Teachers’ Ratings of Students’ Learning Disabilities and Self-Reported Learned Helplessness of Polish Junior High School Students

Piotr Alfred Gindrich

Abstract
The purpose of this study was to examine the levels of self-assessed dimensions of learned helplessness in a Polish sample of junior high school students. To qualify the students for the learning-disabled (LD) and the nonlearning-disabled (NLD) groups, the teachers’ ratings of the students’ learning disabilities (LDs) and comorbid disorders symptoms severity were used. The subjects were compared with respect to the three areas of learned helplessness: (a) contingency, (b) cognition, and (c) behavior. The T-tests analysis yielded that the students of LD group reported higher levels of learned helplessness in each of the three dimensions compared to the NLD group. In addition, the multivariate analysis of variance (MANOVA) effects of gender and group on the levels of learned helplessness were examined. Study limitations and the implications for teaching practice were also presented.

Keywords
learning disabilities, special education, education, social sciences, comorbid disorders, learned helplessness, achievement, junior high school students

Introduction
Learned helplessness (LH), a multidimensional occurrence that concerns animal and human behavior, has made a drastic change not only to the field of psychology but also to other sciences. LH may be seen from several perspectives, including psychological, medical, sociological, educational, and pedagogical. It can be associated with depression and anxiety disorders, academic failure, school achievement, learning disabilities (LDs) along with comorbid disorders and motivation (Burden & Burdett, 2005; Weems & Silverman, 2006). Psychiatrists may classify helplessness as typical depressive symptomatology (Henkel et al., 2002). Educators and special educators appear to be in search of enabling or disabling conditions with regard to teaching, learning, and instruction. Psychologists often focus on the application of motivation, attribution, and personality theories to the practice of education (Śędek, 1995; Vispoel & Austin, 1995; Weiner, 1980). Furthermore, an informational explanation of LH emphasizing both cognitive exhaustion and brain-crash is an important, psychological approach (Śędek et al., 2005). Sociologists pay special attention to social helplessness or ineffectuality. Philosophers are most likely to put the emphasis on human impotence or powerlessness, which is the bond allowing for merging personal and particularly spiritual helplessness with a collective, universal one in the face of the power of time passing (Gajdzica, 2007).

Historically and psychologically, the term “learned helplessness” might have been used for the first time by Geer, Maier, and Seligman in the late 1960s to refer to, the learning or perception of independence between the emitted response of the organism and the presentation and/or withdrawal of aversion events (see Grimes, 1981, p. 93). This primal view on the nature of the phenomenon may have triggered off a series of experiments with regard to animals. Those experimental studies usually aimed at testing the validity of the traditional model of LH, later introduced by Seligman and colleagues: Geer, Maier, and Overmier. Considering this approach, Overmier and Seligman noticed that the animals learned during the course of the short-term...
exposure that their responses to noxious stimuli were ineffective. Moreover, the results of the experiments conducted by Overmier, Seligman, and Maier proved that it was the uncontrollability of the aversive events that was the significant, contributing factor (Overmier, 2002). However, further studies were indispensable to understanding the effect of the uncontrollability of the traumatic event, particularly as seen from the human perspective. The need for the conceptual development resulted in the reformulated LH model by Abramson, Seligman, and Teasdale, who hypothesized that when people perceived a lack of control and found themselves helpless, they wondered why, both in an implicit and explicit way (Barnhill & Myles, 2001). In accordance with this conceptualization, individuals who attribute negative life events to internal, stable, and global causes are more likely to be depressed than those who make external, unstable, and specific attributions (Joiner & Wagner, 1995).

Educationally speaking, LH is usually characterized by the student’s unwillingness to engage in school assignments because she or he believes in the futility of her or his efforts and imminence of her or his failure (Seifert, 2004).

LDs seem to be a quite appealing topic to scholars. There is the controversy about the etiological factors and the diagnostic criteria of LD in conjunction with heterogeneity, comorbidity, IQ-discrepancy, and exclusionary practice. Although most physical disabilities such as sensory or motor impairments have specified agreed upon criteria for diagnosis, there is still no consensus among the experts in regard to the diagnostic criteria of LD (Harrison & Holmes, 2012). Importantly, in Poland, a broad perspective of LD is sometimes accepted to point at intellectual disability, particularly in academic circles. Furthermore, Polish specialists argue that a narrow conceptualization of specific learning disability/ disorder (SLD) actually includes both developmental dyslexia and dyscalculia. Nevertheless, for Polish speakers, both LD and SLD are usually comprehended with reference to the difficulties (trudności) in mastering the basic scholastic skills (reading, writing, spelling, and counting). Colloquially, a Polish word, trudności, implies certain external or internal obstacles, minor or major barriers set in the learning process that should be overcome before a student can feel a taste of academic success.

Bearing in mind the rationale for conducting this study, it is worth appealing to the 5th hypothesis, suggested by Forness, pointing to the comorbidity as a source of social skills deficits in LD individuals because it also ensures a clear co-occurrence between LDs and hyperactivity or a possible linkage between depression and LD (see Forness, 1997, pp. 70–71). The 5th hypothesis, stated above, is crucial because the comorbidity may concern not only LD and attention deficit hyperactivity disorder (ADHD) but also depression, which is an important consideration in the reformulated theory of LH. Most notably, the link between LH and depression, that is probably related to social skills, is obvious since an individual who tends to choose a helpless attributional style is expected to feel dejected, miserable, and incompetent. However, looking at the relationship between LH and LDs, another vital issue is that LD syndrome, dyslexia, and comorbid disorders may result in school failure. Furthermore, as far as LD student is a point of reference, the experience of repeated academic failure and sporadic success may produce several undesired consequences or negative outcomes that can be observed in and out of school, and usually pertain to social and academic skills, self-motivation, causal attributions, and self-esteem (Canino, 1981; Chapman, 1988; Martinez & Semrud-Clikeman, 2004; Palmer et al., 1982). Strictly speaking, students with LD, intellectual disability, or conduct disorders (CDs) may be at risk for depression due to low self-esteem, external locus of control (LOC), low social or peer acceptance, and a sense of loneliness (Howard & Shick Tryon, 2002; Huntington & Bender, 1993; Lackaye & Margalit, 2006; Maag & Behrens, 1989; Maag & Reid, 2006; Margalit et al., 1999). Undoubtedly, LH is also reflected in the aforementioned symptomatology of student’s social and emotional maladjustment. Moreover, based on numerous studies, high levels of LH can be found among children and youth with LDs, ADHD (Friedman & Medway, 1987; Hen & Goroshit, 2014; Licht, 1983; Mamlin et al., 2001; Settle & Milich, 1999).

