# Typology of youth at risk

CrossMark

Dafna Etzion, Shlomo Romi *

School of Education, Bar-Ilan University, Ramat-Gan, Israel

## A B S T R A C T

The absence of an accepted definition and classification for youth at risk has led to heterogeneous therapeutic grouping, often preventing appropriate intervention. The proposed typology, based on research conducted in Israel, is an initial attempt to classify these adolescents into relatively homogenous groups according to a complete set of personality and behavioral variables. The research tool was a questionnaire administered to 282 youths in distress and a contrast group of 217 normative youths. Cluster analysis that was used to construct the typology for the youths at risk, revealed four clusters: *Suspended* — relatively high scores in all positive adjustment measures, fewer-than-average deviant behaviors, higher-than average rate of suspension from school; *Sociablists* — relatively low positive adjustment measures, relatively high social adjustment, markedly higher-than-average negative adjustment measures (deviant behaviors and suspension from school); *Alienated* — significantly low positive adjustment measures, especially personal adjustment, higher-than-average negative adjustment measures; *Loners* — low positive adjustment measures, especially low social adjustment, lower-than-average negative adjustment measures (few deviant behaviors or school suspensions). The derived typology can be used to create interventions geared to personality and behavior rather than to external/demographic characteristics. A proposed intervention, with specialized programs for each group, is presented.

© 2015 Elsevier Ltd. All rights reserved.

## 1. Typology of youth at risk

The many attempts worldwide to define and describe the population of youth who have difficulties functioning within their age-specific educational and social settings, and eventually drop out of the normative route, have yet to yield a conclusive definition (Lahav, 1992; Resnick & Burt, 1996). An outcome of the lack of clear definition and of an agreed-upon classification of these adolescents is heterogeneous grouping of youth at risk, which, in turn, creates difficulties in the development of appropriate interventions.

In the present study we seek an innovative approach to the problem of heterogeneity by suggesting a means to construct a typology of youth at risk. To date, grouping and interventions of adolescents at risk were primarily based on characteristics such as demographics or offenses (drugs, theft, etc.). A search of the literature has not revealed classification by a comprehensive set of personality and behavioral variables, and this empirical study aims to fill that gap and also help to match appropriate and effective interventions for each group.

The idea of a personality-based typology of youth at risk is to try and create groupings – and hence interventions – that are tailored to individual needs within a group, not addressing the offense so much as the offender. We examined typologies in related subjects, and described

the methodology, the findings and both theoretical and practical value of youth at risk typology.

### 1.1. Youth at risk

The term youth at risk refers to youth populations who are in physical, mental, or spiritual danger. The many names (among them street gang, detached youth, and maladjusted youth) given to these adolescents reflect social and organizational perspectives, as well as the problems inherent in the perception of this group and in the attempts to diagnose and analyze it. What all definitions have in common is the attempt to describe young people who have difficulties functioning within the social and educational settings for their age group, and eventually drop out of the normative route (Romi, 2007).

Youth at risk may have failed in their socialization, have difficulties accepting authority, completing their formal education, working, and even staying within the law (Hovav, 1989). In attempting to describe and define youth at risk, researchers worldwide used risk components that describe behaviors and attitudes that deviate from accepted norms (Janosz, Archambault, Morizot, & Pagani, 2008; Jimenez, Dekovic, & Hidalgo, 2009; Resnick & Burt, 1996). Some of these components, such as dropping out of school, are objective, others, among them lack of adjustment, are subjective. In the current research we defined youth at risk using an objective measure: adolescents who do not belong to a normative educational framework that society had set up for their age group. The typology suggested in this study could serve to construct appropriate personality-based interventions. The interventions

* Corresponding author at: School of Education, Bar-Ilan University, Ramat-Gan 5290002, Israel.

  *E-mail address:* Shlomo.Romi@biu.ac.il (S. Romi).

are mentioned for each group, but the details of the interventions are beyond the scope of this paper.

