doing homework. To do so, we com-

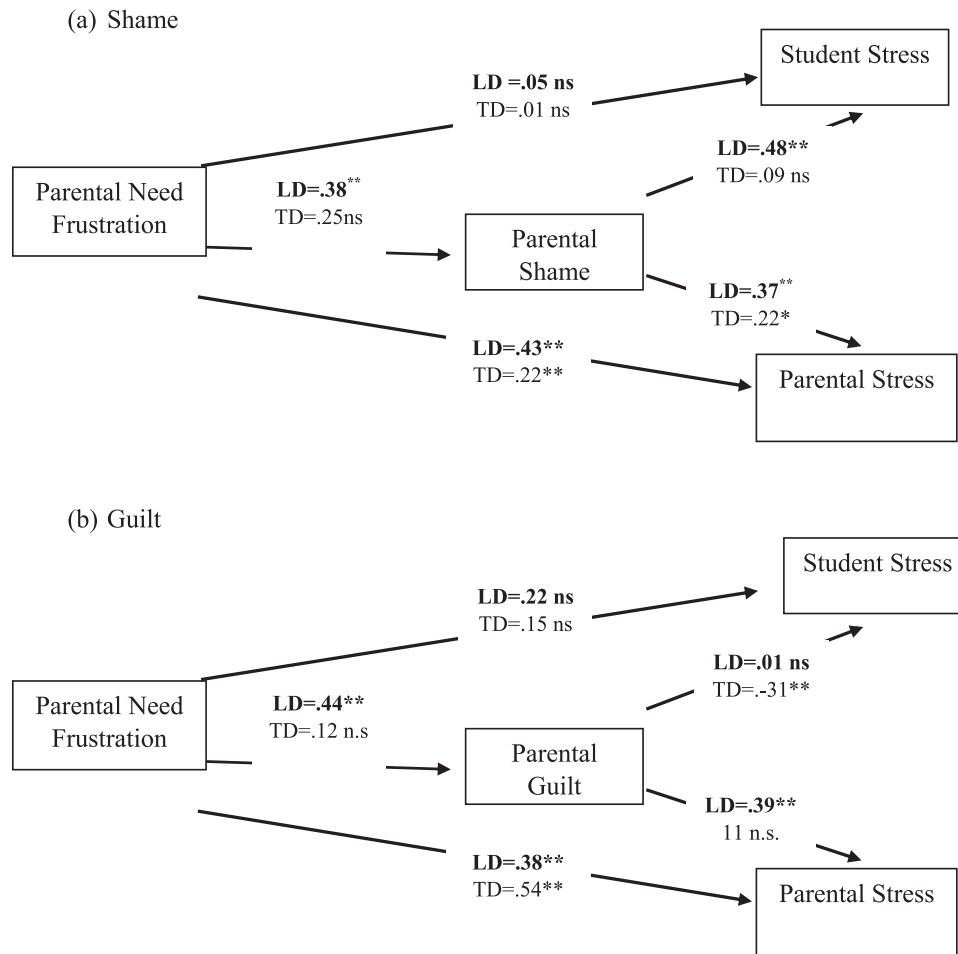


FIGURE 1 Multigroup mediation model. *Note.* LD = learning disability; TD = typically developing. ** $p < .01$. * $p < .05$

pared a group of LD students and their parents to a group of TD students and their parents to assess the relationship between need frustration, a factor shown to contribute to parental and child stress while doing homework in TD students (Moè et al., 2020), and parental shame and guilt, which were found to be experienced by parents of LD students, but have never, to the best of our knowledge, been considered as mediators in the relationship between need frustration and stress (Yotyodying & Wild, 2016).

Parents of Students with LD Feel More Frustrated, Stressed, Ashamed, and Guilty than Parents of TD Students

Consistent with the findings of previous studies, the students and parents reported high homework-related stress regardless of whether they had been diagnosed with an LD or not (Pressman et al., 2015). However, parents of LD students experienced higher levels of stress, need frustration, shame, and guilt while involved in their child's homework than parents of TD students.

However, in contrast to Katz et al. (2012), students with LD did not differ from TD students in reported stress. For both groups, the mean level was similar to that found by Katz et al. (2012) for TD students (4.70). One possible explanation is that students with LD did not complete the questionnaire independently but were helped by a research assistant, potentially leading to a more positive report of their homework experience (a social desirability effect). Another explanation may be that students with LD received extensive help with homework as part of their after-school program in addition to the help they received at home from their parents and that their perceived homework experience, therefore, did not differ from that of TD students. However, their parents still experienced stress, shame, and guilt, although they were less frequently involved in their child's homework.