Theoretically, the aim of this study derives from the three-dimensional construct of LH elaborated by Meier, Peterson, and Seligman in the 1990s:

1. **Contingency**—addresses the uncontrollability, namely, inability to be in control of a traumatic event, an aversive situation caused by the perception and expectation of independence between action and outcome.

2. **Cognition**—refers to certain causal attributions preferred by people with reference to a traumatic event, an aversive situation or in regard to the milieu they are influenced by.

3. **Behavior**—enables individuals to decide whether they will avoid aversive situation or proceed with the obstacle set before them, acting ineffectively (see Firmin et al., 2001).

Empirically, the purpose of the study is to examine the three-pronged model of LH regarding three dimensions: LOC (contingency), intellectual helplessness (cognition), and self-efficacy (behavior) in the sample divided into two groups of junior high school students observed by teachers: the learning disabled (LD), the nonlearning disabled (NLD) as well as four groups regarding both the teacher-identified LD, comorbid disorder symptoms severity and the students’ gender (female, male). This undertaking seems to be quite new because no empirical reports on the simultaneous assessment of each of three domains of LH in the LD and comparison groups of students, inclusive of gender have been available up till now.
In connection with the purpose of the study, two research questions were asked:

1. Are the students with the symptoms of LDs and comorbid disorders observed by teachers (the LD group) more prone to LH concerning each of three dimensions compared to their peers without LD, co-occurring difficulties (the NLD group)?
2. Does gender matter regarding the self-reported levels of LH?

In response to the research questions, two hypotheses were suggested:

1. The students with the symptoms of LDs and comorbid disorders observed by teachers (the LD group) are more prone to LH concerning contingency, cognition, behavior compared to their peers without LD, co-existing disorders (the NLD group).
2. Gender may have an effect on the self-reported levels of LH.

The hypotheses have been formulated based on the research outcomes regarding the specific dimensions of LH in the LD, ADHD school populations, and the role of student gender. Considering contingency, it was found that the general LOC in the LD school children and adolescents was less internal compared to their non-LD peers (Mamlin et al., 2001). Similarly, another study pointed to the strongest external LOC in those children who had LD and comorbid ADHD (Tarnowski & Nay, 1989). These findings somehow support the assertion that a loss of control over the events in school settings may result in LH (Seligman, 1975). However, the effect of gender on the group differences in LOC, causal attributions, and LD was rarely assessed or sometimes just boys were examined (Friedman & Medway, 1987; Mamlin et al., 2001). Taking into account behavior, the research results indicated that students with LD reported lower academic self-efficacy in comparison with high or average achievers as well as non-LD students (Hampton & Mason, 2003; Hen & Goroshit, 2014; Lackaye & Margalit, 2006; Palmer et al., 1982). Nevertheless, the nature of interplay between gender and self-efficacy beliefs in the LD and NLD groups was somehow undisclosed. Therefore, I have assumed that the gender effect should be measured.

**Method**

**Participants**

Prior to the assessment, an approval by the relevant Research Ethics Committee was sought. The sample comprised 180 female and male ninth graders attending six randomly chosen junior high schools located in urban and rural areas of Poland. The students were 15 years old. To select the participating schools, the study utilized a lottery system corresponding to a simple random sampling method. A sampling frame was a register of Polish middle schools including the county of Radom, Mazovia, and Lublin regions. It is worth noting that the Polish compulsory secondary education system has been changed since the school year 2017/2018. Prior to that time the junior high school also known as middle school (gimnazjum) ensured lower secondary education (in the 7th, 8th, 9th grade) that lasted 3 years. At present, the primary school provides for the 8 years education (formerly it was just 6 years). Furthermore, the ninth grade is the first year of secondary education in the Polish high school now.

Based on the school documentation regarding students' achievements, each of six middle, regular schools that agreed to participate, drew equal numbers of high and low achieving students to be examined in each of 30 ninth grades (classes). In this case, a stratified random sampling method was used and a sampling frame for the random selection was an official numbered list of students who were present at a classroom under study. The lists were compiled by headmasters and class teachers. Importantly, the students who were drawn to be investigated by a middle school, along with their parents, accepted the terms and rules of assessment. Prior to the start of the diagnostic survey, the respondents were notified of the aims of the study, the research methods and the duration of an examination. They were assured that the research was anonymous and confidential. They were also aware of the right to refuse to participate.

The class teachers of randomly selected junior high schools were familiar with the students’ problems because they taught the adolescents involved in the assessment. There was a formal dependency bond between the teacher—evaluator and the student who was judged in terms of the LD and comorbid disorders symptoms severity. As the assessment proceeded, the class teachers filled in the set of observation scales (checklists) constructed either by the author (LD checklist) or in accordance with the DSM-IV (Diagnostic and Statistical Manual of Mental Diseases), to mention exclusively ADHD, oppositional defiant disorder (ODD), or CD (House, 2002) (see “Measures”). Considering the results of these scales, the descriptive statistics (mean, median, lower, and upper quartiles) were used to divide the sample into two distinct groups. For example, if the student’s total scores in the rating scales for LD and comorbid disorders symptoms severity observed by teachers were located above the median, mean, or over the lower quartile, a student would be qualified for the “LD group.” There were 62 students who met the statistical criterion ($n_{LD} = 62$). Those who did not fulfill these requirements were classified into the “NLD group” ($n_{NLD} = 51$). However, there were also the subjects who neither could be qualified for the LD nor NLD groups because their total high scores indicated the above-average level of the symptoms’ severity just for one disorder at a time (either LD, ADHD, or a disruptive behavior) ($n = 51$). It was
decided to rule them out. The primary reason for the exclusive practice was a high within-group variance rate that could have been caused by the large variability of single disorders observed by the teachers in regard to the students’ behavior.

The LH dimensions were assessed with the students’ self-ratings of LOC (contingency); intellectual helplessness (cognition) and self-efficacy (behavior) measures. The respondents were also encouraged to report some demographic and educational aspects, namely, their gender, place of residence, birth order, parental education, home environment, school achievement, developmental dyslexia diagnosis, and so on. The copies of instruments (scales, questionnaires) were printed in Polish because both the teachers and the students who participated in this study spoke that language.