Glenn and Nelson (2000) claimed that all adolescents are at risk of one kind or another, and being at risk transcends gender, social class, or ethnicity (Mulvey, Arthur, & Reppucci, 1993; Rutter, 1979), at varying degrees. In Israel, where this study was conducted, the population of youth at risk is not homogeneous (Grupper & Romi, 2014, 2015), and is cared for by various educational and therapeutic agencies – within the community and out-of-home – under the auspices of several government offices. The government-appointed Schmid Committee (2006) proposed a very broad definition for youth at risk, referring to the personal, familial, social, economic, and demographic aspects of these adolescents. This multi-facetted, broad definition makes it difficult to estimate how many adolescents are truly at risk, and the following data will present some of the problematic issues. This problem is not unique to Israel and other countries are currently struggling with it, too. Thus, according to UNICEF (2009) figures, about 440 million children and adolescents (age 0–18) worldwide receive no basic education whatsoever. In addition, about 100 million children do not complete their elementary studies.

Following the Schmid Committee report, a review conducted by Sabo-Lahl and Hassin (2011) revealed that some 160,000 children and adolescents in Israel were at risk. Himi (2014) claimed that information from the Israeli Parliament (Knesset, 2011) some 400,000 children and adolescents in Israel were at risk. Of these, about 20,000 had already dropped out of normative educational settings, a figure which the Central Bureau of Statistics, Israel (2013) put at about 30,000.

A recent review conducted in Israel (Grupper, Salkovsky, & Romi, 2014) described and analyzed the complexity of children and youth at risk from various professional points of view. In most cases, risk was defined as behaviors and attitudes that deviate from accepted norms. In one study (Etzion, 2010), which looked specifically at the religiosity of youth at risk, it was found that religiosity was not be a barrier to dropping out of school. Worldwide, Chapman, Laird, Ifill, and KewalRamani (2011); Claus and Quimper (1991) and Schwartz (1995) found that children at 10th-grade age are most likely to drop out of school. In Israel, children go to junior-high school in seventh grade, and then to high school for grades 10–12. Both transitions, especially the latter, are points of crisis at which young people drop out.

## 1.2. Characteristics of youth at risk

Because characteristics overlap, assigning a causal role to each is a complex task (Jimerson, Egeland, Sroufe, & Carlso, 2000; Kazaz, 2004). To construct and validate our typology we gathered all characteristics that the literature viewed as essential in differentiating between youth at risk and normative youth as baseline variables. These characteristics were: adjustment, well-being, deviant behaviors, socio-demographics, family ties, social ties, school experience, leisure activities, self-esteem, and attachment.

Adjustment is composed of integration, when individuals modify the environment to their needs, and adaptation, in which they modify themselves to the environment. Adjustment gives individuals a sense of confidence, self-esteem, autonomy, and the ability to cope (Erikson, 1963; Lazarus, 1963; Romi & Getahun, 2000, 2009). At various times, individuals exercise personal, social, behavioral, and emotional adjustment. Jimenez et al. (2009) found a relationship between familial attributes and personal, social, and school-related adjustment among adolescents who grew up in at-risk families.

### 1.2.1. Life satisfaction
Life satisfaction (which is part of well-being) is a positive concept which affects short- and long-term physical and mental health. Matsuba, Elder, Petrucci, and Marleau (2008) found that a program that helps youth at risk improve their psychological well-being

enhances their employment chances, and hence their chance to become normative citizens.

### 1.2.2. Deviant behaviors
These include criminal acts, violence, and substance abuse (Lahav, 2004).

### 1.2.3. Self-esteem
Individuals' assessment and judgment of their abilities, skills, behaviors, and emotions combined to form their self-esteem (Schwartzwald, 1984). Self-esteem is dynamic, and high self-esteem helps cope with failure (Abouserie, 1994).

### 1.2.4. Socio-demographics
Gender: There are more detached boys than detached girls (Dolev, Kahan-Strawczynski, & Shemes, 1999), and there are significant character differences between genders (Berger & Shechter, 1987; Nagari, 2003). Ethnic and cultural origin: In Israel, the percentage of detached adolescents is higher among immigrants than among native Israelis (Getahun, 2001; Shemesh, 1999), and detachment is more prevalent among Arabs than among Jews (Romi & Zoabi, 2003). Parents' education: Children whose parents had fewer years of schooling were more likely to drop out (Central Bureau of Statistics, Israel, 2009; Dolev et al., 1999). Socioeconomic status: Lower socioeconomic background is related to a higher chance of adolescent detachment (Levi-Zelik, 2002) and child abuse (Baumrind, 1991). Place of residence: Home, residential home or other institution (Nagari, 2003), and neighborhood (Gibbs, 1991) affect development. Other socioeconomic variables related to detachment are: parents' occupation (Barnett, Vondra, & Shonk, 1996) and family situation — single-parent family, divorced parents, large family (Brandon & Hofferth, 2003; Mccomb & Forehand, 1989).

