Hope as a Mediator of Loneliness and Academic Self-efficacy Among Students With and Without Learning Disabilities during the Transition to College

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The transition to college often occasions excitement as well as elevated stress for students. The latter may be especially the case for those with learning disabilities (LD), who can encounter problems both socially and academically. This study follows students both with and without LD during the first month of college to explore the relationships between LD status and two outcomes: loneliness/social distress and academic self-efficacy. In particular, we hypothesized that hope and optimism would mediate the relationship between LD status and these outcomes. The sample consisted of 344 first-year undergraduates at the beginning of the academic year (Time-1) and a month later (Time-2). Results showed that LD status predicted Time-2 levels of academic self-efficacy and loneliness only indirectly, demonstrating that relationships between LD and loneliness as well as between LD and academic self-efficacy are mediated by hope.

The transition from high school to college often raises excitement and new expectations. Yet for some students, the new academic and social demands of college may initiate elevated stress, especially during the first month (Chemers, Hu, & Garcia, 2001; Perera, & DiGiacomo, 2015; Ruberman, 2014). Indeed, the majority of college students gradually develop their abilities to cope with the new challenges successfully, although many others may continue to experience self-doubt regarding their abilities, learning skills, and future opportunities for success. Moreover, many students may feel social distress and loneliness while attempting to adapt to new academic demands and develop new social networks (Fiori & Consedine, 2013).

The growth and diversification of higher education systems worldwide have sparked growing interest in factors that predict student well-being and success. Higher education in Israel (the setting of this study) has experienced a comparably significant expansion during the past decade. In the recent past, only students achieving high scores on Matricular State Examinations at the end of their high school studies were accepted to colleges and universities. Currently, however, students with a wider range of achievement levels, including those with learning disabilities (LD), are able to attend such institutions.

The Israeli Council for Higher Education (see Council for Higher Education, 2015) controls all higher education programs in Israel, consisting of 6 research universities and 55

colleges, through accreditation processes (Ayalon & Yogev, 2006). During the past few decades, the number of undergraduates in the country has more than tripled—from about 55,000 in 1990 to 190,000 in 2010 (Central Bureau of Statistics, 2012). Many students are the first in their families to seek higher education, are of lower SES, or have been diagnosed with LD (Ayalon & Yogev, 2006; Feniger, Mcdossi, & Ayalon, 2015).

The transition to college may be a critical period for establishing hopes regarding academic expectations and interpersonal connections. Past research has shown that the first weeks in college can be critical for establishing the psychological foundations for future success. For instance, studies have shown that students' perceptions and experiences after three weeks in college predict academic success, retention. and social integration (Woosley, 2003; Woosley & Miller, 2009). In addition, research focusing on the first semester of college has shown that coping strategies during this period predict academic adjustment (Perera, McIlveen, & Oliver, 2015). Unfortunately, other studies of this transitional period (Ruberman, 2014; Terenzini et al., 1994) have documented the presence of students' stress and self-doubts regarding the learning demands of college and their abilities to form social connections. Physical expressions of stress such as changes in diet, physical activity, and body weight also appear quite common during this period (Wengreen, & Moncur, 2009).

Early validation of students' capabilities, worth, and performance appear to be central to securing successful transition. Short-term intervention (e.g., one hour) during the first

month in college, targeting students who are first-generation college students, has resulted in significant improvements in academic outcomes after 1 year, and in decreases in physiological reactivity to stress after 2 years in college (Stephens, Hamedani, & Destin, 2014; Stephens, Townsend, Hamedani, Destin, & Manzo, 2015). Recent research (Sheridan, Boman, Mergler, & Furlong, 2015) documents the combined role of protective personality resources such as hope, optimism, and self-efficacy in predicting greater levels of well-being and lower levels of anxiety.

Students with LD often experience significant academic challenges and social distress during their high school period (Idan & Margalit, 2014). For this group of students, the transition to college offers the possibility of new opportunities; at the same time, however, it poses new academic and social challenges. Some resilient students with LD succeed "against the odds" (Maurice, 2002). New trends in resilience research have called attention to the important role of mediating regulative factors that support successful negotiation of college's academic demands, increased social networking, and greater positive perceptions of the future (MacPhee, Lunkenheimer, & Riggs, 2015; Stack-Cutler, Parrila, & Torppa, 2015). The goals of this study are to follow students both with LD and without LD during the first month of college and to identify the functions of hope and optimism as mediators of loneliness/social distress and academic self-efficacy (ASE). As such, in the following section, we briefly define and present research on these constructs.

LONELINESS

This study focuses on loneliness as an important indicator of quality of life during the transition to college (Lijuan, Rui, Benxian, & Xiao, 2014). Loneliness reflects the basic human need for relatedness and belonging. It has often been defined as the social distress that occurs when one's relations are perceived as being less satisfying than expected (Cacioppo, & Hawkley, 2009; Peplau & Perlman, 1982). The experience of loneliness is considered a risk factor for health and well-being. It is related to suicidal ideation and actions, higher mortality rates, substance abuse, and psychological conditions such as depression and anxiety (Hawkley & Cacioppo, 2010); it is also a risk factor for burnout in academic environments (Stoliker & Lafreniere, 2015).

