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**The Link between Learning Disabilities and Moral Reasoning in the Context of  
Criminal Behaviors**

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*Key words:* moral reasoning, criminal behavior, learning disabilities, Kholberg

### Abstract

Previous studies demonstrate clear links between learning disabilities (LD) and criminal/delinquent behaviors, and between moral reasoning (MR) and criminal behaviors. The purpose of the current study was to examine the link between LD and MR. The study was conducted among 2 groups: learning-disabled delinquents (LDD), and non-delinquent learning disabled (NDLD). The research design included four phases and the research tools included observations, psycho-educational diagnoses, individual oral interviews based on Kohlberg's Moral Judgment Interview (Colby et al. 1987) which aimed at determining the level of MR of the participants, and content analysis. Findings of the first research question demonstrated that the NDLD group demonstrated higher levels of MR than the LDD group. Findings of the second research question show that the existence of LD affects the level of MR. The conclusions of the study suggest that prevention programs should be devised for juveniles with LD to help them develop their MR and thus prevent their engagement in criminal behaviors.

## Literature Review

### The Link between Learning Disabilities (LD) and Criminal Behaviors

From the end of the 60s and the beginning of the 70s onwards research supported the link between LD and anti-social behaviors. Keilitz and Dunivant (1986) offer a review of causal chain theories: **1. The School Failure Rationale** states that LD produce academic failure which causes damage to one's self-image and a sense of frustration, which, in turn, result in a motivation to retaliate at society and engage in antisocial behaviors. Einat & Einat (2008) claim that 69.9% of adult prisoners had LD, attention deficits, whereas in the general population the rate is 10-15%. **2. The Differential Treatment Rationale** suggests that if LD and non-LD youths engage in the same type and degrees of delinquency, LD are treated more harshly by the criminal justice system since they lack the abilities to avoid being detected, to conceal their true intentions, and may be unable to understand legal proceedings and to tell “their side of the story”. **3. The Susceptibility Theory** states that children who possess certain social and personality characteristics such as lack of impulse control, inability to anticipate consequences, irritability, aggressiveness, suggestibility, a tendency to act out, low levels of social competence and lack of social skills, are more susceptible to become engaged in delinquent activities. Studies on depression, anxiety and loneliness demonstrated that children with LD are at risk for experiencing these emotions more often than children without LD ( Margalit & Al-Yagon, 2002). Studies indicate behavior difficulties among LD more than among non-LD (Dyson, 2003). **4. The Cognitive Problem Solving Theory** claims that learning disabled and juvenile delinquents are similar in components of social-cognitive problem solving such as

identifying the problem, generating solutions, or predicting consequences. Training in self-regulation, anger management training and cognitive problem-solving reduces daily disruptive behavior and school aggression and improve daily life skills of both juvenile delinquents and LD (Fraser, 1996).

### **The link between Moral Reasoning (MR) and Criminal Behavior**

However, the theory of MR presented below has not been explored with relation to LD but rather with relation to criminality. The present study will dwell on the link LD-MR in the context of delinquency. **Kohlberg's theory of moral reasoning:** Kohlberg (1976) claimed that children's thinking about moral issues change qualitatively as they mature. The model consists of 6 stages grouped into 3 levels. These levels refer to the degree to which an individual conforms to and upholds the rules of society, whilst the second stage within each level represents a more advanced stage of moral reasoning. At the pre-conventional (PreC) level the individual has no understanding of societal rules and regulations and MR is determined by selfish considerations and conformity to the rules of authority. At the conventional (C) level the individual becomes aware of others' needs and of society's rules. At the post-conventional (PoC) level, the individual understands that society's rules are based on moral principles, and that when these principles come into conflict with society's rules the individual should judge by principles rather than by rules. The theory states that not every individual can reach the highest stage. More recent studies minimize the importance of the 3 levels and relate to the first 2 stages as risk factors for criminal behavior (Gibbs, 2003). Thus, male teenagers who fail to reach at least stage 3 are liable to antisocial behavior (Palmer, 2003).

The development of a particular MR stage must be preceded by a corresponding level of social-perspective taking (Carpendale & Lewis, 2006) which, in turn, relies on

logical thinking (Piaget, 1967). The stages of social perception denote the level at which a person perceives others, interprets their thoughts and feelings. These stages are close to MR but they do not deal with choices of right and wrong. MR is judged by Moral Judgement Interview/MJI, (Colby, Kohlberg, Hewe, Candee, Gibbs & Power, 1987).

The relationship between this theory and criminality is largely supported by research. Gibbs, Basinger & Fuller (1992) found that most criminals reach stages 2 or 3 of Kohlberg's scale whereas non-criminals reach stages 3 or 4. Stams, Brugman, Dekovic, van Rosmalen, van der Lann, and Gibbs (2006) found in a meta analysis of 50 studies that the level of MR of criminals is significantly lower than that of non-criminals ( $d=0.76$ ). The factors which they suggest for the link between levels of MR and criminality are: gender (boys reach a lower level than girls); age (criminality is more frequent in late teenage – after 15); IQ (low IQ is associated with low level of moral reasoning); psychotic personality (antisocial personality is a risk factor for the development of criminal behavior and an inhibitor to moral maturity); type of crime (types, severity and motivation for crimes are related to levels of moral reasoning); duration of incarceration (long periods contribute to low levels of moral reasoning).