### 1.2.5. Family ties
The family is the innermost circle of the child's ecological system, and parent–child relationships are essential for a child's social and intellectual development (Bronfenbrenner, 1979). Parents are the model for normative social behavior and for coping with conflicts, and the people who motivate a child to learn (Belsky, 1981).

### 1.2.6. Social ties
Adolescence is a period when the social circle has a great impact on individuals. Janosz, Le Blanc, Boulerice, and Tremblay (2000) reported that even adolescents who had dropped out of school following poor behavior and low achievements, claimed that they respect the value of friendship and have many friends. The number of friends, degree of involvement with them, and the degree of exposure to friends who had deviated from the norm affect the tendency to detach (Ronel & Gutter, 2000).

### 1.2.7. School experience
According to Janosz et al. (2000), the school experience is composed of academic and social experiences. Fredricks, Blumenfeld, and Paris (2004) divided the school experience into three components — behavioral, emotional, and intellectual. Adolescents who are involved in school activities and feel attached to school are less likely to drop out (South, Haynie, & Bose, 2007).

### 1.2.8. Leisure activities
Leisure is the arena where adolescents address social acceptance or rejection (Workman, 1986), and the time which an individual spends alone or with friends (Dolev et al., 1999).

### 1.2.9. Attachment
An individual's attachment style is determined in early childhood, and continues developing throughout one's life (Bowlby, 1969, 1988).

Many detached adolescents had not experienced normative relationships which are the foundation for security and trust (Maier, 1994).

## 2. Typologies and their theoretical value

Typological research in the social sciences enhances our understanding of heterogeneous populations. A good typology should help diagnose the various facets of a problem and enable to construct effective interventions (Beker & Heyman, 1972).

Typologies are often created through cluster analysis, which is usually a four-stage, multi-variable process: (1) Data are collected for a large sample. (2) Participants' profiles are calculated for similarities, using coefficients such as correlation or Euclidean distance (Skinner, 1978). (3) Applying objective criteria, a computer algorithm is used to search for homogeneous subgroups, so that participants in one cluster should be more similar to each other than to those classified into another cluster. (4) New samples and new measurements of the results can be used to duplicate and validate the clustering (Fields & Ogles, 2002).

Beker and Heyman (1972) claimed that because no assumptions can be made when constructing a typology, an efficient one is based on a broad theoretical background which helps select the variables that construct the typology. According to Kamphaus, Distefano, and Lease (2003), a typology that classifies a population by variables is more helpful than any other research method, in explaining the connections between the variables, and is therefore the preferred methodology

(Zhao, Brooks-Gunn, McLanahan, & Singer, 2000). Typologies make us see each participant as a multi-variable entity, and the connections between these variables change from group to group.

The most prevalent method for creating a typology is cluster analysis. When doing so, the independent variables are chosen as criteria, and background variables are used for validation (Table 1).

### 2.1. Aims of a typology

An effective intervention must be differential. It should meet the needs of each member of the group while recognizing that all individuals labeled alike do not necessarily have the same needs. Wehlage, Rutter, Smith, Lesko, and Fernandez (1989), examined the effectiveness of intervention programs in 14 secondary schools, and found that an intervention was more effective when the school selected students with similar personality characteristics. This finding was consistent with an earlier study which suggested constructing a typology by characteristics, and matching the intervention to those characteristics (Brennan, 1987). The results of both studies indicate that an effective intervention, in this case for youth at risk, must cluster not only the risks but the adolescents themselves, clearly distinguishing the differences between the groups while minimizing the differences between members of a single group (Janosz et al., 2000). For therapeutic purposes, the typology has to be the foundation for understanding the problems and constructing an appropriate intervention.