There is theoretical disagreement regarding whether loneliness should be treated as a single construct or a collection of diverse subtypes (Margalit, 2012; Stein & Tuval-Mashiach, 2015). Weiss (1973), in his classic monograph, suggested two subtypes: emotional loneliness and social loneliness. Emotional loneliness refers to distress reflecting the lack (or loss) of intimate relationships with family members or friends (Mikulincer & Florian, 1998). Social loneliness refers to distress emerging from the lack (or loss) of belonging to desired social groups such as networks of friends, colleagues, etc. (Vanhalst et al., 2015). Two additional subtypes have been cited, existential and representational loneliness, which concern various perceptions of unavoidable human conditions, including the realization that people can never truly know us given that we do not have direct access to one another's experiences (Bering, 2008; Mayers, Khoo, & Svartberg, 2002). Given that the debate regarding the uniconstruct versus multiconstruct nature of loneliness has not been settled, for ease of analysis, we use a unidimensional construct in this study (see Section "Measures" for further detail).

In the midst of the above debate, studies have attempted to identify critical factors that differentiate between lonely and not-lonely individuals. Interestingly, no substantial differences were found between groups in the amount of time spent in social interactions versus time spent alone (Heinrich & Gullone, 2006). Instead, loneliness appears especially influenced by the qualitative and subjective appraisals of social relations, such as relationship satisfaction, level of closeness, and intimacy or perceived social acceptance (Vanhalst et al., 2015). For example, Wei, Russel, and Zakalik (2005) found that subjective satisfaction ratings of social relationships by college students were better predictors of loneliness than the frequency of social contacts.

All people experience loneliness at some point in their lives. For most individuals, intense feelings of loneliness are short-lived, while for others, loneliness and social alienation may develop into chronic distress, affecting academic functioning and quality of life (Vanhalst et al., 2015). Students with LD at various age levels, from preschool to college, tend to report higher levels of loneliness than their peers (Margalit, 2012).

There is reason to believe that loneliness may be associated with goal pursuit abilities. Researchers have investigated relationships between loneliness and impaired selfregulation in general, especially with regard to executive functioning (Yusoff, Luhmann, & Cacioppo, 2013). Executive function is an umbrella term describing the diversity of cognitive processes carried out by the prefrontal cortex, including planning, working memory, attention, inhibition, self-monitoring, self-regulation, and initiation (Goldstein, Naglieri, Princiotta, & Otero, 2014). Barkley (2011) has defined executive functioning as "a self-directed set of actions intended to alter a delayed outcome" (p. 11), and as such, he has linked executive functioning to goal pursuit, which involves self-regulation, including management of emotions, problem solving and analysis, as well as developing behavioral strategies.

Various studies demonstrate that loneliness impairs executive functioning (see Diamond, 2013). In one experimental study, Baumeister, DeWall, Ciarocco, and Twenge (2005) manipulated participants' future expectations of loneliness in terms of threats to social connection. Specifically, some participants were led to anticipate a lonely future life and were told "odds are you'll end up being alone more and more" (p. 592). The results showed that such expectations reduced executive functioning and increased impulsive responding. Recent research further links perceived social isolation with adverse consequences for health and learning (see Hawkley & Capitanio, 2015). A longitudinal study has shown that loneliness predicts cognitive decline (Tilvis et al., 2004), and lonely individuals appear to show impaired attention regulation (Cacioppo et al., 2000). Loneliness also appears to be related to difficulties in academic adjustment during the transition to college, including lower levels of student interest in and initiative to explore their new environments as well as lower academic self-efficacy and perceptions of self-competence (Lijuan, Rui, Benxian, & Xiao, 2014).

ACADEMIC SELF-EFFICACY

Academic self-efficacy (ASE) refers to specific personal beliefs about one's ability to organize, regulate, and execute actions to attain desired levels of academic performance (Zimmerman, Bandura, & Martinez-pons, 1992). Students with high ASE are confident in their capacity to meet academic requirements, to plan and organize their learning, to avoid distractions, and to persist in their efforts (Bandura, 1997).

Studies show that levels of ASE predict higher academic performance and achievements (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011; Feldman & Kubota, 2015; Høigaard, Kovač, Øverby, & Haugen, 2015; Zimmerman & Cleary, 2006), decreased procrastination (Tan et al., 2008), and enhanced levels of effort investment and perseverance (Usher & Pajares, 2008). In a study of Norwegian undergraduate psychology students (Diseth, 2011), self-efficacy was predicted by prior academic achievements, and its positive relationship with subsequent achievements was mediated by several factors such as goal orientation and learning strategies. Research has shown that students with LD often report lower ASE, and ASE has been shown to relate to their actual achievements (Idan & Margalit, 2014).

Recent studies have investigated personal resources and emotional processes that may mediate the relationships between self-efficacy and motivation (Bandura, 2012; Bledow, 2013). The interplay among demand-perceptions, perceptions of self-competence, and self-motivation is complex, and a debate exists regarding whether self-efficacy may harm rather than help motivation under certain technical circumstances (Bledow, 2013; Vancouver, Thompson, Tischner, & Putka, 2002; Vancouver, More, & Yoder, 2008). Nonetheless, past research has consistently shown positive relationships between self-efficacy beliefs and academic achievement across a wide variety of subjects, experimental designs, and assessment methods (Feldman & Kubota, 2015; see Multon, Brown, & Lent, 1991).