Research report success in intervention programs which focus on moral functioning and moral judgment for ex-prisoners, and a decrease in the recurrence of crime in this group (Wilson, Bouffard, & MacKenzie, 2005). A large number of studies yield that self-control is a strong and consistent predictor of the development of criminal behavior (e.g. Antonaccio & Tittle, 2008). Self-control influences the ability to deliberate in making choices, and is defined as "the rules prescribing what is right or wrong to do" (Wilkstrom, 2006: 75). Yet, morality is "a more basic factor in the causation of acts of crime" (Wilkstrom (ibid.: 101).

**Goal of Study**

Previous studies demonstrate two clear links: 1. Between LD and criminal/delinquent behavior; 2. Between MR and criminal behavior. The purpose of the current study was to examine the link between LD and MR. The study was conducted among 2 groups: learning-disabled delinquents (LDD), and non-delinquent learning disabled (NDLD).

**Research questions**

1. What is the level of MR of both groups (LDD, NDLD)?
2. Do LD affect the level of MR?

The underlying assumptions with regard to the questions are:

1. The level of MR of LDD will be lower than that of NDLD.
2. It is assumed that LD affect the level of MR.

(Figure 1 should be here)

**Research Population**

The research encompassed two groups of participants: 6 participants who were learning-disabled delinquents (LDD), and 5 participants who were non-delinquent learning disabled (NDLD). The two groups were matched on key variables such as age, gender and findings of didactic assessments attesting to the existence of LD, but differed in family background, history of learning and socio-economic level. Whereas the boys from the NDLD come from low-average socio-economic background with parental supervision on their school and after-school whereabouts, the LDD come from low socio-economic background where parental supervision is deficient. The LDD did not receive regular schooling and dropped out of the educational system, whereas the NDLD studied in mainstream classes and receive remedial teaching.

The LDD, boys aged 14-18, are detained in 'Mitspe-Yam', a juvenile penitentiary according to the Israeli Juvenile Law of Judgment, Punishment and Treatment, 1971. They are either detained under a 'closed home' warrant with limited freedom (clause 25/1) or assigned to a 'closed home' as a way of treatment (clause 26/5). Either way, they are placed in custody of the Juvenile Protective Services that work under the Ministry of Welfare with emphasis on mental, educational and employment intervention programs. All of them come originally from developing towns in the north and south of Israel, with siblings who are on probation periods. The welfare authorities treat the families. All of them were diagnosed under observation before their placement at 'Mitspe-Yam' and their files attest to a history of learning difficulties, school dropouts, impulsivity, drug and alcohol abuse, aggression, delinquencies, and a tendency to moodiness. In 4 of the families parents are divorced, and in all families one of the parents is involved in gambling, alcoholism, depression and malfunctioning (usually the mother), physical and verbal violence (usually the father), and lack of clear-cut lines of family life. All families failed to grant the emotional and educational needs of the boys. Learning wise, the boys demonstrated frequent transfers between learning institutes and schools, literacy skills that do not match their age, lack of motivation and sometimes apathy, difficulties in the visual-spatial and auditory perceptions, and attention deficit usually with hyperactivity (ADHD).

The NDL group, boys aged 14-18, study in mainstream education in high schools in Tel-Aviv and receive remedial teaching in after-school hours that was initiated by their parents because of their learning difficulties. They have no history of delinquent behavior, do not associate with delinquents, although some of them have friends who dropped out of schools. 5 of them suffer from emotional problems that accompany

their LD, and one of them suffers from psychiatric problems and is under medication. They all live in supportive families although in 3 families the parents are divorced.

Participants of the NDL D were chosen via their homeroom teachers who were colleagues of the researcher, and were asked to recommend children who were diagnosed with LD but would be cooperative. Participants of the LDD groups were picked after continuous observations in their classes at the juvenile penitentiary by the researcher (also diagnostician) and based on recommendations of the social workers and homeroom teachers.

### **Methodology**

Due to the interpretive nature of the study the qualitative paradigm was chosen, as it allows for the interpretation of universal phenomena. Within the qualitative paradigm, the "collective case analysis" approach was chosen, an approach which focuses on a group of participants in order to achieve a deeper understanding while at the same time enabling comparisons (Bogdan & Biklen, 1998). According to Stake (2000) "a researcher may jointly study a number of cases in order to investigate a phenomenon, population or general condition. I call this collective case study. It is instrumental case study extended to several cases" (p. 437). This approach also enables to set a link of cause-effect (Cohen, Manion & Morrison, 2000) and reach a comprehensive profile of individuals within a group.

### **Research Tools and Design**

As participants of both groups are minors, they are referred to by their initials. The aim of study was to create a profile of every participant and this was done in four phases via triangulation:

The researcher was given full access by the authorities to the legal, social and criminal files at 'Mitspe-Yam' and she visited the place 3 times a week over a year.