**Table 1**
Select typologies of non-normative adolescents[*].

| Researcher | Typology | Statistical technique | Criteria | Validation tool |
|---|---|---|---|---|
| Langman (2009) | Shooting in school | None | Psychological disturbance, trauma and family history of abuse | Violent behavior |
| Caudle (2008) | Children and adolescents referred for personality assessment | Analysis of graphic clusters | Part of a personality questionnaire (PIC for children) | Gender, status and part of the PIC questionnaire |
| Kearney (2007) | School avoidance behavior | Hierarchical regressions and transformational structural equations | Adolescents' self-reporting of school refusal behavior and relevant written reports from teachers | Absences |
| Kwon and Lease (2007) | "Cliques" — social groups | Analysis of clusters based on distance from the average | Self-reporting of behavioral characteristics | Social status and emotional welfare |
| Kitsantas, Moore, and Sly (2007) | Adolescents' smoking behavior | Classification trees | Orientation toward smoking, smoking among good friends, smoking in peer group, health risks, exposure to tobacco, relationship with parents, financial possibilities, socio-demographic variables | None |
| Tenne (2006) | School avoidance | None | The individual and dynamics of family relationships, influence of the environment and education | None |
| Clark, Cornelius, Kirisci, and Tarter (2005) | Risk level for adolescents' use of addictive substances | Analysis of hierarchical clustering (ward criterion) | Disturbances resulting from parental substance use, experience using tobacco and alcohol, psychological disturbances | Age, origin, gender, socio-economic status |
| Dembo and Schmeidler (2003) | Juvenile delinquents | Analysis of hierarchical, agglomerate clustering | Drug use and crime | Gender, age, race, origin, nationality, standard of living, family income |
| Kamphaus et al. (2003) | Behavioral adjustment of children | Analysis of hierarchical clustering (ward criterion) | Children's self-reporting of their behavior and social status | Age, origin and gender |
| Fields and Ogles (2002) | Adolescents with several emotional disturbances | Analysis of hierarchical clustering (ward criterion) | Various risk factors: arrest, hospitalization for emotional problems, sexual abuse, physical abuse, running away from home, sexual offenses, use of alcohol or drugs, suicide attempt | Age when accepted for treatment, gender, family income, committed a crime |
| Janosz et al. (2000) | School dropouts | Analysis of clustering combined with associative analyses | School experiences: non-adaptive behavior, commitment and achievement | School identity, family, friends, leisure activity, beliefs, deviant behavior |

[*] Studies published since 2000. For a detailed listing of earlier studies, see Etzion (2010).

Research questions:

1. Using statistical techniques and adjustment measurements, can we construct a typology of youth at risk, and use it as a base for planning interventions?
2. Can this typology be validated using other variables pertaining to the same participants, and by comparing each type to the contrast group?

## 3. Method

### 3.1. Population

The research was conducted on a research group of youth at risk, and a contrast group of normative youth.

To recruit participants, the researchers carefully evaluated all the types of institutions for youth at risk in Israel, and after selecting a representative sample, secured the appropriate permits, and then began the study. The research participants were 282 adolescents from 26 institutions throughout Israel: 73 from shelters run by the Ministry of Welfare, 102 from facilities run by the Ministry of Education, 69 from youth advancement facilities, and 38 from two private residential schools under the auspices of the Ministry of Welfare. Using a structured interview, the researcher visited the various institutions and interviewed all adolescents who were there on the day of her visit and who agreed to be interviewed.

Of the 282 participants, 178 (63.1%) were boys, 104 (36.9%) girls. The participants were 12–18 years old ($M = 15.7$, $SD = 1.65$), 206 (73%) of them native-born Israelis, and 76 (27%) immigrants. Over half of the participants (162, 57.4%) lived at home, 103 (36.5%) in residential schools, and 17 (6.0%) in other facilities. Of the participants, 162 (57.4%) have married parents, 120 (42.6%) are children of divorced parents or have only one parent. The answers regarding parents' employment status were incomplete — 196 (69.5%) have an employed father, and 62 (22%) have an unemployed father; for mothers the numbers are 202 (71.6%) employed and 74 (26.2%) unemployed.