A Pearson’s chi-square analysis was performed to assess the discrepancies between the students of LD and NLD groups on several demographic and pedagogical variables. The significant differences were found with respect to gender, parental education, accessibility of a quiet room for studying at home, type of family, school achievement, and diagnosis of dyslexia. First, there were more boys than girls in the LD group, for the NLD group, the percentage of females was higher. The obtained \( \chi^2 = 7.35, df = 1 \) was significant (\( p < .006 \)). Second, fewer mothers and fathers of the LD students had a college education or a master’s degree in comparison with the mothers and fathers of those with no symptoms of teacher-identified LD (\( \chi^2 = 15.72, df = 5, p < .018 \) and \( \chi^2 = 13.56, df = 5, p < .007 \)). Third, considerably fewer students of the LD group compared to the number of those of the NLD group argued that they were provided with a silent, separate space at home where they could study or learn (\( \chi^2 = 9.32, df = 2, p < .009 \)). Fourth, the achievement of the students who were qualified for the LD group was at a distinctly lower level compared to their peers in the non-LD group (\( \chi^2 = 63.78, df = 5, p < .000 \)). Fifth, the students who were classified as part of the LD group lived less often in an intact, that is, full family than their peers in the NLD group (\( \chi^2 = 13.31, df = 3, p < .004 \)). Sixth, more than one-fourth of the students in the LD group admitted to have had dyslexia clinically diagnosed and hardly none did so in the NLD group (\( LD = 27.42\%, NLD = 1.49\% \), \( \chi^2 = 23.90, df = 2, p < .000 \) (see “Supplemental Material,” Tables S1–S7).

As for place of residence (rural vs. urban settings), number of siblings, and family income, no significant differences between the groups were found.

**Measures**

*Locus of Control Questionnaire for Adolescents (LOCQA) by Wojnarska and Krasowicz-Kupis.* The LOC was assessed with a Polish measure with the choice-of-attribution format. The final version of the LOCQA comprises 50 questions, which are available in two different variants (for girls and boys). A subscale for success (S) of the LOCQA contains the statements on positive events, and the respective subscale for failure comprises the queries pertaining to negative events (P). Moreover, there is an additive subscale S+P, which constitutes a total score for an entire scale. A raw score for each subject is estimated with the number of responses chosen with respect to the statements (questions) reflecting directly on the internal LOC. Thus, the higher the total score is, the more internal is LOC (Wojnarska & Krasowicz-Kupis, 1989). The reliability of LOCQA is satisfactory (Cronbach’s \( \alpha \) for the full scale = .62; the split-half reliability = .71). The values of reliability coefficients are at the similar levels in comparison with those that have been calculated for other tests measuring LOC (Dwral, 1995; Wojnarska & Krasowicz-Kupis, 1989).

*Helplessness rating scale by Cizkowicz.* The theoretical basis for the construction of a Polish rating scale by Cizkowicz was the attributional model of LH created by Abramson, Seligman, and Teasdale in the 1980s. It was also based on an informational explanation of LH (Sędzik, 1995). The final format of a rating scale comprises 20 items concerning the three key spheres for this occurrence, that is, cognitive, motivational, and emotional. It allows for assessing the student’s sense of helplessness taking into consideration the lessons (classes) in two separate academic subjects, that is, Polish and math. Both variants of a rating scale contain identical statements. The higher score renders the higher level of helplessness felt (Cizkowicz, 2000).

*Personal competence scale by Juczyński.* It is a Polish instrument that enables us to measure a general sense of self-efficacy of school-age children and youth. The foundation of Personal Competence Scale (abbreviated to KompOs in Polish) is Bandura’s social cognitive theory. In general, it emphasizes the effect of perceived self-efficacy on the level of goal challenge students set for themselves, the amount of effort they mobilize, and their persistence in the face of difficulties (Zimmerman et al., 1992). The KompOs lets us examine a general sense of efficacy and two independent factors: power, motivational strength, and task persistence. The higher score denotes the stronger sense of self-efficacy. The instrument is known for its good psychometric quality (Cronbach’s \( \alpha \) for the full scale = .72; the split-half reliability = .49) (Juczyński, 2001).

*LD checklist for Teachers.* The LD Checklist for Teachers is a Polish measure, constructed by the author. It includes the list of the eight LD symptoms concerning several areas of academic skills and some other related capabilities: reading; writing and spelling; counting and math; speaking. The severity of students’ LD symptoms is evaluated by a teacher on a Likert-type scale. Considering the psychometric properties, the research tool seems to be reliable. The internal consistency and split-half reliability of the instrument were
Table 1. The Comorbid Disorders Symptoms in a Sample of LD Students Observed by Teachers (n = 62).

| Symptoms of the disorders                        | N  | %   |
|-------------------------------------------------|----|-----|
| LD and comorbid ODD, CD and ADHD (ADD/I/H)      | 17 | 27.42 |
| LD and comorbid ADHD (ADD only)                 | 17 | 27.42 |
| LD and comorbid ODD, ADHD (ADD/I/H)             | 12 | 19.35 |
| LD and comorbid ADHD (ADD/I/H)                  | 6  | 9.68 |
| Other combinations of LD and the co-occurring problems | 10 | 16.13 |
| Total                                           | 62 | 100.00 |

Note. LD = learning disability; ODD = oppositional defiant disorder; CD = conduct disorder; ADHD = attention-deficit hyperactivity disorder; ADD = attention deficit disorder; I/H = impulsivity/hyperactivity.

fairly satisfying (Cronbach’s $\alpha$ for the full scale = .90; the Guttman split-half reliability = .88). Taking a look at the item–total score correlations, it seems that none of the items reports a very low or low correlation with the sum scale (such correlations range between .62 and .83). Therefore, it was not purposeful to delete any of the items because erasing them would not improve the scale reliability (see Supplemental Material, Table 8S).

ADHD checklist for teachers. The ADHD Checklist for Teachers is the author’s measure that contains 18 observable symptoms of this disorder which are available in DSM-IV. However, compared to the DSM-IV format, each diagnostic statement is expressed in a different way because an adverb often has been deliberately skipped in each sentence. The checklist includes the student’s behavior rating scales pertaining to overactivity and impulsivity (House, 2002). Similarly, the frequency of the symptoms was indicated by a teacher on a 5-point scale.