ASE is conceptually related to two future-focused constructs—hope and optimism—both of which are forms of positive expectancy. However, while ASE is focused on expectations for behavioral competencies specifically within the domain of academic performance, hope and optimism are generalized expectancies of a positive future, without reference to a particular domain.

FUTURE EXPECTATIONS: HOPE AND OPTIMISM

The most researched model of hope in the psychological literature has been Snyder's (2002) Hope Theory. Within this theory, Snyder and colleagues (1991) have defined hope as "a cognitive set that is based on a reciprocally derived sense of successful agency (goal-directed determination) and pathways (planning to meet goals)" (p. 571). The agency component of hope consists of beliefs regarding individuals' abili-

ties to reach their goals. Positive agency beliefs (e.g., "I believe I can do it") provide motivation during the goal-pursuit process. The pathways component consists of beliefs regarding individuals' abilities to plan multiple routes to reach goals and to overcome barriers (Snyder, 2002). The combination of agency and pathways equips people to effectively respond to obstacles in life by setting goals and planning how to overcome challenges (Merolla, 2014).

Children and adolescents with high hope have been shown to be more satisfied with life when compared to those with low hope, have higher self-esteem, and report greater support from others and higher levels of family cohesion (Merkas & Brajsa-Zganec, 2011). High hope is related to higher levels of academic achievement (Day, Hanson, Maltby, Proctor, & Wood, 2010; Feldman & Kubota, 2015), and to lower levels of social distress and loneliness (Yarcheski, Mahon, & Yarcheski, 2011). In a 6-year longitudinal study, college students' hope scores predicted their overall grade point averages even after controlling for variance related to entrance scores (Snyder et al., 2002). Individuals with LD from different age groups often report lower hope scores than their non-LD peers (Idan & Margalit, 2014; Sharabi & Margalit, 2014). Intervention may improve this outcome. For instance, research shows that students with LD who participate in high quality high school transition programs manifest higher levels of hope in college than their peers who participated in such programs to lesser degrees (Morningstar et al., 2010).

Like hope, optimism is an expectancy construct that also has been shown to relate to motivation (Carver & Scheier, 2014). Optimism has been defined as a generalized expectancy of positive outcomes. Theoretical and empirical differences have been documented between hope and optimism (Feldman & Kubota, 2015; Rand, Martin, & Shea, 2011). Optimism is primarily concerned with the expectancy that positive outcomes will occur without regard to one's actions, whereas hope is explicitly concerned with expectancies that attainment of positive outcomes will occur through one's own planning (pathways) and motivation (agency) (Feldman & Kubota, 2015; Snyder, 2002). Studies demonstrate that higher levels of optimism upon entering college predict increased persistence, lower levels of psychological distress, less stress and depression, lower levels of loneliness, and greater social support (Scheier, Carver, & Bridges, 2001; Tenney, Logg, & Moore, 2015).

Past experiences of failed goal pursuits often are associated with lower optimism and hope (Snyder, 2002). Many of the growing number of students with LD who are attending colleges and universities have experienced such frustrated goal pursuits in their past academic and social environments (Connor, 2012), though little research has investigated the connection between LD status and levels of hope and optimism.

LEARNING DISABILITIES

Students with LD are identified by their academic challenges and disabilities in attention, inhibition, and self-monitoring (Berninger, Swanson, & Griffin, 2015; Horowitz-Kraus, 2014; Shaywitz & Shaywitz, 2008). They are noted for

their personal histories of school-related frustrations, as well as anxiety and internalizing symptomatology in anticipation of possible academic failure (Klassen, Tze, & Hannok, 2013; Nelson, & Harwood, 2011).

In this study, in line with a focus on positive psychology and resilience, we have assessed personal and interpersonal resources. Studies have demonstrated that individuals with LD report lower ASE as a reflection of their academic frustration and reduced positive expectations (Idan & Margalit, 2014). Research has also demonstrated that these individuals express higher levels of social concerns, social exclusion, and loneliness (Lackaye, & Margalit, 2006; Sharabi & Margalit, 2011).

Most studies have examined these issues in school-age children and adolescents (Al-Yagon & Margalit, 2012, 2013; Idan & Margalit, 2014). Only recently has there been increased attention paid to these issues in college students, reflecting the growing number of students with LD in universities and colleges. These students' academic and social difficulties call for further study, particularly during the transition to college (Connor, 2012). The goal of this study is to follow students with and without LD from the beginning of the first week of college until the end of the first month in order to identify predictors of loneliness and ASE during this transitional period.

We test a structural equation model reflecting the following hypotheses:

- 1. LD status will predict higher levels of loneliness and lower levels of ASE, hope, and optimism, at the beginning of the year and also after a month.
- Loneliness, hope, optimism, and ASE at the beginning of the year will predict their corresponding measure after a month.
- 3. The aforementioned hypothesized relations between LD and loneliness after a month, and between LD and ASE after a month, will be mediated by hope and optimism. Specifically, LD status is expected to predict lower levels of initial hope and optimism, which will in turn predict higher levels of loneliness and lower levels of ASE after a month.