Participants for the contrast group (normative youth) were selected from seven randomly sampled schools in the areas where the research group participants lived, and matched as closely as possible with the research group. The contrast group included 217 adolescents — 79 (36.4%) boys and 138 (63.6%) girls, age 12–18 ($M = 14.3$, $SD = .92$), of whom 195 (89.9%) were native Israelis and 22 (10.1%) immigrants. The majority (213, 98.2%) of participants in the contrast group lived at home, and 4 (1.8%) outside of their home. Most participants (193, 88.9%) had married parents; 24 (11.1%) were children of divorced parents or had only one parent. Regarding parents' employment status — 202 (93.1%) have an employed father, and 15 (6.9%) had an unemployed father; for mothers the numbers are 176 (81.1%) employed and 41 (18.9%) unemployed.

Some 550 questionnaire were filled during the interviews, of which 51 were disqualified because they were inappropriately answered. In some cased the questionnaire was disqualified due to lack of the participant's full cooperation (based on the interviewer's impression), in others it was not fully answered.

### 3.2. Research instruments

The participants were asked to fill in a single questionnaire, which was based on six research tools: (1) Socio-demographic data and personal and social experiences questionnaire, (2) attachment questionnaire, (3) self-esteem questionnaire, (4) personal and social adjustment questionnaire, (5) behavioral and emotional adjustment questionnaire, and (6) life satisfaction questionnaire.

1. Socio-demographic data and personal and social experiences questionnaire (Joint-Brookdale, 2002, 2003). Socio-demographics: Our attempts to find out about participants' socio-demographic background raised a problem. Many studies use the socioeconomic index variable (e.g. Ribas, De-Moura, Soares, Gomes, & Bornstein, 2003), yet each

study uses different data to construct it. In the present study, which dealt with adolescents, it was difficult to obtain information on parents' income, and we tried to construct a new socioeconomic index. To examine whether the variables could be used to construct such an index, we conducted a principal-component factor analysis. The personal attributes entered were: country of birth (native-Israeli or immigrant), dwelling (with both parents, one parent, or no parent), and degree of crowdedness at home (people per room). Family attributes entered were: parents' country of birth, parents' marital status (married or not), parents' education, and social rating of parents' occupation according to the Central Bureau of Statistics, Israel (1994). The principal-components factor analysis yielded one factor (socioeconomic index) that explains 34.5% of the variance (which is explained by the sum total of variables that compose the socioeconomic index). In this case, because of the type of variables, a higher score in this new factor relates to a lower socioeconomic background. Multiplying the factor scored by the standard scores of the different attributes, each participant received a general socioeconomic score, so that the score is expressed by standard scores: $M = 0$, $SD = 1$.

In addition to examining socio-demographic details, the questionnaire addressed life events and experiences: *Leisure activities*: Participants were asked to rate the degree to which they spend their leisure in social activities and solitary activities on a 4-point scale (1 — *Never*, 4 — *Very often*), where a higher score is related to more leisure activities. *Communication*: Participants were asked to rate the degree to which they find it easy to talk freely to parents, friends, and counselors about matters that concern them. Answers were rated on a 4-point scale (1 — *Very difficult*, 4 — *Very easy*). The score for each variable (Communication with parents, Communication with friends, and Communication with a counselor) is the average of the scores in each subject. A high score is related to better communication. *Negative life experiences*: Participants indicated whether they had had difficult experiences. The number of negative experiences was counted to construct the Life events variable.

*Ties with friends/Social ties*: This variable was constructed from questions related to whether the participant has a good friend. The score for each participant is the total number of answers that indicate a strong tie with friends. A higher score is related to stronger ties. *Deviant behaviors*: The number of deviant behaviors in which the participant is engaged was counted. The behaviors listed were violence, sexual relations at an early age (under 13), smoking cigarettes, drug use, and delinquency. *Educational history/Academic achievements*: Participants rated their academic achievements on a 3-point scale (1 — *Low*, 3 — *High*). *Suspension*: Participants indicated whether they had ever been suspended from school.