Asocial and antisocial behavior checklist for teachers. This variant of checklist for teachers was also the author’s instrument inspired by the DSM-IV diagnostic framework. It concerns various symptoms of the student misbehavior involving ODD and CD. The intensity of the observed LD and ODD symptoms was also judged by the teachers who had a choice of five responses. However, as for the LD group, the comorbidity of LD and ADHD (both inattentive and impulsive/hyperactive type), ODD, and CD symptoms has been identified by the teachers (see Table 1).

Short demographic survey. The survey provided an opportunity to determine about some demographic features of the sample. All the subjects were encouraged to respond to the queries about their gender, place of residence, home environment (education of parents, family income, number of family members, and learning conditions), school achievement, and clinical diagnosis of LD (dyslexia).

Results

To pinpoint the statistical significance of the differences between two groups of students (LD and NLD) on the LH dimensions measures: Helplessness Rating Scale by Czikowicz, Locus of Control Questionnaire for Adolescents (LCQA) by Wojinarska and Krasowicz-Kupis, Personal Competence Scale by Juczynski, T-test values were computed. A parametric T-test for the independent samples was chosen in compliance with the statistical circumstances governing the empirical data that were collected. The research sample was quite large. The population distributions were normal. The variances were similar. In addition, the dependent variable was measured on an interval/ratio scale. The LD symptoms severity in students observed by teachers was the grouped, independent variable.

The Levels of Contingency Dimension of LH

The results of the T-test analysis concerning the contingency dimension are seen in Table 2. It presents the mean scores ($M$), standard deviations ($SD$), $T$ values, and $p$ levels that were obtained by the students in the LD and NLD groups for each variable of this factor of LH. Analyzing the data included in Table 2, it is obvious that the mean differences between the LD and NLD groups were statistically significant with regard to two variables for LCQA: LOC for success ($t = −3.57, p < .00$) and general LOC ($t = −2.71, p < .00$).

The students with elevated LD symptoms observed by teachers were lower than their peers in the NLD group in LOC for success and general LOC. It could be noted that generalized LOC and the specific one for success of the students in the LD group were less internalized in comparison with the NLD group. Likewise, the LD group was more likely to choose the external attributions to explain the outcomes of actions. The mean differences between the LD and NLD groups were not statistically significant for one remaining variable of LCQA: LOC for failure ($t = 0.16; p = .16\ ns$). These empirical facts allowed for testing the main Hypothesis 1 pertaining to the contingency dimension, regarding two particular aspects of LOC.

The levels of cognition dimension of LH. The discrepancies between two groups of students in regard to the cognition dimension were also examined with the T-test for independent samples. The respective statistical values are shown in Table 2. Taking a closer look at the data, the mean scores for both types of intellectual helplessness (felt during Polish and math lessons) were substantially higher for the students qualified for the LD group compared to their peers in the NLD group. Furthermore, in comparison with their peers of the group with no such symptoms observed, the students with LD symptoms reported by teachers more often felt confusion, depression, incompetency, hopelessness, and incomprehension while being taught either math or Polish at school.
(intellectual helplessness—math lesson $t = 5.40, p < .00$; Polish lesson $t = 3.04, p < .00$). In addition, comparing between the mean scores for the two school subjects in the LD group, math lessons triggered off even more elevated levels of intellectual helplessness in the students with LD than Polish lessons. The obtained results made it possible to verify the main Hypothesis 1 regarding the cognition dimension for each of the two variables.

**The Levels of Behavior Dimension of LH**

The data concerning *T*-test analysis of the behavior dimension are available in Table 2. It contains the same statistical values as for the results obtained in two other dimensions of LH. When making subsequent comparisons between the mean scores computed for the LD and NLD groups, the statistically significant differences may be found with regard to two variables of Personal Competence Scale (KompOs): self-efficacy, task persistence ($t = −3.38; p < .00$) and general self-efficacy ($t = −3.28; p < .00$). The students who revealed the teacher-identified LD symptoms scored much lower than their peers in the NLD group in self-efficacy, task persistence, and general self-efficacy. It means that generalized sense of self-efficacy and the specific one regarding perseverance of the students in the LD group were much weaker in comparison with the NLD group. The LD and NLD groups did not differ at the statistical significance level in regard to just one variable of the KompOs: self-efficacy, motivational strength ($t = −1.32; p = .18$ ns). Thus, the main Hypothesis 1 about the behavior dimension could be tested taking into consideration two of the three variables.

**The Effect of Gender**

To test Hypotheses 1 and 2, the effects of gender and LD on the students’ self-ratings of the LH dimensions were also examined. A factorial, multivariate analysis of variance (MANOVA) without repeated measures was performed. Group (LD, NLD) and gender (female, male) were two different, categorial factors (independent variables). The three areas of LH were dependent, quantitative variables. Furthermore, as to make group × gender comparisons of the junior high school students’ responses concerning the specific indices of each dimension, Tukey’s Honest Significant Difference (HSD) tests for unequal *N* were used. In addition, three separate 2 (Group) × 2 (Gender) analyses of variance were conducted (see Table 3). Considering the contingency, the main effect of group was significant, $F(2,124) = 4.92, p < .00$, Wilks *λ* = .92, as was the interaction between group and gender, $F(2,124) = 3.32, p < .03$, Wilks *λ* = .94. The main effect exclusively for gender did not reach the significance level, $F(2,124) = 1.70, p = .18$ ns, Wilks *λ* = .97. The Wilks *λ* values could make us believe that the main effect of group was stronger than another one for gender and that for the interaction. The effect of group and the significant interaction between group and gender could have been also reflected in the results of the HSD test post hoc comparisons.