Parental Shame and Guilt Mediate for LD but Not for TD Students

The mediation analyses confirmed that, although the mean stress levels did not differ between the LD and TD students, there were significant differences in the paths between the

TABLE 4
Results of Multigroup SEM Analyses

	Learning Disability				Typically Developing					
	β	B	SE	t	p	β	B	SE	t	p
Model 1										
Parental need frustration	.38	0.51	0.17	2.98	.003	.25	0.14	0.08	1.84	.07
Parental need frustration	.43	0.41	0.11	3.84	.001	.22	0.49	0.11	4.62	.001
Parental shame	.37	0.27	0.08	3.37	.001	.22	0.39	0.19	2.03	.04
Parental shame	.48	1.31	0.33	4.03	.001	.09	0.43	0.65	0.66	.51
Parental need frustration	.05	0.18	0.47	0.38	.70	.01	0.27	0.38	0.61	.49
Model 2										
Parental need frustration	.44	0.68	0.19	3.59	.001	.12	0.11	0.12	0.88	.37
Parental need frustration	.38	0.35	0.11	3.29	.001	.54	0.52	0.11	4.89	.001
Parental guilt	.39	0.23	0.07	3.23	.001	.11	0.12	0.13	0.99	.32
Parental guilt	.01	0.03	0.35	0.098	.92	-.31	-0.95	0.31	-2.37	.02
Parental need frustration	.22	0.71	0.54	1.5	.14	.15	0.411	0.355	1.16	.25

variables in the two groups. The most notable difference related to the mediating role of shame and guilt for the LD but not the TD parents, highlighting the intensity of these two negative parental emotions and their consequences. It also underlines the substantial differences between these emotions and their impact, which have never been investigated within the framework of homework. Specifically, the results showed that shame related to stress of both parents and students in the LD group. Shame is known to lead people to avoid certain situations or implement poor coping strategies (e.g., Tangney et al., 2011). Thus, the shame experienced by parents of students with LD while involved in homework may encourage the adoption of controlling behaviors (Yotyodying & Wild, 2016) that have been shown to increase students' stress levels. Additionally, student stress can make parents feel ashamed and stressed, potentially leading to reciprocal self-maintaining cycles among student and parental emotions, as found in previous research with TD students (e.g., Moè & Katz, 2018).

Conversely, guilt refers to behaviors that should have been enacted; in this case, "not doing" or "not knowing" how to be helpful with homework. Consequently, moderate levels of guilt may favor empathy and attempt to rectify mistakes (e.g., Orth et al., 2006). Thus, while shame may lead parents to feel bad about themselves and result in them using maladaptive behavior toward their children, thus increasing student stress, which in turn could increase shame, guilt may favor adoption of supportive behaviors, which could create a more positive climate and reduce stress, potentially affecting the levels of guilt in a reciprocal way.

The high level of guilt experienced by parents in the LD group might explain why their sense of guilt was associated with their stress but not with their child's stress. They may have felt sufficiently guilty to feel bad about themselves, but this guilt did not deplete their ego resources, so they may have compensated for their guilt through more positive behavior toward their child, which was reflected in lower stress levels.

Limitations and Future Research

First, since this study was cross-sectional, causal associations could not be tested. Future studies could consider investigating LD and TD peers and their parents longitudinally to assess changes over time. Second, all the variables were self-reported. While this is commonplace in educational research, future studies could include other types of reporting measures and more objective data (e.g., observations) to better determine the pattern of behaviors. Third, the sample was entirely composed of volunteer parents and their children. Thus, it may have included parents who were more involved and worried about homework from the LD group. Future studies could include larger samples and control for participating rationales to address this issue. Moreover, it is worth noting that our sample consisted mostly of mothers, as usual in research regarding parental help with homework (e.g., Pomerantz et al., 2005, 2006). Future research with larger samples of fathers could assess the occurrence of gender differences in stress, perceived need frustration, shame

TABLE 5
Results of the Bootstrapping Analyses for the LD Group: Indirect Effects

Variables	Indirect effect (B)	Confidence interval	
		Upper interval	Lower interval
Parental need frustration→Parental shame→Student stress	0.64	0.18	1.29
Parental need frustration→Parental shame→Parental stress	0.13	0.02	0.28
Parental need frustration→Parental guilt→Parental stress	0.15	0.03	0.30

and guilt around homework by also including student gender.