2. Attachment questionnaire (Mikulincer, Florian, & Tolmacz, 1990). This 15-item questionnaire is an expansion of the original questionnaire by Hazan and Shaver (1987). The statements refer to an individual's three modes of attachment (secure, anxious, and avoidant), and participants were asked to rate themselves, for each statement, on a 7-point scale (1 — *Not true at all*, 7 — *Very true*). Cronbach's alpha reliability in our research was 0.72. The score was obtained using the average score for these statements, with a higher score related to more secure attachment.
3. Self-esteem questionnaire. The tool selected was a translation of Rosenberg's (1965) self-esteem questionnaire. Participants were asked to rate 10 self-statements on a 4-point scale (1 — *Disagree*, 4 — *Agree*). Cronbach's alpha reliability in our research was 0.82. The score was obtained using the average score for these statements, with a higher score related to higher self-esteem.
4. Personal and social adjustment questionnaire (Thrope, 1953, adapted by Zaider, 1984). Zaider's adaptation has 43 Yes/No items — 20 related to personal adjustment and 23 to social adjustments (1 — *Yes*, 2 — *No*). Cronbach's alpha reliability in our research was 0.77 for personal adjustment and 0.80 for social adjustment. The score was obtained using the average score for these statements, with a higher score related to a higher degree of adjustment.
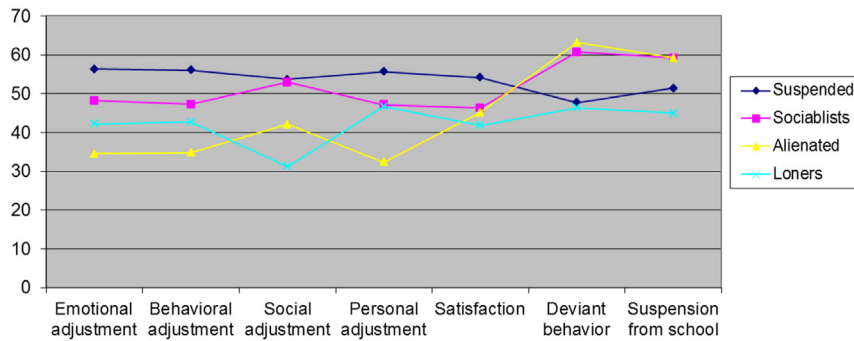
**Fig. 1.** Comparison of the four clusters by adjustment measures.

5. Behavioral and emotional adjustment questionnaire. To examine participants' behavioral and emotional adjustment, we used a questionnaire developed by Caduri (2005). This questionnaire is based on Achenbach's (1991) Child Behavior Checklist and on the Systems Output questionnaire used by the Youth Shelters Division of the Ministry of Welfare for following up adolescents in their care and constructing therapeutic programs for them. The 22 items in the behavioral part are a list of behaviors; the 18 items in the emotional part are a list of feelings and descriptions. In this questionnaire, participants rate the degree to which the item reflects their behavior or feelings in the preceding six months. Answers were rated on a 5-point Likert-type scale. Cronbach's alpha reliability in our research was 0.82 for the behavioral part and 0.90 for the emotional one. The score was obtained using the average score for these items, with a higher score being related to higher adjustment.

6. Life satisfaction questionnaire. This life-satisfaction (or self-anchoring) scale was developed by Cantril (1965) to examine general, subjective satisfaction with one's life. This is an 11-point scale (0 — *Your worst possible life*, 10 — *Your best possible life*), where participants are asked to mark the part of the ladder where they locate their life in the present, five years ago, and five years down the road.

### 3.3. Procedure

After securing permission from the Chief Scientists of the Ministry of Education and the Ministry of Welfare, the researcher contacted institutions for youth at risk, and visited those institutions where the director agreed to participate in the study.

Participants in the research group and the contrast group were personally interviewed by the researcher who used a structured questionnaire; interviews lasted an average of 35 min. In addition, short, semi-structured interviews were conducted with heads of institutions to learn about the facility and the administrator's education perceptions.

### 3.4. Data processing

The data received from the questionnaires were coded and statistically analyzed using SPSS (Statistical Package for the Social Sciences). We conducted reliability tests and factor analyses, calculated averages, standard deviations, and correlations, ANOVAs, MANOVAs, and repeated measures. We also conducted $\chi^2$ tests, and used cluster analysis to create homogeneous groups based on adjustment measures to maximize our ability to identify various groups of adolescents at risk. In an attempt to validate the typology using other variables for the same participants, we used variance analyses and discriminant analyses.

## 4. Results

The *K*-means, non-hierarchical cluster analysis was used to allocate participants to clusters in accordance with how close they were to each cluster. *K*-means procedure is used to identify relatively homogeneous groups that differ from each other in selected attributes. The procedure is applicable to large samples, and analyses of variance can be conducted within the cluster analysis, with *F* indicating the contribution of each attribute to the distinction between groups.