### Table 2. Comparison Between the LD and the NLD Groups on Measures of the Dimensions of Learned Helplessness.

|                          | LD group (*n* = 62) | NLD group (*n* = 67) | Difference between means |
|--------------------------|---------------------|----------------------|-------------------------|
|                          | *M* | *SD* | *M* | *SD* | *t* value | *p* |
| Contingency              |     |      |     |      |           |    |
| Locus of control for success | 11.20 | 3.25 | 12.97 | 2.28 | −3.57* | .00* |
| Locus of control for failure | 11.09 | 3.48 | 11.88 | 2.94 | −1.38 | ns | .16 ns |
| General locus of control | 22.30 | 6.16 | 24.85 | 4.37 | −3.21 | .00* |
| Cognition                |     |      |     |      |           |    |
| Intellectual helplessness math | 34.16 | 10.87 | 23.67 | 11.15 | 5.40* | .00* |
| Intellectual helplessness Polish | 29.13 | 11.32 | 22.37 | 14.46 | 3.04* | .00* |
| Behavior                 |     |      |     |      |           |    |
| Self-efficacy, motivational strength | 17.96 | 3.06 | 18.65 | 2.82 | −1.32 | ns | .18 ns |
| Self-efficacy, task persistence | 15.88 | 3.88 | 18.05 | 3.40 | −3.38* | .00* |
| General self-efficacy    | 33.85 | 5.19 | 36.71 | 4.69 | −3.28* | .00* |

Note. *M* = mean; *SD* = standard deviation. The results of *T*-tests comparisons between LD and NLD groups: LD = learning disabled; NLD = nonlearning disabled. *p* value is statistically significant; ns = nonsignificant.
A number of limitations in conducting this study should be acknowledged. The first one concerned using the teachers’ ratings of symptoms severity in regard to the identification of group was stronger than any other effects of the MANOVA setting. The group effect may be noticed in connection with the HSD test comparisons pertaining to the students’ intellectual helplessness during math lesson. There were solely marked group differences between the LD and NLD students, and both females and males with LD received higher scores on that measure than their NLD counterparts. It could be the case that the girls and boys with teacher-identified LD were more predisposed to confusion, depression, lack of competence, and understanding during math classes than females and males of the NLD group. Focusing on the significant difference noticed in regard to the intellectual helplessness during Polish lesson, boys with LD were more vulnerable to it than girls without LD (see Table 3). The MANOVA on the behavior dimension revealed the significant main effect for group, $F(2,124) = 5.38, p < .00$, Wilks $\lambda = .92$ as well as for gender, $F(2,124) = 7.07, p < .00$, Wilks $\lambda = .89$. The interaction effect was not significant, $F(2,124) = 2.21, p < .11$ ns, Wilks $\lambda = .96$. The HSD test comparisons in the behavior area of LH revealed the significant gender and group differences with respect to a pair of variables: self-efficacy, motivational strength, and task persistence. Regarding potency or the drive to act, girls with the LD symptoms rated themselves significantly lower compared to their male peers with LD. Moreover, considering the same variable, females of the LD group reached much lower scores on an urge to take action than boys of the NLD group. However, the self-reported perseverance level of boys with LD was lower compared to both female and male group without LD. No statistically significant gender differences were found in terms of generalized self-efficacy, although $F$ value of MANOVA was significant in this respect (see Table 3). To sum up, gender matters particularly as far as the contingency and behavior are concerned (the cognition is accompanied by the marked effect of group). Thus, the main Hypothesis 2 can be tested taking into account two of the three dimensions of LH.

**Limitations of the Study**

A number of limitations in conducting this study should be acknowledged. The first one concerned using the teachers’ ratings of symptoms severity in regard to the identification of

---

**Table 3. A MANOVA Results Regarding the Effect of Group $\times$ Gender Factors on the Dimensions of Learned Helplessness.**

|                  | LD Group ($n = 62$) | NLD Group ($n = 67$) | MANOVA results |
|------------------|---------------------|----------------------|----------------|
|                  | Girls | Boys | Girls | Boys | $F(3, 125)$ | The Unequal N HSD test for group comparisons# |
|                  | $n = 25$ | $n = 37$ | $n = 43$ | $n = 24$ |                           |                                |
| **Contingency**  |        |      |        |      |                           |                                |
| Locus of control for success | 11.88 | 10.75 | 13.14 | 12.66 | 5.23* | LDb < NLDg |
|                  | (3.26) | (3.20) | (2.05) | (2.68) |                           |                                |
| Locus of control for failure | 11.96 | 10.51 | 11.39 | 12.75 | 2.63† | No significant differences |
|                  | (3.12) | (3.63) | (2.74) | (3.15) |                           |                                |
| General locus of control | 23.84 | 21.27 | 24.53 | 25.41 | 3.82* | LDb < NLDg |
|                  | (5.94) | (6.19) | (4.03) | (4.95) |                           | LDb < NLDb |
| **Cognition**    |        |      |        |      |                           |                                |
| Intellectual helplessness math | 35.32 | 33.37 | 22.93 | 25.00 | 9.97* | LDg > NLDg |
|                  | (8.06) | (12.46) | (11.11) | (11.34) |                           | LDg > NLDb |
| Intellectual helplessness Polish | 25.92 | 31.70 | 20.69 | 25.37 | 4.83* | LDb < NLDg |
|                  | (8.98) | (12.22) | (14.74) | (13.75) |                           |                                |
| **Behavior**     |        |      |        |      |                           |                                |
| Self-efficacy, motivational strength | 16.56 | 18.91 | 18.39 | 19.12 | 4.39* | LDg < LDb |
|                  | (3.01) | (2.75) | (3.00) | (2.47) |                           | LDg < NLDb |
| Self-efficacy, task persistence | 17.00 | 15.13 | 18.20 | 7.79  | 4.39* | LDb < NLDg |
|                  | (3.34) | (4.09) | (3.05) | (4.01) |                           | LDb < NLDb |
| General self-efficacy | 33.56 | 34.05 | 36.60 | 36.91 | 3.61* | No significant differences |
|                  | (4.43) | (5.69) | (4.58) | (4.98) |                           |                                |

*Note. M = mean; SD = standard deviation; LDg = girls with learning disabilities; LDb = boys with learning disabilities; NLDg = girls without learning disabilities; NLDb = boys without learning disabilities. *F value is statistically significant. †F value is approaching significance level. # Just statistically significant group differences are displayed.
the students’ LD and co-existing disorders. The class teachers knew the students being evaluated and both parties were somehow emotionally attached to each other. This fact could be considered a confounding factor. The second shortcoming referred to the exclusionary practice used with regard to a mixed sample of 51 students who had just one major cognitive, behavioral or learning problem observed by teachers (LD, ADHD, CD, or ODD). Due to the small number of subjects with a single disorder, just two groups of students (LD and NLD) were examined. Undoubtedly, the comparative study investigating three or more groups (LD, ADHD, CD, and ODD) could further explain the effects of comorbidity on the students’ LH. The final limitation was related to the incomplete information on the students’ need for special education provision. It was only certain that just those adolescents with teacher-identified LD symptoms who, while answering the survey queries, had already reported their clinical diagnosis of dyslexia (the minority) might have actually sought special support. However, taken as a whole, the LD group revealed educational difficulties arising from low achievement and school failure.