Fourth, the LD students were recruited through specialized associations helping them in the nonschool hours. They attended different schools, where the matched controls also attended (see Procedure). Typically, the type of homework assigned and the effort required to do the homework differ across teachers/schools. Thus, future research should consider assessing the amount of homework and the effort needed to complete it as a potential covariate of the effects. Finally, the perceived (in addition to objective) burden could be assessed.

Practical Implications

In line with previous research (Wehmeyer et al., 2017; Yotyodying & Wild, 2016), the results of this study highlight the importance of helping parents to experience less need frustration while involved in their children's homework. This applies to TD students and their parents but is essential for LD students and their parents. A less need-frustrating experience could allow parents of students with LD to reduce their and their children's homework-related stress and the intense emotions of shame and guilt that deplete their resources and curb their capability to be supportive. Programs designed to reduce homework stress could enhance the parental experience of autonomy, competence, and relatedness when involved in their child's homework. Examples of programs proposed within the self-determination theory framework include training sessions during which parents are invited to experience competence when helping with homework and learn to adopt need-supportive practices in a warm and caring climate (e.g., Moè et al., 2020).

Such programs should also directly relate to the experience of shame and guilt that is more common in parents of students with LD. When parents feel more competent about their involvement, more autonomously involved, and establish a warm relationship with their child while decreasing guilt and shame, their own stress and the student's stress tend to lessen. It is worth noting that unlike shame, parental guilt did not relate to student stress for the LD group. This underscores the differences between these two emotions and the fact that shame leads to a more maladaptive pattern. This, in turn, suggests that interventions for parents should first aim at curbing shame, perhaps by reframing entity beliefs (e.g., by shaping a more incremental theory of abilities; Gunderson et al., 2018; Rutledge et al., 2018) and increas-

ing self-compassionate attitudes (e.g., Jefferson et al., 2020; Moreira et al., 2015). This may reduce need frustration and free up emotional resources to be supportive, thus reducing stress for both the parents and their children. Moreover, where possible, the quantity and quality of homework assignments should be calibrated to the student's capacities to favor experience of competence in both the students and the parents and student autonomy.

No difference was found in homework stress between LD and TD students, and most of the observed statistical relationships involved parents. This suggests that parents experience significant concerns and that more interventions should be developed to support them. Typically, interventions are aimed primarily at improving student skills and well-being. The results obtained here suggest that parents, perhaps more than students, need help to cope with the burden of being supportive during homework, mainly when their child has a learning disability. This should encourage school psychologists, teachers, counselors, and principals to consider the principle of "supporting the supporter" (Katz & Shahar, 2015).

The data for this study were collected before the COVID pandemic. The involvement of parents in homework—which on typical days takes place mostly for a few hours in the afternoon—became unexpectedly the main event during the lockdowns when students were at home and parents were involved in their children's school activities throughout the day. Studies have indicated that the more parents reported engaging in remote learning activities, the higher their stress (Sonnenschein et al., 2021). Our findings highlight the importance of caring for and nurturing parents to enable them to provide a supportive and less stressful homework environment. Such support is even more crucial when parents are the primary mediators of learning and are constantly present. The parents of students with LD who generally feel considerable guilt, shame, and stress when involved with their child's homework probably felt even more stress due to the emotional and financial consequences of the pandemic. Thus, these parents need support and encouragement more than ever. Future studies should focus on the long-term impact of the COVID-19 crisis on parental involvement in homework in the postpandemic era.

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ETHICAL APPROVAL

All procedures were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

INFORMED CONSENT

Informed consent was obtained from all parents of the participating students included in the study.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