The adjustment measure scores were standardized using *T* scores ($M = 50$, $SD = 10$) to enable comparison. The cluster analysis yielded four subgroups in Fig. 1.

The rationale for constructing the clusters is demonstrated in Fig. 1. In the variables presented, a higher score indicates better adjustment, except in the deviant behaviors and Suspension measures where a high score indicates low adjustment.

1. *The Suspended.* Relatively high scores for all positive adjustment measures; deviant behavior is lower than average, school suspensions higher than average.
2. *The Sociablists.*[1] Relatively low positive adjustment measures (somewhat under average), except for their relatively high social adjustment. Their negative adjustment measures (deviant behavior and suspension) are noticeably higher than average.
3. *The Alienated.* All adjustment measures – especially personal adjustment – are significantly lower than average for this group. Negative adjustment measures are higher than average.
4. *The Loners.* Lower-than-average positive adjustment measures and markedly lower social adjustment measures. However, personal adjustment in only slightly lower than average (not many deviant behaviors and no suspensions).

Thus far, we regarded the clusters as a single unit. To examine the differences between the groups for each of the typology measurements, we conducted ANOVA tests. The results are reported in Table 2.

As can be seen in Table 2, the four groups differ in emotional and behavioral adjustment, with Suspended having the highest scores, followed by the Sociablists; the Loners have lower adjustment scores and the Alienated have the lowest. The groups also differ in social adjustment, except for the Suspended and the Sociablists whose adjustment is highest and no different. The Alienated are not as well adjusted, and the Loners have very low social adjustment. There are differences among groups in personal adjustment, although there are no differences between the Sociablists and the Loners. The Suspended have the highest degree of adjustment, followed by the Sociablists and Loners, while the Alienated have especially low personal adjustment measures.

---

[1] The word *Sociablist* was coined to emphasize the negative social aspect of this personality type.

**Table 2**
Means, standard deviations, analyses of variance for the variables used for constructing the typology.

| Variables | Suspended $n = 107$ | | Sociablists $n = 101$ | | Alienated $n = 42$ | | Loners $n = 32$ | | $F(3278)$ | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | | |
| Emotional adjustment | 56.35$_a$ | 6.32 | 48.16$_b$ | 7.83 | 34.55$_c$ | 8.14 | 42.19$_d$ | 8.60 | 94.40*** | .511 |
| Behavioral adjustment | 56.04$_a$ | 6.60 | 47.27$_b$ | 7.11 | 34.79$_c$ | 8.56 | 42.64$_d$ | 7.55 | 95.88*** | .513 |
| Social adjustment | 53.67$_a$ | 4.35 | 52.93$_a$ | 4.19 | 42.10$_b$ | 12.01 | 31.17$_c$ | 12.59 | 100.66*** | .523 |
| Personal adjustment | 55.68$_a$ | 5.17 | 47.11$_b$ | 8.28 | 32.37$_c$ | 7.95 | 46.71$_b$ | 6.73 | 110.82*** | .547 |
| Life satisfaction | 54.18$_a$ | 8.39 | 46.29$_b$ | 10.12 | 45.16$_b$ | 10.82 | 41.87$_b$ | 11.81 | 19.94*** | .178 |
| Deviant behaviors | 47.75$_a$ | 6.91 | 60.68$_b$ | 7.65 | 63.21$_b$ | 6.03 | 46.39$_a$ | 7.41 | 92.24*** | .499 |
| Suspensions from school | 51.44$_a$ | 10.02 | 59.21$_b$ | 5.13 | 59.18$_b$ | 5.22 | 44.97$_c$ | 8.41 | 39.24*** | .298 |

$_{abcd}$ Several letters within the same line indicate significant differences.
*** $p < .001$.

The Suspended differ from all other groups in life satisfaction, which is higher than the satisfaction in the other three groups. The Suspended and Loners differ from the Sociablists and Alienated in deviant behaviors, with the latter having more deviant behaviors than the former. Suspension from school differs among the groups, except for the Sociablists and the Alienated who have the highest number of suspensions, followed by the Suspended; the Loner group does not have many suspensions.