Discussion

The purpose of this study was to attempt to determine the self-reported levels of LH within three dimensions (contingency, cognition, and behavior) in a Polish sample of junior high school students. The results could offer quite major support for the main Hypotheses 1 and 2. In comparison with their classmates without LD and co-existing disorders (NLD group), the students with symptoms of LDs and comorbid disorders recognized by teachers (LD group) were more prone to LH with regard to contingency, cognition, and behavior. Moreover, gender had an influence on the students’ ratings of LH regarding selected dimensions. The findings of this study were in line with the results obtained by other researchers. First, considering the contingency dimension, it turned out that students of the LD group had less internalized LOC. Thus, they were less able to take control over the actions and outcomes. Moreover, the students classified as LD felt less responsible for their achievements and more frequently believed that scholastic events were contingent on factors beyond human control (chance and luck) (Friedman & Medway, 1987; Grimes, 1981; Mamlin et al., 2001; Rogers & Saklofske, 1985; Tarnowski & Nay, 1989). Second, concentrating on the cognition dimension, it was clear that the students of LD group admitted to being more intellectually helpless under diverse instructional conditions (during Polish and math lessons) than their NLD peers. This finding can be important in regard to the linkage between an attributional model of LH and an increased risk of depression in the LD population noted by many researchers (Canino, 1981; Colbert et al., 1982; Gallegos et al., 2012; Huntington & Bender, 1993; Maag & Behrens, 1989; Palmer et al., 1982). Third, focusing on the behavior dimension, the students with LD had lower generalized self-efficacy than their peers without learning difficulties and co-occurring problems. These results were consistent with the findings of other comparative studies on self-efficacy beliefs in underachievers (Hen & Gorosht, 2014; Lackaye & Margalit, 2006). Moreover, considering my research, it was possible to argue that students with LD maintained their low self-efficacy because teachers could either judge them as less capable or could hold lower academic expectations for them (Schunk, 1989). Another reason might have been the fact that LD students were ensured less access to sources of efficacy information (see Hampton & Mason, 2003).

It should be emphasized that this exploration lent support to the studies indicating that LD could co-occur with other disorders. Based on the teachers’ assessment, most learning-disabled students in this nonclinical, school-based sample manifested the symptoms of ADHD (approximately 84%). Nonetheless, the cases of co-existence among LD, ADHD, ODD, and CD symptoms have also been reported, but quite less often (see Table 1). It must be noted that the co-occurrence of dyslexia, LDs, and ADHD is a well-known fact in the realms of psychology and psychiatry (Gillberg, 1998; Pennington, 1991). The reported degree of overlap between ADHD and LDs in clinically referred samples usually ranged from as low as 10% to as high as 92% (Aaron, 2004; Biederman et al., 1997). Considering other research findings, the prevalence of ADHD among children with LD varied from 16% to 31% (Wei et al., 2014).

To test for the influence of group and gender with respect to the levels of all three dimensions of LH, this study compared girls and boys classified as LD and NLD. First, in sum, based on the results of a factorial MANOVA, the impact of group on the dependent measures was visible for each of the three areas of LH (contingency, cognition, and behavior). Second, the only significant effect of gender on LH measures was observed for one dimension—behavior. Third, the MANOVA revealed the significant interaction between group and gender regarding exclusively contingency. Therefore, the marked group MANOVA effect and the HSD post hoc test results conformed with the group comparisons outcomes obtained from the T-test analysis in terms of the teacher-identified LD and NLD symptoms severity and the self-reported LH dimensions of Polish youth. However, based on the MANOVA results, group and gender seemed to affect individually, mainly the behavior dimension scores, that is, the self-efficacy beliefs. The post hoc comparisons showed that girls with LD were the least motivated group compared to male groups and girls without LD. With respect to task persistence, it appeared that boys of the LD group were more likely to quit a school assignment than girls and boys of the NLD groups. Furthermore, the gender × group interaction MANOVA effect on the contingency was distinguishable from other effects. So, based on the multivariate test analysis, just boys with LD obtained significantly decreased scores in relation to LOC for success and general...
LOC compared to the remaining groups. This fact may be of educational value because it appears that exclusively males with LD need an intensive, pedagogical assistance to overcome a lack of control over events. Explaining for the gender differences in the dimensions of LH is difficult. Considering the behavior area, the weakness of LD girls concerning the sense of potency in this sample may be in line with an assumption of Hackett and Betz who hypothesize that, developmentally, women compared to men can have relatively less access to the sources of self-efficacy (see Hampton & Mason, 2003). An insufficient amount of studies on this aspect can impose a barrier to understanding the gender influence. Nevertheless, the surprising inability to continue with doing a task, that was noticed particularly in the male LD group, might have had something in common with the teacher-observed comorbid disorders. Moreover, as based on the present research findings boys with LD were more vulnerable to a lack of control over desirable or undesirable outcomes compared to other groups, it was possible to infer that males with LD were different and somehow special in that respect.

**Conclusion**

The crucial conclusion that could be drawn from this research suggests that those both female and male students, who based on teachers’ ratings were struggling with LD and academic failure, perceived themselves as more learned helpless compared to the NLD group. This fact matters particularly in relation to the results obtained by Palmer et al. (1982), who proved that students identified as LD compared to those unidentified could be judged as more learned helpless by teachers. Although this study does not concern the teachers’ perception of students’ LH, the teachers’ and students’ perspectives on LH at school might be convergent.

Another important conclusion could be a possible overlap between the teacher-identified LD, ADHD, and the low school achievement in the LD group. Because the students classified as LD encountered additional difficulties in school achievement (see “Participants” section), an appropriate term could be also “low achieving” but neither “dyslexic” nor “specifically learning disabled.” Likewise, the NLD group may be seen as “high achieving.” Therefore, not only the teacher-identified LD but also low achievement levels of students must be linked to the higher levels of self-reported LH. Nonetheless, the results suggest that teacher may play an important role not only in the identification of students’ learning and achievement problems but also in the LH prevention. Based on the literature, a few key issues may be invoked to support this notion.