This allowed for a careful study of the history of criminality, educational and psychiatric diagnoses. The procedure for each single case of the research group consisted of four phases:

**Phase One** aimed at detecting the LDD in the juvenile penitentiary. This was achieved through class observations for learning strategies and behavior, and informal interviews with teachers, social workers and social instructors. Only when a boy was suspected of having LD, he moved on to Phase Two. This phase took 6 weeks.

**Phase Two** included the administration of psycho-educational assessments by the researcher, who is an authorized psycho-educational diagnostician (Appendix 1). This phase aimed at identifying LD, and included the examination of neuro-developmental skills (visual, auditory perceptions and memory functioning), and literacy skills (reading, writing tasks, reading comprehension tasks) with a kit of tests commonly used in Israel by diagnosticians. It took 4 hours to complete this phase with every participant individually, sometimes in 2-3 meetings.

**Phase Three** included individual oral interviews based on Kohlberg's Moral Judgment Interview (Colby et al. 1987) and aimed at determining the level of MR of the participants. All questionnaires were administered orally because most participants could not read independently and demonstrated basic suspicion, lack of motivation and attention deficits. Each participant was presented with two moral dilemmas and 6 questions, 3 questions per dilemma (Appendix 2). The participants had to predict the moral stance that the character in the dilemma would choose. The scores ranged from 1-6 for each answer and were assessed with reference to the levels and stages of moral reasoning, so an answer that matches the first stage gets 1 point, whereas an answer that matches stage 6 gets 6 points. Thus, the possible range of score for the lowest level (Pre-C, stages 1, 2) is 6-12 points, for the average level (C,

stages 3, 4) is 18-24 points, and for the highest level (Po-C, stages 5, 6) is 30-36. It took 4 hours to complete this phase with every participant, usually in 2-3 individual meetings.

**Phase Four** included an in-depth exploration of social welfare, criminal and court files. Information was accumulated from all previous educational institutes the boy attended, as well as from psychological and psychiatric assessments. This phase involved a documentary analysis of multiple sources (Appendices 3 &4).

The study of the NDL group included three phases: Phase One interviews were held with school counselors and homeroom teachers to receive data on the family background, learning, behavioral and social performance. Phase Two and Three were conducted in exactly the same way as for the LDD group.

## Findings

### Moral Reasoning of LDD and NDL

#### Question 1: Should John have stolen the medicine?

##### LDD:

SA: 'Yes, because he will not receive more than 2 years in prison for this': *MR is determined by selfish considerations and pursuing one's needs. Stage 1*

SV: 'No, he had to consider other alternatives': *acknowledgement of societal rules. Stage 3*

OE 'Although it's wrong to steal, John meant to save life': *principled reasoning; rules might be broken under certain principles. Stage 5*

DE: 'No, because if he steals he will get no "blessing:" for his wife': *outweighing consequences of crime. Stage 1*

GG: 'Yes, what could he do? He could not get the medicine otherwise': *pursuing only one's needs. Stage 2*

SP: 'Yes and no. John mustn't steal, but if he cannot get a loan he should steal because his wife is dying' :*can see the principle of saving life. Stage 5.*

NDLD:

GN: 'Yes, because he was driven by a humanistic principle which justifies stealing': *judging by self-chosen principle. Stage 6*

EH: 'Yes, because he did it to save life': *judging by principle which is sometimes more than a law. Stage 5*

DB: No, because it's illegal': *upholding society's rules. Stage 3*

DZ: 'No, because it's a crime': *upholding society's rules. Stage 3*

NS: No, because it's illegal': *upholding society's rules. Stage 3*

Question 2: Does the pharmacist have the right to charge such a high price?

LDD:

SA: 'Yes, because it's his, but also no, because the woman is dying': *pursuing one's own needs (stage 2), but also awareness of others. Stage 3*

SV: 'Yes, but he should also be more sensitive to a man in need': *awareness of others. Stage 3*

OE: 'No'. *O could not explain himself. Stage 1*

DE: 'Yes, but I would be more considerate if I were in his place. Life is worth more than 2000\$': *relationships are an important factor (stage 3), but also principled reasoning. Stage 5*

GG: 'Yes, he made this medicine and therefore has the right . What does he care about the others?': *pursuing only one's needs. Stage 2.*

SP: 'Yes, because he produced the medicine and has the right to decide': *pursuing only his own needs. Stage 2*

NDLD:

GN: 'He might have the legal right but he will have to live with his conscience. It's a wrong decision morally and socially': *principled reasoning, showing self-chosen ethical principles. Stage 6*

EH: 'Yes, because it's his patent'. *pursuing only one's needs. Stage 2*

DB: 'Yes, but at the same time he should be aware of needs of others': *social awareness. Stage 3*

DZ: 'Yes, because he produced the medicine, but he should be more considerate towards others': *pursuing one's needs and awareness of others. Stage 3*

NS: 'Yes, but he should limit --himself': *awareness of needs of others. Stage*

Question 3: Should the judge release John free?