REFERENCES

- Agha, M. H. P., Zeinaddiny, M. Z., Mokhtaree, M., & Arfaei, S. (2020). The role of homework in the formation of stress in elementary school students and their parents in Rafsanjan in 2018. *Community Health Journal, 14*, 50–59.
- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders, fifth edition (DSM-5).
- Arbuckle, J. L., & Wothke, W. (2006). *AMOS user's guide 7.0*. AMOS Development Corporation.
- Barahmand, U., Piri, F., & Khazaei, A. (2015). A study of the relationship of academic achievement and impulsivity in children with specific learning disabilities to parenting strain and sense of competence in their mothers. *Jurnal Sains Kesihatan Malaysia (Malaysian Journal of Health Sciences), 13*. <https://doi.org/10.17576/JSKM-2015-1301-02>
- Bentley, K. J., Cohen-Filipic, K., & Cummings, C. R. (2016). Approaching parental guilt, shame, and blame in a helping relationship: Multiple methods for teaching and learning. *Journal of Teaching in Social Work, 36*, 490–502. <https://doi.org/10.1080/08841233.2016.1238024>
- Borelli, J. L., Nelson, S. K., River, L. M., Birken, S. A., & Moss-Racusin, C. (2017). Gender differences in work-family guilt in parents of young children. *Sex Roles, 76*, 356–368. <https://doi.org/10.1007/s1199-016-0579-0>
- Bryan, T., Burstein, K., & Bryan, J. (2001). Students with learning disabilities: Homework problems and promising practices. *Educational Psychologist, 36*, 167–180. https://doi.org/10.1207/S15326985EP3603_3
- Carotenuto, M., Messina, A., Monda, V., Precenzano, F., Iacono, D., Verrotti, A., et al. (2017). Maternal stress and coping strategies in developmental dyslexia: An Italian multicenter study. *Frontiers in Psychiatry, 8*, 295. <https://doi.org/10.3389/fpsy.2017.00295>
- Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., et al. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion, 39*, 216–236. <https://doi.org/10.1007/s11031-014-9450-1>
- Cohen-Filipic, K., & Bentley, K. J. (2015). From every direction: Guilt, shame, and blame among parents of adolescents with co-occurring challenges. *Child and Adolescent Social Work Journal, 32*, 443–454. <https://doi.org/10.1007/s10560-015-0381-9>
- Cooper, H., Robinson, J. C., & Patall, E. A. (2006). Does homework improve academic achievement? A synthesis of research, 1987–2003. *Review of Educational Research, 76*, 1–62. <https://doi.org/10.3102/00346543076001001>
- Costa, S., Ingoglia, S., Inguglia, C., Liga, F., Lo Coco, A., & Larcian, R. (2018). Psychometric evaluation of the basic psychological need satisfaction and frustration scale (BPNSFS) in Italy. *Measurement and Evaluation in Counselling and Development, 51*, 193–206. <https://doi.org/10.1080/07481756.2017.1347021>
- DiStefano, M., O'Brien, B., Storozuk, A., Ramirez, G., & Maloney, E. A. (2020). Exploring math anxious parents' emotional experience surrounding math homework-help. *International Journal of Educational Research, 99*, 101526. <https://doi.org/10.1016/j.ijer.2019.101526>
- Dumont, H., Trautwein, U., Lüdtke, O., Neumann, M., Niggli, A., & Schnyder, I. (2012). Does parental homework involvement mediate the relationship between family background and educational outcomes? *Contemporary Educational Psychology, 37*, 55–69. <https://doi.org/10.1016/j.cedpsych.2011.09.004>
- Dumont, H., Trautwein, U., Nagy, G., & Nagengast, B. (2014). Quality of parental homework involvement: Predictors and reciprocal relations with academic functioning in the reading domain. *Journal of Educational Psychology, 106*, 144–161. <https://doi.org/10.1037/a0034100>