The first factor is comprehension. Appealing to the outcomes of a Polish study conducted by Sędek, Krejtz, and Szymaszek, it may be said that the more emphasis teachers lay on promoting students’ understanding of the teaching content during math and Polish classes, the less students are intellectually helpless about the academic subject. In other words, the more time teachers are ready to devote themselves to discussing a matter or asking the questions about the students’ comprehension of a topic, the less intensive are the LH symptoms in students (Sędek et al., 2005). Strictly speaking, while enhancing understanding, a teacher should rely on special, teaching strategies with regard to introducing, retrieving, and recollecting the new material. They are applicable to a teacher who

- makes the students feel more sensitive to these pieces of the new material, which due to its high difficulty level may lead to the student’s interpretation errors;
- lets the students interrupt her or him by asking her or him the questions about something they have not understood;
- encourages the students to be independent thinkers while they are asked a series of questions during lesson;
- asks the students to convey the meaning of a concept or a phrase in their own words (Sędek et al., 2005).

The second factor may be related to a mismatch or a disproportion between the teacher’s self-assessment of her or his own teaching style preference and the way students respond to this style. It is clear that the higher degree of the discrepancy is, the higher level of intellectual helplessness can be found in students during lessons at school. Thus, once a teacher argues that she or her is brilliant at explaining the teaching content, but her or his view does not correspond to the students’ opinion, the proportion of helpless students in her or his classroom is very likely to increase (Sędek et al., 2005). Therefore, the teachers who are deceptive about their actual, professional competence in facilitating student understanding, by overestimating their teaching skills, can induce LH at school.

The third issue draws attention to the LD student’s perception of more external orientation for academic failure and success as well as solely success (particularly boys with LD). A student qualified for the LD group who blames her or his failures on chance, luck, or other people and who thinks that her or his success also depends on these factors is more exposed to LH. The remedial action could be focused on helping her or him to believe that her or his control over a negative or positive outcome depends on the personal self; hence, her or his own effort is surely linked to either school misfortune or success. Moreover, the student who will be convinced that failure does not stem from her or his lack of ability and success is connected with her or his expenditure of effort is supposed to overcome LH. It should be stressed that the aforementioned practical guideline originates from attribution theory as well as the numerous research studies investigating the associations between causal attributions for achievement (success and failure) and LH in LD school-based populations (Canino, 1981; Friedman & Medway,
The last area to address is self-efficacy. The students identified as LD rated themselves as less efficient in a general as well as a specific domain (task persistence) than those in the NLD group. Teachers may consider implementing several procedures that are aimed at enhancing students’ self-efficacy for learning (see Schunk, 1989).

This study emphasizes the need for investigating several areas that may be worthy of note. The future research efforts could encompass a series of factors such as the effect of clinical diagnosis of LD on self-reported LH; the convergence between students’ and teachers’ assessments of the LD and LH symptoms severity in school-based populations; the correspondence between the instructional style preferred by a teacher and a student’s response to the way she or her is taught new academic content in diverse educational settings, teachers’ self-efficacy and its impact on student understanding, the effect of parental involvement on student causal attributions, self-efficacy, and LOC.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) received no financial support for the research, authorship, and/or publication of this article.

**ORCID iD**

Piotr Alfred Gindrich [https://orcid.org/0000-0003-1185-8697](https://orcid.org/0000-0003-1185-8697)

**Supplemental Material**

Supplemental material for this article is available online.

**References**

Aaron, P. G. (2004). Poor reading performance: Is it dyslexia or ADHD? How can I tell? In R. M. Joshi (Ed.), *Dyslexia: Myths, misconceptions and some practical applications* (pp. 115–124).

The International Dyslexia Association.

Barnhill, G. P., & Myles, B. S. (2001). Attributional style and depression in adolescents with Asperger syndrome. *Journal of Positive Behavior Interventions*, 3, 175–182.

Biederman, J., Newcorn, J. H., & Sprich, S. (1997). Comorbidity of attention-deficit/hyperactivity disorder. In T. A. Widiger, A. J. Frances, H. A. Pincus, R. Ross, & W. Davis (Eds.), *DSM-IV Sourcebook* (Vol. 3, pp. 145–163). American Psychiatric Association.

Burdern, R., & Burdett, J. (2005). Factors associated with successful learning in pupils with dyslexia: A motivational analysis. *British Journal of Special Education*, 32, 100–104.

Canino, F. J. (1981). Learned-helplessness theory: Implications for research in learning disabilities. *The Journal of Special Education*, 15, 471–484.

Chapman, J. W. (1988). Learning disabled children’s self-concepts. *Review of Educational Research*, 58, 347–371.

Cizkowicz, B. (2000). Wyzwania bezradności i osiągnięcia szkolne [Learned helplessness versus school achievement]. *Annales Universitatis Mariae Curie-Skłodowska, LV*, 21–29 (Polish publisher).

Colbert, P., Newman, B., Ney, P., & Young, J. (1982). Learning disabilities as a symptom of depression in children. *Journal of Learning Disabilities, 15*, 333–336.

Drwal, R. L. (1995). Adaptacja kwestionariuszy osobowości. Wybrane zagadnienia i techniki [Adaptation of personality questionnaires. A selection of issues and techniques]. Wydawnictwo Naukowe PWN (Polish publisher).

Firmin, M., Hwang, C., Copella, M., & Clark, S. (2001). Learned helplessness: The effect of failure on test-taking. *Education, 124*, 688–693.

Forness, S. R. (1997). Should social skills deficits be included as a primary diagnostic criterion for learning disorders?. In T. A. Widiger, A. J. Frances, H. A. Pincus, R. Ross, & W. Davis (Eds.), *DSM-IV Sourcebook* (Vol. 3, pp. 67–78). American Psychiatric Association.

Friedman, D. E., & Medway, F. J. (1987). Effects of varying performance sets and outcome on the expectations, attributions, and persistence of boys with learning disabilities. *Journal of Learning Disabilities, 20*, 312–316.

Gajdżica, Z. (2007). Edukacyjne konteksty bezradności społecznej osób z lekkim upośledzeniem umysłowym [Educational contexts of the social helplessness in people with mild mental retardation]. Wydawnictwo Uniwersytetu Śląskiego (Polish publisher).

Gallegos, J., Langley, A., & Villegas, D. (2012). Anxiety, depression, and coping skills among Mexican school children: A comparison of students with and without learning disabilities. *Learning Disability Quarterly*, 35, 54–61.

Gillberg, C. (1998). Hyperactivity, inattention and motor control problems: Prevalence, comorbidity and background factors. *Folia Phoniatrica Et Logopaedica*, 50, 107–117.

Grimes, L. (1981). Learned helplessness and attribution theory: Redefining children’s learning problems. *Learning Disability Quarterly*, 4, 91–100.