LDD:

SA: 'Yes. John did something good and something bad too': *understanding of societal rules. Stage 3.*

SV: 'Yes, because he meant to save life': *judging by principle. Stage 5*

OE: 'Yes, because he had saved life': *judging by principle. Stage 5*

DE: 'Yes, but on condition that he returns the money within 6 months... He should not be punished because he did it to save his wife... I understand him. What else does he have in life?': *understanding that rules can be broken under certain circumstances. Stage 5*

GG: 'Yes, he should send John to work and pay off his debt': *determining by societal rules. Stage 4.*

SP: 'Yes, because he had no money and should not be sent to jail because of such a small quantity of medicine'. *No understanding of societal rules. Stage 1*

NDLD:

GN: 'Yes, because he did not steal for money but for a good cause': *principled reasoning. Stage 5*

EH: 'Yes, because it's true that he did something bad, but he did something good too': *upholds societal rules but can also see the dilemma. Stage 5.*

DB: 'No, because he has committed a crime and could have looked for alternatives': *upholding society's rules. Stage 3*

DZ: 'Yes, but only for one year because he has no prior convictions': *upholding society's rules. Stage 4*

NS: 'Yes, because he stole in order save life': *judging by principle. Stage 5*

Question 4: Does the father have the right to ask his son for the money?

LDD

SA: 'Yes, because he is the caretaker of the family'. *Conformity with authority figures. Stage 1.*

SV: 'No, because the father has to provide for himself'. *MR relies on concerns for one's needs. Stage 2.*

OE: 'No, because the son has worked hard for the money'. *MR is explained as concerns for one's needs. Stage 2.*

DE: 'No, if it were my own son, I would turned the world upside down to give him anything he wants'. *MR relies on relationships. Stage 3.*

GG: 'No, the father is big and strong and he can work more than his son'. *Upholding societal rules. Stage 4.*

SP: 'The father can ask but the son should give it only if he really wants. I would have given it to my father as he raised me and I must be thankful'. *MR is based on relationships and mutuality. Stage 3.*

NDLD:

GN: 'No, because he poses an impossible dilemma to his son': MR is based on *understanding the dilemma beyond one's needs. Stage 6.*

EH: 'No, because the boy worked hard to gain the money. Judging by societal rules. Stage 4

DB 'No, because the child earned it'. *Judging by societal rules. Stage 4*

DZ: 'No, because he should earn the money by himself': *Judging by societal rules. Stage 4*

NS: 'No, because it's not fair': *Shows awareness to others. Stage 3.*

Question 5: Which is worse – breaking a promise on the father's part or the son's part?

#### LDD

SA: 'The father because he is a father'. *MR is determined by societal rules. Stage 4.*

SV: 'They have the same commitment'. *MR is determined by relationships. Stage 3.*

OE: 'The father'. *O cannot verbalize the reason, but his tone implies that he judges by his attitude towards authority figures. Stage 1.*

DE: 'The father. Never in my life will I disappoint a child, because he is young and fragile and needs protection'. *Relates to needs of others and shows empathy. Stage 3.*

GG: 'The father is strong and clever and cannot do such a thing to his son'. *Relates to needs of others and shows empathy. Stage 3.*

SP: 'The son, because if he does not keep his promises, his father will do the same': *pursuing individual's needs. Stage 2.*

#### NDDL

GN: 'Fathers, because as grown-ups, they should be more aware of their promises'. *Relies on principles. Stage 5.*

EH: 'The father, because he is a father'. *Adheres to societal rules. Stage 4.*

DB: 'They are equally committed'. *Relies on relationships. Stage 3.*

DZ: 'The father, because the son is younger'. *Adheres to societal rules. Stage 4.*

NS: 'The father, because he should be more responsible while a child might forget his promise'. *Understands societal rules. Stage 4.*

Question 6: Why do promises need to be kept?

### LDD

SA: 'If you don't keep promises, everybody will say, she is a liar'. *MR is determined by selfish considerations, stage 2.*

SV: '..because they are based on one's words'. *Determined by a principle. Stage 6.*

OE: '.. because promises should be kept'. *Determined by principled reasoning and understanding that rules are a contract between individuals and society. Stage 5.*

DE: '...because of self-respect. A man has to stand behind his words if he respects himself. Promises should not be made if a person cannot fulfill them': *MR is determined by principles. Stage 5.*

GG: '...because others will think I am a liar': *MR is determined by selfish considerations, stage 2.*

SP: '...because if I do not keep promises, others will do the same': *outweighing consequences,, reasoning is based on selfish considerations. Stage 2.*

### NLDL

GN: 'It's a matter of self-respect': *MR is determined by principles. Stage 5.*

EH: '..because promises are based on trust': *MR is determined by principled reasoning. Stage 5.*

DB: ‘...because if one does not keep a promise, he will not be trusted and respected in the future’: *MR is determined by relationships. Stage 3.*

DZ: ‘...so that the individual is not considered a liar’. *Moral reasoning is based on selfish considerations. Stage 2.*

NS: ‘...because it’s one’s words of honor’. *MR is determined by principles. Stage 5.*

(Table 1 should be here)

Findings yielded differences between the 2 groups. Whereas the LDD group demonstrated an average score of 18 that resides at the low end of C-level of MR, the NDLD's average was 24, which resides at the high end of the C- level of MR. Three participants of the LDD group reached C- level whereas 3 others are still between PreC-C levels. All participants of the NDLD group reached C-level whereas 2 others are already on the Po-C or between C-PoC levels. The score range within the groups indicates intra-individual differences (14-22 in LDD, 19-33 in NDLD). The differences of averages between the questions (vertical) indicate differences between the groups (2.5-3.6 in LDD group; 3.4-4.4 in NDLD group).