METHOD

Participants

The sample consists of 344 first-year undergraduates at a college in Rehovot, Israel. The college offers both BA and MA degrees in Behavioral Sciences, Law, and Business Administration. It serves a primarily lower-middle-class area of the country, and most students work during their studies, usually in part-time jobs in local retail shops or commercial services. Undergraduate students from two departments—Business Administration (N = 124) and Behavioral Sciences (N = 220)—participated in this study. There are more females than males in the sample, reflecting the typical gender distribution in these departments in Israel.

Participants comprise two groups: students with LD (N = 85, 68 females and 17 males) and students without LD (N = 85, 68 females are 17 males).

TABLE 1
Comparisons of Gender Proportions

	Female	Male	
LD	68 (80.0%)	17 (20.0%)	
Non-LD	196 (75.7%)	63 (24.3%)	

Note. $\chi^2(1, N = 344) = .67, p = .41, \eta = .044$.

259, 196 females and 63 males). No significant differences were found between these two groups in age (range = 19–53 years; LD: M = 24.17, SD = 3.70; Non-LD: M = 24.21, SD = 4.24; t (342) = .06, p = .95) or gender proportions (as presented in Table 1). Most students in Israel begin their undergraduate studies following mandatory army service, and thus participants in this study are slightly older than typical students in many other countries.

Participants with LD had been previously diagnosed when in high school in order to grant needed accommodations for state examinations. In high school, the determination of their LD status was regulated by the Israeli Law of Special Education. That is, those individuals with LD had been identified, via psychoeducational evaluation, as demonstrating difficulties in reading, writing, and/or mathematics. Their LD status was diagnosed by a multidisciplinary staff of LD specialists following a clinical assessment that includes cognitive and achievement tests corresponding to the requirements of the Israeli National Joint Committee on LD (Ben-Simon, Beyth-Marom, Inbar-Weiss & Cohen, 2012; Margalit, Breznitz, & Aharoni, 1998). Such students' difficulties at the college level often manifest in slower reading rates, difficulties in comprehension of academic texts, spelling mistakes, and the presence of processing deficits in one or more cognitive or linguistic domains, even though they manifest normative intellectual abilities (Heiman & Precel, 2003). During their high school years, these students already had been entitled to accommodations on national Matricular Examinations, such as extended time during testing, oral reading of tests for dyslexic students, use of computer typing for students with dysgraphia, and disregard of spelling mistakes. Due to Israeli privacy regulations, details regarding their personal psychological files were not available. For the purposes of this study, their LD status was determined by querying student records through the Dean of Students' office. Additional information regarding the participants (e.g., IQ, achievement test scores, past grades) was not available due to legal restrictions and ethical regulations of the college.

Measures

Hope

As defined previously in this article, hope reflects individuals' positive expectations regarding their achievement of future goals. A Hebrew adaptation (Lackaye & Margalit, 2006) of the State Hope Scale (SHS; Snyder, 2002) was used to assess level of hopeful thinking. The SHS consists of 6 items tapping agency and pathways thinking. The mean of

all six items indicates an individual's global level of hope, which was the score used in this study. Sample items include, "At the present time, I am energetically pursuing my goals," and "I can think of many ways to reach my current goals." Respondents rate the degree to which each statement applies to them on a 1 (*definitely false*) to 8 (*definitely true*) scale. Researchers have provided support for the validity and reliability of the State Hope Scale (Snyder et al., 1996). In the present sample, Cronbach's alpha was .82.

Optimism

The Revised Life Orientation Test (LOT-R) is a measure of optimism, defined in terms of outcome expectancies, as discussed previously (Carver & Connor-Smith, 2010; Carver, Scheier, & Segerstrom, 2010). A Hebrew adaptation (Ben-Zur, 2012) of this scale was used in this study. It contains 8 items, which respondents rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. The mean of these 8 items indicates an individual's level of optimism, which was the score used in this study. A sample item is, "In uncertain times, I usually expect the best." Researchers have provided support for the validity and reliability of the LOT-R (Carver et al., 2010). In the present sample, Cronbach's alpha was .77.

Academic Self-Efficacy

As discussed previously, academic self-efficacy (ASE) reflects students' confidence in their ability to regulate their activities in order to succeed in school, such as planning and organizing their academic activities, using cognitive strategies to understand and remember materials taught, resisting distractions, participating in class, and structuring their environment so as to make it conducive to study. A Hebrew adaptation of the Self-Efficacy for Self-Regulated Learning Scale (Zimmerman, Bandura, & Martinez-pons, 1992) was used to measure ASE in this study. It consists of 11 statements describing students' confidence with different academic tasks related to succeeding in their studies and self-regulating learning activities (e.g., "I can remember what has been studied in class and the textbook"). The mean of all 11 items indicates an individual's level of ASE, which was the score used in this study. Respondents provide ratings on a scale ranging from 1 (not sure at all) to 7 (completely sure) scale. A Cronbach's alpha of .87 was obtained for the measure with participants in earlier studies (Lackaye & Margalit, 2008). In this study, Cronbach's alpha was .90.