- Dunford, E., & Granger, C. (2017). Maternal guilt and shame: Relationship to postnatal depression and attitudes towards help-seeking. *Journal of Child and Family Studies, 26*, 1692–1701. <https://doi.org/10.1007/s10826-017-0690-z>
- Fernández-Alcántara, M., Correa-Delgado, C., Muñoz, Á., Salvatierra, M. T., Fuentes-Hélices, T., & Laynez-Rubio, C. (2017). Parenting a child with a learning disability: A qualitative approach. *International Journal of Disability, Development and Education, 64*, 526–543. <https://doi.org/10.1080/1034912X.2017.1296938>
- Fletcher, J. M., & Grigorenko, E. L. (2017). Neuropsychology of learning disabilities: The past and the future. *Journal of the International Neuropsychological Society, 23*, 930–940. <https://doi.org/10.1017/S1355617717001084>
- Galloway, M., Conner, J., & Pope, D. (2013). Nonacademic effects of homework in privileged, high-performing high schools. *The Journal of Experimental Education, 81*, 490–510. <https://doi.org/10.1080/00220973.2012.745469>
- Grolnick, W. S. (2015). Mothers' motivation for involvement in their children's schooling: Mechanisms and outcomes. *Motivation and Emotion, 39*, 63–73. <https://doi.org/10.1007/s11031-014-9423-4>
- Gunderson, E. A., Donnellan, M. B., Robins, R. W., & Trzesniewski, K. H. (2018). The specificity of parenting effects: Differential relations of parent praise and criticism to children's theories of intelligence and learning goals. *Journal of Experimental Child Psychology, 173*, 116–135. <https://doi.org/10.1016/j.jecp.2018.03.015>
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd edn.). Guilford Press.
- Hen, M., & Goroshit, M. (2014). Academic procrastination, emotional intelligence, academic self-efficacy, and GPA: A comparison between students with and without learning disabilities. *Journal of Learning Disabilities, 47*, 116–124. <https://doi.org/10.1177/0022219412439325>
- Holland, M., Courtney, M., Vergara, J., McIntyre, D., Nix, S., Marion, A., et al. (2021). Homework and children in grades 3–6: Purpose, policy and non-academic impact. *Child & Youth Care Forum, 50*, 631–651.
- Hsiao, Y. J. (2018). Parental stress in families of children with disabilities. *Intervention in School and Clinic, 53*, 201–205. <https://doi.org/10.1177/1053451217712956>
- Italian Law on Learning Disabilities. (2010). Pub. L. No. 170, Gazzetta Ufficiale N. 244 18 October 2010. https://www.istruzione.it/esame_di_stato/Primo_Ciclo/normativa/allegati/legge170_10.pdf
- Jakulski, J., & Mastropieri, M. A. (2004). Homework for students with disabilities. *Research in Secondary Schools. Advances in Learning and Behavioral Disabilities, 17*, 77–122. [https://doi.org/10.1016/S0735-004X\(04\)17004-3](https://doi.org/10.1016/S0735-004X(04)17004-3)
- Jefferson, F. A., Shires, A., & McAloon, J. (2020). Parenting self-compassion: A systematic review and meta-analysis. *Mindfulness, 11*, 2067–2088. <https://doi.org/10.1007/s12671-020-01401-x>
- Karaman, M. A., Lerma, E., Vela, J. C., & Watson, J. C. (2019). Predictors of academic stress among college students. *Journal of College Counseling, 22*, 41–55. <https://doi.org/10.1002/joc.12113>
- Katz, I., Buzukashvili, T., & Feingold, L. (2012). Homework stress: Construct validation of a measure. *The Journal of Experimental Education, 80*, 405–421. <https://doi.org/10.1080/00220973.2011.610389>