### **Discussion**

The present study aimed at the examination of the link between LD and MR of teenage boys from 2 groups: delinquents with known LD (LDD) and non-delinquents with LD (NDLD). The study was conducted with relation to Kohlberg’s Moral Judgement Interview (1987). Clearly, the 2 groups differed in their socio-economic background and in parental supervision. This was taken into consideration in the choice of the dilemmas (cases), thus the dilemmas presented to them were universal on the one hand, but on the other hand they were specific to situations taken from the LDD's world: the first dilemma relates to the contradiction between humane rights and consideration of crime, whereas the second dilemma relates to parents-children

relationships which, in the particular case of the boys in the penitentiary and given their family background, is also a topic they can identify with (Appendix 2). Although the average score of the 2 groups resides on the same level (C), an examination of the individuals scores within each group demonstrated that all participants of the NDL group are aware of other people's needs, regard relationships as a major factor in MR, and upholds society's rules. Two participants have already achieved the stage of principled reasoning in their decision-making. However, half of the LDD group has not as yet fully reached this point and some of them still determine their MR by hedonistic and selfish viewpoint that is contradictory to and does not adhere to societal rules. In this respect, the preliminary assumption was proven to be correct and the NDL group demonstrated higher levels of MR than the LDD group.

With regard to the second assumption, it seems that the existence of LD affects the level of MR: it is noticeable that only one individual from the NDL group (GN) demonstrated Po-C level as would be expected from teenage boys who reach a certain level of social-perspective taking (Carpendale & Lewis, 2006) and of logical thinking (Piaget, 1967), both of which are also age dependent. This finding is important because it calls for an elaborate intervention programme for NDL teenagers and certainly for LDD teenagers, which will enhance their MR reasoning and perhaps prevent antisocial behavior.

It is suggested that this study be replicated with a larger scale of participants and take into consideration the multiculturalism that currently prevails in delinquent penitentiaries worldwide and also in Israel. If the finding that LD contribute to MR is persistent, prevention programs should be devised for juveniles with LD to help them develop their MR and thus, prevent their engagement in criminal behavior.

**Appendix 1:****Findings of Psycho-Educational Assessments of the LDD:****Case Study 1: SA****General Impression**

Throughout the assessment, S was trying very hard to cooperate. Nevertheless, he lost concentration and was easily distracted. S showed his anxiety by being over-talkative.

**Reading Skills**

S mistakes 5 out of the 26 Hebrew letters of the alphabet for others. The mistakes occur on the basis of a visual similarity. His technical reading is extremely slow (5 words per minute). He does not differentiate between the vowel sounds. There is no understanding following the reading. The number of his global sight-words is limited and that makes the reading even slower.

**Writing Skills**

S cannot express himself freely even in simple sentences. A lot of spelling mistakes have been observed. The whole process of integrating the auditory-phonological perception into the visual-motor skills of writing is lacking.

**The Visual Perception**

visual perception: impaired; wrong perception of size, organization and planning in space, and inaccuracy in perceiving figures.

visual memory for shapes (Roshdo test): poor (50%).

visual memory for pictures (Kim's game): short term memory (50%); middle-term memory (40%).

visual attention span (Rey test): low (58%).

visual discrimination: low (40%).

visual-motor performance: below standard for age 8.

**The Auditory Perception**

memory for words: below his age level. Improves after repetitions (2,7,10,12); for a meaningful story: low (55%). S has difficulty in retrieving information and in naming.

auditory discrimination: S needs many repetitions and manages to repeat only words he is familiar with, or one-syllable words.

auditory attention span (Rey test): very low. S remembered 25% from the first list after being exposed to the second list. His thinking is associative to sounds or meanings.

phonological awareness: 35% (very low) in the task of analyzing and synthesizing words.

Non-Verbal Cognitive Abilities (based on Tony 2-A test): very low. He was unable to finish this test. He had difficulties in applying instructions to new cards. He could not consider more than one element at a time. He showed an inaccurate perception of shapes, as well as difficulties in analyzing and synthesizing shapes. It seems that this task was too difficult for him given his limited visual skills.

### Conclusions

It seems that the visual and the auditory perceptions of S are impaired as well as the integration between them. This does not enable him to become a skilled reader or writer. In addition, his cognitive abilities are on the lowest level of the norm for his age (I.Q 71).

Tasks which involve recognition seemed easier for him on both perceptions than those which involved recall.

### **Case Study 2: SV**

#### Reading Skills (basic level)

S' technical reading is full of mistakes. He omits vowel sounds, vocalizes vowels mistakenly, confuses consonants, doesn't differentiate singular from plural forms, and puts in lots of guesses. His difficulty in reading is reflected not only in his mistakes, but also in his impatience and lack of motivation.