Loneliness

A Hebrew adaptation of the Loneliness Scale (De Jong Gierveld & Van Tilburg, 2006) was used to assess feelings of loneliness, social rejection, and exclusion. It consists of nine statements describing social and emotional loneliness (e.g., "I miss having a really close friend"; "I experience a general sense of emptiness"). Respondents provide ratings

TABLE 2
Means, SDs, and F Scores of the MANOVA

	LD	Non-LD	F (1, 335)	Partial η^2
Hope, T1	6.75	6.97	1.47	.004
	(0.87)	(0.74)		
Hope, T2	6.63	7.10	15.30**	.043
	(0.90)	(0.64)		
ASE, T1	5.48	5.86	10.74**	.031
	(0.97)	(0.79)		
ASE, T2	5.41	5.85	10.41**	.030
	(1.02)	(0.78)		
Optimism, T1	3.68	3.90	6.98**	.020
	(0.54)	(0.49)		
Optimism, T2	3.69	3.94	10.27**	.029
	(0.54)	(0.52)		
Loneliness, T1	1.41	1.32	5.44*	.014
	(0.35)	(0.31)		
Loneliness, T2	1.38	1.28	4.97*	.014
	(0.38)	(0.32)		

Notes. T1, Time 1; T2, Time 2; ASE, Academic Self Efficacy.

on a 1 (*no*) to 3 (*yes*) scale. The mean of all 9 items indicates an individual's level of loneliness, which was the score used in this study. In the present sample, Cronbach's alpha was .77.

PROCEDURE AND DATA ANALYTIC STRATEGY

The purpose of this study was to examine predictors of loneliness and ASE during the first month of college. In their first year at the college, as a part of a mandatory learning skills course, students in 10 classes completed questionnaires at two time-points: immediately at the beginning of the academic year (Time 1) and after a month (Time 2). These paper-and-pencil self-report questionnaires were administered to each class by a qualified psychologist. Students who participated in both assessments received extra credit toward their course; students who did not wish to participate in the study simply did not return the questionnaires. A total of 15 percent of the sample did not return either the first or the second set of questionnaires. The Ethics Committee of the college granted permission to collect the questionnaire data while guarding the confidentiality of the students by using a list of linked code numbers to match up data. LD status was indicated by the Dean of Students' office, based on student records.

The first set of analyses investigated group differences between students with LD and without LD. Means and standard deviations are presented in Table 2. Second, in order to test the structural equation model described briefly earlier, analyses were conducted via AMOS 22 (Arbuckle, 2013), using maximum likelihood estimation procedures. Conducting SEM analyses is helpful in the present context because they provide information about whether the associations among variables are direct or indirect, and, if indirect, through which pathways they occur. As recommended by Hu and Bentler (1999), we tested the model using several indices of fit. In addition to reporting the chi-square test statistic, we used

the root mean square error of approximation (RMSEA) and goodness-of-fit index (GFI). For chi-square, adequate fit is indicated by nonsignificance. According to Hu and Bentler (1999), values of less than .06 on the RMSEA and greater than .95 on the GFI indicate good fit. Values for the normed fit index (NFI) and the comparative fit index (CFI), as measures of incremental fit, were also utilized (Bentler & Bonett, 1980). For these incremental indices, a coefficient greater than .95 indicates excellent fit (Byrne, 2010).

Before turning to the results, it is important to add a word of caution about the use of language. Thus far, we have been careful to refer to associations rather than effects because, without controlled experimental data, we cannot establish that we are estimating causal effects. However, in discussing the SEM results, it is conventional to use the word "effect" because an important feature of SEM is that it allows researchers to distinguish among direct, indirect, and total effects. In using the word *effect* here, we do not mean to imply that we have established causality with certainty.

RESULTS

Preliminary Analyses

To decrease the chances of Type I error, a multivariate analysis of variance (MANOVA) was conducted with the two time-points for each of the study measures (i.e., hope, ASE, optimism, and loneliness) serving as dependent variables, and LD status (LD vs. non-LD) and gender (male vs. female) serving as independent variables. The results yielded a main effect for LD status, F(8, 333) = 2.82, p = .005, partial $\eta^2 = .063$, and for gender, F(8, 333) = 3.10, p = .002, partial $\eta^2 = .069$, but not for the interaction between gender and LD status. Means, SDs and F-scores for follow-up univariate analyses regarding LD status are presented in Table 2. As can be seen, after a month, students with LD reported lower levels of hope compared to students without LD, although no significant differences were found with regards to their hope levels at the first academic week. In addition, at the first week and also after a month, students with LD reported higher levels of loneliness than their peers as well as lower levels of ASE and optimism.

Follow-up univariate analyses regarding gender show that male students reported lower ASE than the female students during the first week in college (Males: M = 5.43, SD = 0.93; Females: M = 5.87, SD = 0.80; F(1, 340) = 13.48, p < .01, partial $\eta^2 = .038$), as well as after a month (Males: M = 5.34, SD = 0.94; Females: M = 5.86, SD = 0.81; F(1, 340) = 15.60, p < .01, partial $\eta^2 = .044$). The remaining gender comparisons did not yield significant differences.