Hampton, N. Z., & Mason, E. (2003). Learning disabilities, gender, sources of efficacy, self-efficacy beliefs, and academic achievement in high school students. *Journal of School Psychology, 41*, 101–112.

Harrison, A. G., & Holmes, A. (2012). Easier said than done: Operationalizing the diagnosis of learning disability for use at the postsecondary level in Canada. *Canadian Journal of School Psychology, 27*, 12–34.

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.

Henkel, V., Bussfeld, P., Moeller, H. J., & Hegerl, U. (2002). Cognitive-behavioural theories of helplessness/hopelessness: Valid models of depression? *European Archives of Psychiatry and Clinical Neuroscience*, 252, 240–249.

House, A. E. (2002). *DSM-IV diagnosis in the schools*. The Guilford Press.
Howard, K. A., & Shick Tryon, G. (2002). Depressive symptoms in and type of classroom placement for adolescents with LD. *Journal of Learning Disabilities, 35*, 185–190.

Huntington, D. D., & Bender, W. N. (1993). Adolescents with learning disabilities at risk? Emotional well-being, depression, suicide. *Journal of Learning Disabilities, 26*, 159–166.

Joiner, T. E., Jr., & Wagner, K. D. (1995). Attributional style and depression in children and adolescents. A meta-analytic review. *Clinical Psychology Review, 15*, 777–798.

Juczyński, Z. (2001). *Narzędzia pomiaru w promocji i psychologii zdrowia* [Measurement tools for health promotion and psychology of health]. Wydawnictwo Pracownia Testów Psychologicznych (Polish publisher).

Lackaye, T. D., & Margalit, M. (2006). Comparisons of achievements, effort, and self-perceptions among students with learning disabilities and their peers from different achievement groups. *Journal of Learning Disabilities, 39*, 432–446.

Licht, B. (1983). Cognitive motivational factors that contribute to the achievement of learning-disabled children. *Journal of Learning Disabilities, 16*, 483–490.

Maag, J. W., & Behrens, J. T. (1989). Depression and cognitive self-statements of learning disabled and seriously emotionally disturbed adolescents. *The Journal of Special Education, 23*, 17–27.

Maag, J. W., & Reid, R. (2006). Depression among students with learning disabilities: Assessing the risk. *Journal of Learning Disabilities, 39*, 3–10.

Mamlun, N., Harris, K. R., & Case, L. P. (2001). A methodological analysis of research on locus of control and learning disabilities: Rethinking a common assumption. *The Journal of Special Education, 34*, 214–225.

Margalit, M., Tur-Haspa, K., & Most, T. (1999). Reciprocal nominations, reciprocal rejections, and loneliness among students with learning disorders. *Educational Psychology, 19*, 79–90.

Martinez, R. S., & Semrud-Clikeman, M. (2004). Emotional adjustment and school functioning of young adolescents with multiple versus single learning disabilities. *Journal of Learning Disabilities, 37*, 411–420.

Overmier, J. B. (2002). On learned helplessness. *Integrative Physiological & Behavioral Science, 37*, 4–8.

Palmer, D. J., Drummond, F., Tolloison, P., & Zinkgraf, S. (1982). An attributional investigation of performance outcomes for learning-disabled and normal-achieving pupils. *The Journal of Special Education, 16*, 207–219.

Pennington, B. F. (1991). *Diagnosing learning disorders. A Neuropsychological framework*. The Guilford Press.

Rogers, H., & Saklofske, D. H. (1985). Self-concepts, locus of control and performance expectations of learning disabled children. *Journal of Learning Disabilities, 18*, 273–278.

Schunk, D. (1989). Self-efficacy and cognitive achievement: Implications for students with learning problems. *Journal of Learning Disabilities, 22*, 14–22.

Sędek, G. (1995). Bezradność intelektualna w szkole [Intellectual helplessness in the schools]. Wydawnictwo Instytutu Psychologii Polskiej Akademii Nauk PAN (Polish publisher).

Sędek, G., Krejt, I., & Szynaszuk, A. (2005). Bezradność intelektualna: determinanty zjawiska i formy adaptacji [Intellectual helplessness: The determinants of phenomenon and the forms of adaptation]. In K. Piber-Dąbrowska & A. Brzezicka-Ratkiewicz (Eds.), *Zawieszony umysł. Pozaośrodnioścunchowy dystraktory sprawności umysłowej* [Brain-crash. Extrapersonal distractors of mental acuity] (pp. 15–33). Wydawnictwo Szkoły Wyższej Psychologii Społecznej Academica (Polish publisher).

Seifert, T. L. (2004). Understanding student motivation. *Educational Research, 46*, 137–149.

Seligman, M. E. P. (1975). *Helplessness: On depression, development and death*. W.H. Freeman.

Settle, S. A., & Milich, R. (1999). Social persistence following failure in boys and girls with LD. *Journal of Learning Disabilities, 32*, 201–212.

Tarnowski, K. J., & Nay, S. M. (1989). Locus of control in children with learning disabilities and hyperactivity: A subgroup analysis. *Journal of Learning Disabilities, 22*, 381–383.

Vispoel, W. P., & Austin, J. R. (1995). Success and failure in junior high school: A critical incident approach to understanding students’ attributional beliefs. *American Educational Research Journal, 32*, 377–412.

Weems, C. F., & Silverman, W. K. (2006). An integrative model of control: Implications for understanding emotion regulation and dysregulation in childhood anxiety. *Journal of Affective Disorders, 21*, 113–124.

Wei, X., Yu, J. W., & Shaver, D. (2014). Longitudinal effects of ADHD in children with learning disabilities or emotional disturbances. *Exceptional Children, 80*, 205–219.

Weiner, B. (1980). The role of affect in national (attributional) approaches to human motivation. *Educational Researcher, 9*, 4–11.

Wojnarowska, A., & Krasowicz-Kupis, G. (1989). Kwestionariusz do badania poczucia kontroli młodzieży dorastającej [Locus of Control Questionnaire for Adolescents]. In R. L. Drwal (Ed.), *Techniki kwestionariuszowe w diagnostyce psychologicznej*. Wybrane zagadnienia [The questionnaire-based techniques and their usefulness with respect to the psychological assessment. A selection of topics] (pp. 39–61). Wydawnictwo Uniwersytetu Marii Curie Skłodowskiej (Polish publisher).

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*, 663–676.