#### Writing Skills

S cannot express himself in writing at all. He hardly agreed to write 4 common words and misspelled them all. He totally refused to write a composition of his own. He does not remember the letter sequence. There seems to be an enormous gap between his oral and written proficiency. This finding clearly indicates the existence of learning disabilities.

#### The Visual Perception

visual memory for pictures (Kim's Game): average (65%).

visual memory for shapes after copying (Roshdo test): within standard level (80%). There seems to be a difficulty in planning and organizing in space.

visual memory for sequences (Benton test): poor. S managed to remember 30% of the pictures.

visual-motor ability: S is 4.5 years behind what is expected in his age level.

visual discrimination: very good (100%).

#### The Auditory Perception

memory for a meaningful story: (short and middle term memory) low on both (47% and 55% respectively). S cannot remember dates and numbers.

memory for words: average (70%); middle term memory - low (35%). The large gap indicates an auditory attention span.

attention span (Ray test): low (50%).

sentence repetition:

This task aims at testing short term memory as well as auditory attention span. S could not repeat any sentence in its entirety.

digit span: he succeeded in repeating 5 numbers onwards and 3 numbers backwards. This result is compatible with the standard level of age 7.

auditory discrimination: S does not discriminate between consonants which have a similar sound (k/g; h/a). A difficulty has been observed in words with more than one syllable. He kept complaining about how hard this task is.

*Non-Verbal Cognitive Abilities (Tony 2-A test)*

S' performance is on the borderline for his age level. His difficulties are mainly in synthesizing shapes, sequencing, considering more than one datum at a time, perceiving shapes inaccurately. S seems to perform in this test below his real potential because of impulsiveness and short attention span.

*Conclusions*

S' poor visual memory and low visual-motor abilities are the reason for his inability to express himself in writing and for his being an unskilled reader. In addition, he cannot rely on the auditory perception because of his short auditory attention span.

Case Study 3: OE

*Overall Impression*

OE seems to have given up learning. He sounds totally unmotivated and has a very low 'learning self-esteem'. He says he will 'sit at home' if he cannot find a job.

*Reading Skills*

O's reading is slow and inaccurate. He recognizes the letters but seems unable to vocalize them in word patterns. He adds vowel sounds to the word endings, makes plural forms where unnecessary, and guesses based on visual similarities. However, he understands what he reads. O wasn't even willing to try to read silently. This inability indicates that he has not internalized reading yet.

*Writing Skills*

O cannot write more than one sentence. His writing is incoherent. There is no clear word-format and lots of misspellings.

*The Visual Perception*

short memory for shapes ('Roshdo'):

O has an extreme objection to visual-motor tasks and manifested low self-confidence. When he finally agreed to try, he was not able to copy more than one shape, not to mention his total inability for recall.

short and middle-term memory for pictures (Kim's game):

52%-58%. Compared to the motor tasks, he seemed more motivated and confident.

visual discrimination (for words):

very low (42%). O's mistakes occurred mostly in cases of visual similarities (b,d/p,q) or auditory similarities (a,e/s,c).

visual attention span:

within standard level (66%).

visual-motor skills:

O is approximately 8 years behind his age level.

### The Auditory Perception

memory in context (short and middle term): O's memory for a meaningful story improved in the middle term (66% -> 79%). This implies a slow auditory processing although both results fall within the range of standard level.

memory for words after repetitions: average. O remembered 80% of the words.

digit span: this task tests short memory for digits (onwards recall) as well as auditory processing (backwards recall). O recalled 4 digits onwards and 2 digits backwards. He was found 7-8 years behind his age level.

Conclusions: On the whole, O's written and oral skills are limited. The auditory perception was observed as better than the visual one, although it is slow in processing. His poor expressiveness might be related to his low self-esteem and emotional difficulties, as well as to poor oral skills.

### Appendix 2: The two cases from Kohlberg's questionnaire followed by questions:

**Case A:** John's wife had a very rare type of cancer and was told that only one specific medicine could save her. This medicine was produced by a local pharmacist who had invented the formula by himself and charged 2000\$ from patients. John had only 1000\$, and asked the pharmacist to postpone the payment until he can get another 1000\$ but to supply the medicine instantly in order to save his wife. The pharmacist refused. Being desperate, John broke into the pharmacy at night and stole the medicine, but was caught by the police.

Questions the participants were asked:

1. Should John have stolen the medicine?
2. Does the pharmacist have the right to charge such a high price?
3. Should the judge release John free?

**Case B:** David, a 14-year-old boy, was promised by his father that if he works in newspapers delivery and saves money he will go to a summer camp with his friends. When the time came, the father changed his mind and asked his son to give him the money so that he can go on a fishing excursion with his own friends. David didn't know what to do.

Questions the participants were asked:

4. Does the father have the right to ask his son for the money?
5. Which is worse – breaking a promise on the father's part or the son's part?
6. Why do promises need to be kept?