Model Fit

This section describes the testing of a model via SEM. Intercorrelations for all measured variables are presented in Table 3. The first section below describes the estimation of our hypothesized model, and the second section describes a modified model. It should be noted that, before testing

TABLE 3
Pearson Correlations Among Study Measures at the Two
Assessment Time-Points (N = 334)

	2	3	4	5	6	7	8
Hope T1	.45**	.46**	.34**	.31**	.17**	22*	16*
Hope T2	_	.47**	.57**	.38**	.50**	22**	26**
ASE T1		_	.65**	.36**	.32**	26**	19**
ASE T2			_	.24**	.32**	21**	23**
Optimism T1				_	.65**	30**	26**
Optimism T2					_	29**	35**
Loneliness T1						_	.74**
Loneliness T2							_

p < .05 * p < .01.

Notes: T1, Time 1; T2, Time 2; ASE, Academic Self Efficacy.

the hypothesized base model, we first tested a measurement model. Parceling, a technique often employed with latent variable modeling, 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. A parcel can be defined as an aggregate level indicator composed of two or more items. This approach is commonly employed to obtain more consistently distributed variables and to decrease the number of parameters in the structural equation model, thereby creating a more optimal variable-to-sample size ratio. 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)

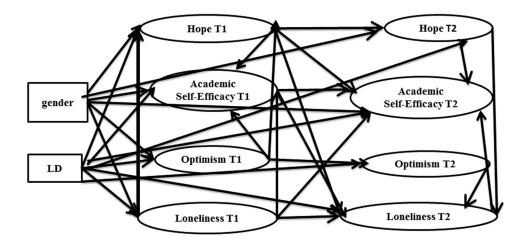
THE BASE MODEL

According to the hypothesized base model (see Figure 1), LD status and gender (exogenous variables) were expected to contribute (i.e., have direct paths) to hope, optimism, loneliness and ASE at the beginning of the year (Time 1) and after a month (Time 2) (endogenous or dependent variables). Direct paths were assumed between LD and these four measures at the beginning of the year and after a month. Since gender differences were identified on two of the research measures, gender also was included in the model.

The hypothesized base model demonstrated good fit. Though the chi-square statistic was significant, χ^2 (df = 94, N = 344) = 140.738, p < .001, all additional indices indicated good model fit, NFI = .958, CFI = .985, RMR = .022, GFI = .957, and RMSEA = .038. In sum, step 1 revealed a good fit between the theoretical model and the data. However, given the significant chi-square, a revised model possibly could result in better fit.

The Modified Model

We next sought to construct a modified model by first examining modification indices (Byrne, 2001). Modification indices did not suggest the addition of any further paths to



Chi square = 140.245 df=94 p=.001 GFI=.958 RMR = .022 CFI=.986 NFI=.958 RMSEA=.038

FIGURE 1 The base model of risk and resources.

the model, however. Next, given that several paths in the original model were nonsignificant, in order to yield a more parsimonious model we trimmed the model by eliminating these nonsignificant paths.

Analysis revealed very good fit of this modified/trimmed model to the data. The chi-square statistic was now non-significant, χ^2 (df = 99) = 84.291, p = .85, and all additional indices continued to indicate excellent fit, NFI = .975, CFI = 1.00, RMR = .012, GFI = .975, and RMSEA = .000.

In the modified model (see Figure 2), LD status has significant direct paths to Time-1 hope ($\beta = -.21$, p < .01), Time-1 optimism ($\beta = -.24$, p < .01), Time-1 Loneliness ($\beta = .14$, p < .05), and Time-1 ASE ($\beta = -.15$, p < .01). It also has a significant direct path to Time-2 hope ($\beta = -.14$, p < .01). Gender has significant direct paths to Time-1 ASE ($\beta = .23$, p < .01) and to Time-2 hope ($\beta = .13$, p < .01).

In addition, significant direct paths were found between Time-1 and Time-2 hope ($\beta=.68, p<.01$), Time-1 and Time-2 optimism ($\beta=.78, p<.01$), Time-1 and Time-2 loneliness ($\beta=.85, p<.01$), and Time-1 and Time-2 ASE ($\beta=.73, p<.01$). Additional direct paths were found from Time-1 loneliness to Time-1 hope ($\beta=-.23, p<.01$), and from Time-1 loneliness to Time-1 ASE ($\beta=-.32, p<.01$). Direct paths were found from Time-1 hope to Time-2 loneliness ($\beta=.34, p<.01$), and from Time-1 hope to Time-2 ASE ($\beta=-.47, p<.01$).

Focusing on the measures after a month, we can see direct paths from Time-2 hope to Time-2 ASE ($\beta = .58$, p < .01), and from Time-2 hope to Time-2 loneliness ($\beta = -.26$, p < .01). We can also see direct paths from Time-2 optimism to Time-2 loneliness ($\beta = -.14$, p < .01). An attempt to examine alternative models of relationships among the variables did not improve fit.