- Katz, I., Eilat, K., & Nevo, N. (2014). "I'll do it later": Type of motivation, self-efficacy and homework procrastination. *Motivation and Emotion*, 38, 111–119. <https://doi.org/10.1007/s11031-013-9366-1>
- Katz, I., Kaplan, A., & Buzukashvili, T. (2011). The role of parents' motivation in students' autonomous motivation for doing homework. *Learning and Individual Differences*, 21, 376–386. <https://doi.org/10.1016/j.lindif.2011.04.001>
- Katz, I., & Shahar, B. H. (2015). What makes a motivating teacher? Teachers' motivation and beliefs as predictors of their autonomy-supportive style. *School Psychology International*, 36, 575–588. <https://doi.org/10.1177/0143034315609969>
- Kouzma, N. M., & Kennedy, G. A. (2002). Homework, stress, and mood disturbance in senior high school students. *Psychological Reports*, 91, 193–198. <https://doi.org/10.2466/pr0.2002.91.1.193>
- Liss, M., Schiffrin, H. H., & Rizzo, K. M. (2013). Maternal guilt and shame: The role of self-discrepancy and fear of negative evaluation. *Journal of Child and Family Studies*, 22(8), 1112–1119. <https://doi.org/10.1007/s10826-012-9673-2>
- Margolis, H. (2005). Resolving struggling learners' homework difficulties: Working with elementary school learners and parents. *Preventing School Failure: Alternative Education for Children and Youth*, 50, 5–12. <https://doi.org/10.3200/PSFL.50.1.5-12>
- Mills, R. S., Freeman, W. S., Clara, I. P., Elgar, F. J., Walling, B. R., & Mak, L. (2007). Parent proneness to shame and the use of psychological control. *Journal of Child and Family Studies*, 16, 359–374. <https://doi.org/10.1007/s10826-006-9091-4>
- Moè, A., & Katz, I. (2018). Brief research report: Parents' homework emotions favor students' homework emotions through self-efficacy. *The Journal of Experimental Education*, 86, 597–609. <https://doi.org/10.1080/00220973.2017.1409180>
- Moè, A., Katz, I., Cohen, R., & Alesi, M. (2020). Reducing homework stress by increasing adoption of need-supportive practices: Effects of an intervention with parents. *Learning and Individual Differences*, 82, 101921. <https://doi.org/10.1016/j.lindif.2020.101921>
- Moreira, H., Gouveia, M. J., Carona, C., Silva, N., & Canavarro, M. C. (2015). Maternal attachment and children's quality of life: The mediating role of self-compassion and parenting stress. *Journal of Child and Family Studies*, 24, 2332–2344. <https://doi.org/10.1007/s10826-014-0036-z>
- Murray, L., Woolgar, M., Martins, C., Christaki, A., Hipwell, A., & Cooper, P. (2006). Conversations around homework: Links to parental mental health, family characteristics and child psychological functioning. *British Journal of Developmental Psychology*, 24, 125–149. <https://doi.org/10.1348/026151005x83568>
- Ng, F. F. Y., Pomerantz, E. M., & Deng, C. (2014). Why are Chinese mothers more controlling than American mothers? "My child is my report card." *Child Development*, 85, 355–369. <https://doi.org/10.1111/cdev.12102>
- Orth, U., Berking, M., & Burkhardt, S. (2006). Self-conscious emotions and depression: Rumination explains why shame but not guilt is maladaptive. *Personality and Social Psychology Bulletin*, 32, 1608–1619. <https://doi.org/10.1177/0146167206292958>
- Pomerantz, E. M., Moorman, E. A., & Litwack, S. D. (2007). The how, whom, and why of parents' involvement in children's academic lives: More is not always better. *Review of Educational Research*, 77, 373–410. <https://doi.org/10.3102/003465430305567>
- Pomerantz, E. M., Ng, F. F. Y., & Wang, Q. (2006). Mothers' mastery-oriented involvement in children's homework: Implications for the well-being of children with negative perceptions of competence. *Journal of Educational Psychology*, 98, 99–111. <https://doi.org/10.1037/0022-0663.98.1.99>
- Pomerantz, E. M., Wang, Q., & Ng, F. F. (2005). Mothers' affect in the homework context: The importance of staying positive. *Developmental Psychology*, 41, 414–427. <https://doi.org/10.1037/0012-1649.41.2.414>
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36, 717–731. <https://doi.org/10.3758/BF03206553>
- Pressman, R. M., Sugarman, D. B., Nemon, M. L., Desjarlais, J., Owens, J. A., & Schettini-Evans, A. (2015). Homework and family stress: With consideration of parents' self confidence, educational level, and cultural background. *The American Journal of Family Therapy*, 43, 297–313.
- Reschly, A. L., Huebner, E. S., Appleton, J. J., & Antaramian, S. (2008). Engagement as flourishing: The contribution of positive emotions and coping to adolescents' engagement at school and with learning. *Psychology in the Schools*, 45, 419–431. <https://doi.org/10.1002/pits.20306>
- Rotkirch, A., & Janhunen, K. (2010). Maternal guilt. *Evolutionary Psychology*, 8, 90–106. <https://doi.org/10.1177/147470491000800108>