**Appendix 3:** A summary of the psychological, psychiatric and behavioral patterns of the LDD group. Information has been accumulated from all previous psychiatric and psychological reports provided by the different educational and penitentiary institutes.

|    |  |
|----|--|
| SA | <p>Obsessive perseverance, anxiety, aggressive impulses, inefficient defense mechanisms such as projection and splitting, lack of internal borderlines, insufficient ego strengths, distorted parents' figures: threatening father and a diminished mother figure.</p> <p>SA is childish, impulsive, moody, passive, manipulative, suspicious, dependent, with limited social understanding and tantrums of anger, does not take responsibility. However, his perception of reality seems in order.</p>  |
| SV | <p>Suspicious, introverted, nervous and anxious, unpredictable with tantrums of anger, isolated, low social status and a sense of incompetence, dependent. He has the ability to relate to a 'significant other', but uses his impulses destructively to increase social status. He is weak and in need of protection despite aggressive and forcible behavior. SV is provocative and consequently rejected. His lack of internal borderlines often results in clashes. His thinking is orderly and coherent with good insight.</p>  |
| OE | <p>OE feels detached, incompetent and unconfident. He demonstrates internal, unpredictable aggressiveness and uncontrolled anxiety. His ego strengths are weak with emotional instability and outbursts. Defense mechanisms such as avoidance, suppression and denial were observed. Although his judgment of reality includes idiosyncratic elements, it is reasonable and he seems familiar with basic norms of behavior. OE is frustrated and hostile because of past experiences, and deeply worried about his lack of control on impulses and tantrums. He is passive, and lacks internal borderlines. He has internalized tough criminal norms and empathizes with his criminal peers. OE has no regrets when he hurts others. He has adjustment problems which result in truancy and feels indifferent relating to his future. OE defines himself, 'sad, in a bad mood, don't know what will happen'.</p> |
| DE | <p>DE is anti-social with no consideration of social norms or guilt feelings. There is no sense of belonging or closeness even to his family. He is indifferent to and alienated from all the people in his world. He acts like an outsider in his world. Everything about him is raw and primal: a need for immediate gratification of desires; impulsiveness with no mechanism for modulation; antagonism to frameworks with adjustment problems and unpredictability. DE is irresponsible, manipulative, moody, suspicious and passive. He can be destructive towards himself and has committed a suicidal attempt.</p>   |
| GG | <p>GG's tantrums and self-aggressiveness derive from anger. He is able to identify with meaningful people, and their disappearance has put him in distress and made him so suspicious. His longing to his mother who remained in Ethiopia has made him moody, aggressive and ominous towards himself</p>   |

|    |   |
|----|---|
|    | and his environment. His adjustment problems result from emotional deprivation, desertion and helplessness. His personality is not depressive, and contains vitality and mental richness. He needs close supervision and attention. There is no disruption in his judgment of reality. Although he made a suicidal attempt at Megadim (a diagnostic institute for juveniles), no psychotic or suicidal contents were detected which would justify therapeutic or medical treatment.   |
| SP | Findings show a limited and immature emotional layer. SP seems detached and preoccupied in his inner world. His communication is superficial: he is introverted, passive, dependent and anxious (almost paralyzed). Further, he is impulsive and childish. He cannot cope with reality because he cannot set internal borderlines to himself. Reality is threatening for him, and he feels insecure. His social understanding is impaired and he misjudges interpersonal relations. There is high aggressiveness in him as well as fear of being attacked by aggressiveness. He has not internalized human figures positively: his father is perceived as a monster and his mother is not present. His only solution is destruction. SP has a low-borderline personality disorder, and psychotic processes have neither been proved nor denied. At Mitpe-Yam, however, he shows more openness, less tension, and less aggressiveness. |

Table 2. Analyses of personality and social understanding

**Appendix 4: Family background**

| Initials           | Place of birth | place of residence                       | siblings               | home intactness                     | parental supervision                                     | socio-economic situation |
|--------------------|----------------|--|------------------------|-------------------------------------|--|--------------------------|
| S.A (13 years old) | Israel         | a small town with high delinquency rates | one delinquent brother | parents married and living together | no clear borderlines, alcoholic father, epileptic mother | low                      |

Link between learning disabilities<sup>24</sup>

|                             |            |   |  |  |   |  |
|-----------------------------|------------|---|--|--|---|--|
| S.V (14.5 years old)        | Tajikistan | developing town with high delinquency rates | four: one brother under probation associated with drug dealers; an institutionalized delinquent sister | separated; father has another family; exposure to verbal and physical violence | chaotic home; nervousness; no clear borderlines; angry and frustrated mother; parents cannot control his behavior   | reported as low since immigrated                                     |
| O.E (14 years old)          | Ethiopia   | developing town with high delinquency rates | five. O.E is an orphan adopted by his sister and uncle; one stepbrother is a delinquent                | father leads a double life with another family                                 | no borderlines; mother is in distress; cannot provide warmth and education; no cooperation of family in therapy; no supervision on O's truancy.   | low; father works as an unskilled worker                             |
| <u>D.E</u> (15.5 years old) | Israel     | developing town-high delinquency rates      | four; all known to probation services, all stayed at institutes  | parents are divorced.  | <u>father</u> : gambler, alcoholic, drug consumer, long periods of incarceration; physical violence towards wife and children;<br><br><u>mother</u> : impulsive, moody, limited in parental abilities, cannot attend to emotional and educational needs of her children | poor; family lost its property and flat because of father's gambling |
| G.G (14 years old)          | Ethiopia   | developing town with high rates of          | Seven: two sisters, five stepbrothers  | parents got divorced in Ethiopia, mother                                       | severe abuse and rejection by the father  | low  |