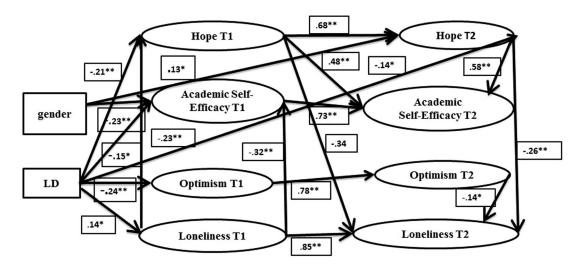
Major relationships in the modified model (see Figure 2) can be more succinctly summarized as follows: LD status

predicts Time-1 measures of all variables (i.e., hope, ASE, optimism, and loneliness). LD status and gender furthermore directly predict Time-2 hope, but only indirectly predict most other Time-2 variables through Time-1 variables. Each Time-1 measure directly predicts its Time-2 counterpart (e.g., Time-1 hope predicts Time-2 hope; Time-1 ASE predicts time-2 ASE, etc.). In addition, Time-1 hope directly predicts Time-2 levels of ASE and loneliness. Table 4 summarizes the direct, indirect and total effects of the modified model.

DISCUSSION

This study concerned students' well-being during their transition to college, as appraised by social relations and academic expectations upon beginning college and after a month of academic studies. Most past studies have focused attention on students' levels of anxiety during the transition to college or university study (Fiori & Consedine, 2013). Students with LD have been shown to experience higher anxiety levels than their non-LD peers (Klassen, Tze, & Hannok, 2013; Nelson, & Gragg, 2012). We did not directly measure anxiety in this study because our focus was on personal and interpersonal resources from the perspective of promoting resilience or positive psychology (Snyder, Lopez, Shorey, Rand & Feldman, 2003). However, increased anxiety may be reflected by social distress in terms of loneliness and low academic expectations in terms of ASE. We hypothesized that LD, as well as hope and optimism, would predict these outcomes.

We expected strong positive relations between Time 1 and Time 2 measures of each construct, as a one-month interval is relatively short. Indeed, all measures in the first week directly predicted levels of the corresponding measures after



Chi square = 84.29 df=99 p=.854 GFI=.975 RMR = .012 CFI= 1.00 NFI=.975 RMSEA=.00

FIGURE 2 The modified model of risk and resources.

a month. However, we also attempted to note changes that occurred during this intense period of transition to the college environment, expecting that entrance into the new environment may be associated with alterations in levels of hope and optimism, possibly reducing the vulnerability emerging from belonging to the LD group. The results supported this hypothesis in part.

LD status was directly related to higher levels of loneliness only at the first assessment time-point. Notably, LD status predicted loneliness after a month only indirectly. That is, loneliness levels one month into the academic year were mediated by initial loneliness and initial hope levels as well as by optimism and hope levels after a month. Thus, students with LD who experienced higher levels of loneliness after a month may have done so at least partially because of lower hope and optimism levels. Stated inversely, in line with the notion of resilience, those students who reported higher hope and optimism one month into the academic year tended to report lower levels of loneliness. Similarly, LD status directly predicted lower ASE at the beginning of the year. Yet, after a month in college, LD status predicted ASE only indirectly, mediated by hope at the beginning of the year and by hope after a month.

The relationship between loneliness and ASE calls for special attention. Loneliness at the beginning of the year was directly related to ASE. Thus, those students with LD who experienced lower levels of loneliness at the beginning of the year reported higher levels of ASE. Yet after a month, loneliness no longer predicted ASE; instead, hopeful thinking did. And, of note, the only measure that continued to be directly predicted by LD after a month was hope.

The fact that LD status only indirectly related to outcomes after a month in college highlights the importance of personal resources such as hope (and, to a slightly lesser degree, opti-

mism). In line with the notion of resilience, our results show that students who develop higher levels of hopeful thinking may adjust better to academic life. These results call for future experimental/controlled research to more clearly show causal relations.

Earlier research has demonstrated that hope predicts ASE and academic achievement for college students without LD (Feldman & Kubota, 2015; Levi, Einav, Raskind, Ziv, & Margalit, 2014). In addition, studies have reported that adolescents with LD experience lower levels of hope and higher levels of loneliness than their peers (Idan & Margalit, 2014). This study calls attention to the importance of the hope construct during the collegiate transitional period for students with and without LD, demonstrating that relationships between LD and loneliness as well as between LD and ASE are mediated by hope.

Hope (Snyder, 2002) concerns individuals' expectations and beliefs regarding their abilities to identify goals, motivate themselves to pursue those goals, plan effective paths to reach those goals, and, when encountering barriers, produce alternative paths. LD characteristics such as self-regulatory difficulties may challenge students' beliefs in their abilities to achieve future goals in the new academic environment. We selected the first month of college as the time period of this study, assuming that this is a critical period during which individuals structure their conceptual frameworks regarding their identities as students in the higher education environment and develop beliefs about their chances of success or failure in that environment. Indeed, as mentioned earlier, past studies highlight the value of this collegiate transitional period for building a foundation of strategies for future adjustment and achievement (Perera, McIlveen, & Oliver, 2015; Woosley, 2003; Woosley & Miller, 2009). Research in non-LD populations has shown that even brief intervention during