- Rutledge, E. L., Crouch, J. L., Valentiner, D. P., Davila, A. L., Milner, J. S., & Skowronski, J. J. (2018). Are implicit personality theories associated with parental reactions to child transgressions? *Personality and Individual Differences*, 128, 113–121. <https://doi.org/10.1016/j.paid.2018.02.021>
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford.
- Shih, S. (2019). An examination of academic coping and procrastination from the self-determination theory perspective. *Journal of Education and Human Development*, 8, 57–68. <https://doi.org/10.15640/jehd.v8n1a8>
- Simpson, D. (2015). Psychoanalytic perspectives on emotional problems facing parents of children with learning disabilities. In M. Bower (Ed.), *Psychoanalytic theory for social work practice: Thinking under fire* (pp. 106–117). Routledge.
- Slobodin, O., Cohen, R., Arden, A., & Katz, I. (2020). Mothers' need frustration and controlling parenting: The moderating role of maternal guilt. *Journal of Child and Family Studies*, 29, 1914–1926. <https://doi.org/10.1007/s10826-020-01720-6>
- Solomon, Y., Warin, J., & Lewis, C. (2002). Helping with homework? Homework as a site of tension for parents and teenagers. *British Educational Research Journal*, 28, 603–622. <https://doi.org/10.1080/0141192022000005850a>
- Sonnenschein, S., Grossman, E. R., & Grossman, J. A. (2021). US parents' reports of assisting their children with distance learning during Covid-19. *Education Sciences*, 11(9), 501. <https://doi.org/10.3390/educsci11090501>
- Tangney, J. P. (1999). The self-conscious emotions: Shame, guilt, embarrassment and pride. In T. Dalgleish & M. J. Power (Eds.), *Handbook of cognition and emotion* (pp. 541–568). Wiley.
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology*, 58, 345–372. <https://doi.org/10.1146/annurev.psych.56.091103.070145>
- Tangney, J. P., Stuewig, J., Mashek, D., & Hastings, M. (2011). Assessing jail inmates' proneness to shame and guilt: Feeling bad about the behavior or the self? *Criminal Justice and Behavior*, 38, 710–734. <https://doi.org/10.1177/2F0093854811405762>
- Trautwein, U., Niggli, A., Schnyder, I., & Lüdtke, O. (2009). Between-teacher differences in homework assignments and the development of students' homework effort, homework emotions, and achievement. *Journal of Educational Psychology*, 101, 176–189. <https://doi.org/10.1037/0022-0663.101.1.176>
- Wehmeyer, M. L., Shogren, K. A., Toste, J. R., & Mahal, S. (2017). Self-determined learning to motivate struggling learners in reading and writing. *Intervention in School and Clinic*, 52, 295–303. <https://doi.org/10.1177/1053451216676800>
- Wuthrich, V. M., Jagiello, T., & Azzi, V. (2020). Academic stress in the final years of school: A systematic literature review. *Child Psychiatry & Human Development*, 51, 986–1015. <https://doi.org/10.1007/s10578-020-00981-y>
- Xu, J. (2005). Purposes for doing homework reported by middle and high school students. *The Journal of Educational Research*, 99, 46–55. <https://doi.org/10.3200/JOER.99.1.46-55>
- Yeo, S. C., Tan, J., Lo, J. C., Chee, M. W., & Gooley, J. J. (2020). Associations of time spent on homework or studying with nocturnal sleep behavior and depression symptoms in adolescents from Singapore. *Sleep Health*, 6, 758–766. <https://doi.org/10.1016/j.sleh.2020.04.011>
- Yotodying, S., & Wild, E. (2016). Predictors of the quantity and different qualities of home-based parental involvement: Evidence from parents of children with learning disabilities. *Learning and Individual Differences*, 49, 74–84. <https://doi.org/10.1016/j.lindif.2016.05.003>
- Zimmerman, B. J., & Kitsantas, A. (2005). Homework practices and academic achievement: The mediating role of self-efficacy and perceived responsibility beliefs. *Contemporary Educational Psychology*, 30, 397–417. <https://doi.org/10.1016/j.cedpsych.2005.05.003>

Appendix

Parental Shame and Guilt Items

Results of the Bootstrapping Analyses for the LD Group: Indirect Effects

<i>English version (Orth et al., 2006)</i>	<i>Italian version</i>
I feel ashamed because of the breakup	Si vergogna della relazione con suo figlio
I feel like a failure	Si sente un fallimento come genitore
I feel small	Si sente limitato
I want to hide	Vorrebbe nascondersi per la vergogna
I feel guilty because of the breakup	Si sente in colpa per come si comporta come genitore
I should have behaved differently	Vorrebbe essersi comportato diversamente
I have a guilty conscience	Ha la coscienza sporca
I reproach myself	Si rimprovera di non essere un buon genitore

About the Authors

Idit Katz is full professor at Ben-Gurion University. Her main research interests are about self-determination, well-being and motivation.

Marianna Alesi is full professor at Palermo University. Her main research interests are about learning disabilities and strategies to cope with them.

Angelica Moè is associate professor at Padua University. Her main research interest is about ways to foster motivation and well-being.