|                      |        |             |  |  |   |      |
|----------------------|--------|-------------|--|--|---|------|
|                      |        | criminality |  | remained there; father remarried; difficult relations with stepmother    | for 3 years (GG beaten with a stick, a rope, an electric wire, deprived of food). |      |
| S.P (15.5 years old) | Israel | Tiberias    | four: all siblings are known to probation services | parents are married and living together; father is known as hot-tempered | ambiguous messages on father's part, which reinforce abnormal behavior.           | poor |

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Figure 1 below presents the goal of study:

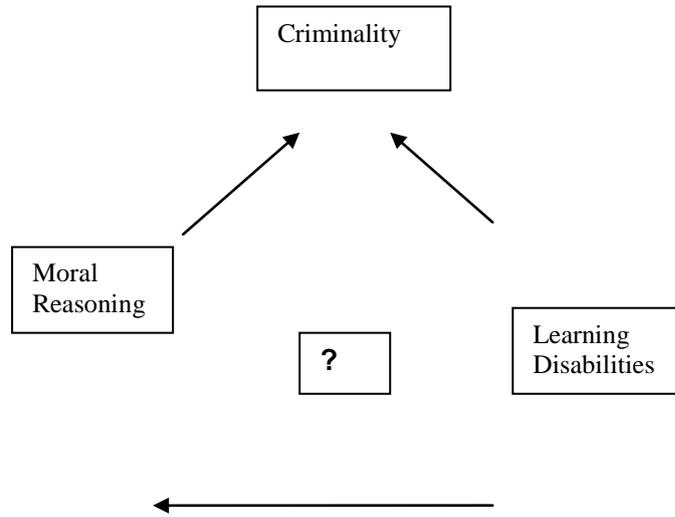


Fig. 1: The goal of study

Table 1 below presents comparisons between the two groups based on the 2 cases:

|                  | Case A     |            |            | Case B |     |     |              |                    |
|------------------|------------|------------|------------|--------|-----|-----|--------------|--------------------|
| <b>LDD Group</b> | <i>Q 1</i> | <i>Q 2</i> | <i>Q 3</i> | Q 4    | Q 5 | Q 6 | <b>Total</b> | <b>Level of MR</b> |
| SA               | 1          | 3          | 3          | 1      | 4   | 2   | 14           | <i>PreC-C</i>      |
| SV               | 3          | 3          | 5          | 2      | 3   | 6   | 22           | <i>C</i>           |
| OE               | 5          | 1          | 5          | 2      | 1   | 5   | 19           | <i>C</i>           |
| DE               | 1          | 4          | 5          | 3      | 3   | 5   | 21           | <i>C</i>           |

|                 |     |     |     |     |     |     |           |                        |
|-----------------|-----|-----|-----|-----|-----|-----|-----------|------------------------|
| <i>GG</i>       | 2   | 2   | 4   | 4   | 3   | 2   | 17        | <i>PreC-C</i>          |
| <i>SP</i>       | 5   | 2   | 1   | 3   | 2   | 2   | 15        | <i>PreC-C</i>          |
| <b>Averages</b> | 2.8 | 2.5 | 3.8 | 2.5 | 2.6 | 3.6 | <b>18</b> | <b><i>C (low)</i></b>  |
| <b>NDLD</b>     |     |     |     |     |     |     |           |                        |
| <i>GN</i>       | 6   | 6   | 5   | 6   | 5   | 5   | 33        | <i>PoC</i>             |
| <i>EH</i>       | 5   | 2   | 5   | 4   | 4   | 5   | 25        | <i>C-PoC</i>           |
| <i>DB</i>       | 3   | 3   | 3   | 4   | 3   | 3   | 19        | <i>C</i>               |
| <i>DZ</i>       | 3   | 3   | 4   | 4   | 4   | 2   | 20        | <i>C</i>               |
| <i>NS</i>       | 3   | 3   | 5   | 3   | 4   | 5   | 23        | <i>C</i>               |
| <b>Averages</b> | 4   | 3.4 | 4.4 | 4.2 | 4   | 4   | <b>24</b> | <b><i>C (high)</i></b> |

Table 1: the level of MR of LDD and NDLD

## A note about the author:

Dr. Tsafi Timor (Ph.D) is a lecturer at the Kibbutzim College of Education in Israel. Her M.Sc is in Forensic Psychology and her Ph.D is in Educational Leadership and Management (with expertise on learning disabilities), both from Leicester University in the UK. Her research interests are teacher education and pedagogy, the link between learning disabilities and behavior, and the inclusion of students with learning disabilities in mainstream education. Tsafi is also a psycho-educational diagnostician of learning disabilities, with a special expertise in learning disabilities in EFL.