TABLE 4
Standardized Direct, Indirect and Total Effects of the Modified Model

Effect	Direct	Indirect	Total
On Loneliness T2			
Of Hope T2	26**	.00	26**
Of ASE T2	.00	.00	.00
Of Optimism T2	14**	00	14**
Of Loneliness T1	.85**	04*	.82**
Of Hope T1	34**	18*	51**
Of ASE T1	.00	.00	.00
Of Optimism T1	.00	11*	11*
Of LD	.00	.14**	.14**
Of Gender	.00	03	03
On ASE T2	.00	03	03
Of Hope T2	.58**	.00	.58**
1			
Of Loneliness T2	.00	.00	.00
Of Optimism T2	.00	.00	.00
Of Loneliness T1	.00	22**	22**
Of Hope T1	.48**	40**	07*
Of ASE T1	.73**	.00	.73**
Of Optimism T1	.00	.00	.00
Of LD	.00	21**	21**
Of Gender	.00	.24**	.24**
On Hope T2			
Of Optimism T2	.00	.00	.00
Of Loneliness T1	.00	16**	16**
Of Hope T1	.68**	.00	.68**
Of ASE T1	.00	.00	.00
Of Optimism T1	.00	.00	.00
Of LD	14*	17**	30**
Of Gender	.13*	.00	.13*
On Optimism T2			
Of Loneliness T1	.00	.00	.00
Of Hope T1	.00	.00	.00
Of ASE T1	.00	.00	.00
Of Optimism T1	.78**	.00	.78**
Of LD	.00	19**	19**
Of Gender	.00	.00	.00
	.00	.00	.00
On Loneliness T1	00	00	00
Of Hope T1	.00	.00	.00
Of ASE T1	.00	.00	.00
Of Optimism T1	.00	.00	.00
Of LD	.14*	.00	.14*
Of Gender	.00	.00	.00
On ASE T1			
Of HopeT1	.00	.00	.00
Of LonelinessT1	32**	.00	32**
Of Optimism T1	.00	.00	00
Of LD	15*	05	20**
Of Gender	.23**	.00	.23**
On hope T1			
Of Loneliness T1	23**	.00	23**
Of LD	21**	03	24**
Of Gender	.00	.00	.00
On Optimism T1	.00	.00	.00
Of LD	24**	.00	24**
Of Conder	2 4 .00	.00	24 .00
Of Gender	.00	.00	.00

Notes. T1, Time 1; T2, Time 2; ASE, Academic Self Efficacy.

this period may have long-term effects (Stephens, Townsend, Hamedani, Destin, & Manzo, 2015).

Research has already demonstrated that hope is malleable. Intervention studies have shown that hope can be enhanced through various approaches (Cheavens, Feldman, Gum, Michael, & Snyder, 2006; Feldman & Dreher, 2012; Marques, Lopez, & Pais-Ribeiro, 2011). Yet students with LD may require extended support in order to maintain the impact of hope-based intervention (Rosenstreich, Feldman, Davidson, Maza, & Margalit, 2015). Future work should address ways of altering existing interventions for this population. Perhaps the inclusion of technology-supported approaches such as smart-phone-enhanced interventions, for instance, could provide further support for developing hopeful thinking by aiding students in integrating techniques in their daily lives (Botella et al., 2012; Ekberg et al., 2011; Haydicky, Wiener, Badali, Milligan, & Ducharme, 2012).

LIMITATIONS AND FUTURE DIRECTIONS

This study has several limitations. First, this is a correlational study and does not allow for the determination of causal relationships. Using SEM analysis enabled us to explore direct and indirect predictors, reflecting mediation. However, only by using controlled laboratory manipulations can causality be determined. Furthermore, all measures in this study were self-reported. Thus, future studies can build on the present findings by including direct observations or in-depth interviews. The use of mixed method approaches may provide a greater process-level understanding. Qualitative methods involving repeated interviews or consistent dairies may further clarify processes and outcomes, contributing to a greater understanding of the empowering as well as distressing experiences of students with LD during this period (Bakker, Sanz Vergel, & Kuntze, 2015).

In addition, the sample of this study was drawn from a single college in Israel. In order to examine the generalizability of the proposed model, it would be helpful for future research to utilize larger random samples drawn from different academic communities and different countries.

This study concerned the first month in college, but this is just the first chapter of a long academic story. Future studies could augment the present findings by following students from the transition to college until graduation, examining the relationship between experiences in the first month and students' academic achievements by graduation as well as their overall social and academic well-being.

CONCLUSIONS AND EDUCATIONAL IMPLICATIONS

This study calls attention to the experiences of students with and without LD during their transition to college, as reflected in social distress and academic-related beliefs. It highlights the importance of hope as students adjust to the college environment.

There is a need to sensitize educators to the multidimensional, dynamic and flexible interactions among personal and

interpersonal resources and contextual conditions within academic environments (Stack-Cutler, Parrila, & Torppa, 2015). Our results point to the usefulness of moving from focusing exclusively on the academic disabilities of students with LD to a greater awareness of additional factors, such as hope. In this study, outcomes after one month's transition to college were not predicted directly by LD status. Instead, they were mediated by students' hopeful thinking and future expectations. We hope that the present results help give rise to future studies focusing attention on the power of expectations in such vulnerable groups.

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