### 4.1. Validating the typology

The second research question addressed the validation of the typology. To validate it, we conducted three types of analyses:

1. One-way analyses of variance with variables that were not used to construct the typology. The typology was used as the independent variable. We conducted $\chi^2$ tests for the non-consecutive variables, and the statistically significant differences in variables between the groups validate the typology (see Fields & Ogles, 2002; Kwon & Lease, 2007 for a discussion of this type of validation).
2. Analyses of variance comparing each of the groups the typology revealed to the contrast group using the variables that were used to construct the typology. The differences between the research groups and the contrast group validate the typology.
3. A discriminant analysis for examining the classifying ability of the variables that were not used to construct the typology, between the contrast group and each of the groups within the typology (separate analyses). Any dissimilar differences between each of the typology

groups and the contrast group are indicative of the validation of the typology.

### A. Differences among groups of the typology by variables which did not create the typology

The findings in Table 3 reveal that statistically significant differences of age, number of negative life experiences, self-esteem, secure attachment, ties with friends, and social leisure activities were found among the various groups. No statistically significant differences were found in socio-economic background, as this measure is composed of a number of variables. As this measure is considered pivotal for youth at risk, we decided to examine, separately, the differences between the groups for each of the components of the socioeconomic background, but this examination, too, yielded no significant differences in any of the components. In addition, no differences were found for solitary leisure activity, for communication with parents, friends, and counselors, and in academic achievements. Following is a listing of the differences:

Suspended are older than Loners. More Alienated suffered negative life experiences than Suspended. Self-esteem and secure attachment are higher among Suspended and Sociablists than among Alienated and Loners. Loners have weaker ties with friends than do Suspended, Sociablists, and Alienated. Social leisure activities are more prevalent

**Table 3**
Means, standard deviations and analyses of variance between variables not used for constructing the typology.

| Variables | Suspended $n = 107$ | | Sociablists $n = 101$ | | Alienated $n = 42$ | | Loners $n = 32$ | | $F(3278)$ | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | | |
| Socio-economic background | .44 | 1.04 | .43 | .96 | .53 | .95 | .63 | .92 | .41 | .005 |
| Age | 16.02$_a$ | 1.63 | 15.70$_{ab}$ | 1.40 | 15.50$_{ab}$ | 1.73 | 14.97$_b$ | 2.06 | 3.74* | .039 |
| Negative life experiences | .74$_a$ | .88 | 1.09$_{ab}$ | 1.12 | 1.33$_b$ | 1.20 | 1.09$_{ab}$ | 1.05 | 4.00** | .041 |
| Self-esteem | 3.54$_a$ | .38 | 3.44$_a$ | .48 | 2.93$_b$ | .51 | 2.80$_b$ | .57 | 33.66*** | .268 |
| Secure attachment | 5.35$_a$ | .99 | 5.29$_a$ | 1.01 | 4.55$_b$ | 1.09 | 4.23$_b$ | 1.35 | 13.76*** | .130 |
| Ties with friends | 2.25$_a$ | .82 | 2.48$_a$ | .79 | 2.14$_a$ | 1.00 | 1.18$_b$ | 1.03 | 18.34*** | .165 |
| Social leisure activities | 2.15$_{ac}$ | .62 | 2.30$_{ab}$ | .54 | 2.45$_b$ | .51 | 1.91$_c$ | .51 | 6.70*** | .068 |
| Solitary leisure activities | 2.60 | .68 | 2.62 | .63 | 2.71 | .62 | 2.81 | .71 | .99 | .011 |
| Communications with parents | 2.71 | .97 | 2.72 | 1.08 | 2.66 | 1.00 | 2.34 | .95 | 1.24 | .013 |
| Communications with friends | 2.97 | .81 | 2.95 | .89 | 2.69 | 1.07 | 2.57 | .96 | 2.42 | .025 |
| Communication with counselor | 2.28 | .89 | 2.07 | .93 | 2.17 | 1.01 | 2.06 | .72 | 1.01 | .011 |
| Academic achievements | 2.26 | .49 | 2.29 | .60 | 2.19 | .61 | 2.13 | .55 | .81 | .009 |

$_{abcd}$ Several letters within the same line indicate significant differences.
* $p < .05$.
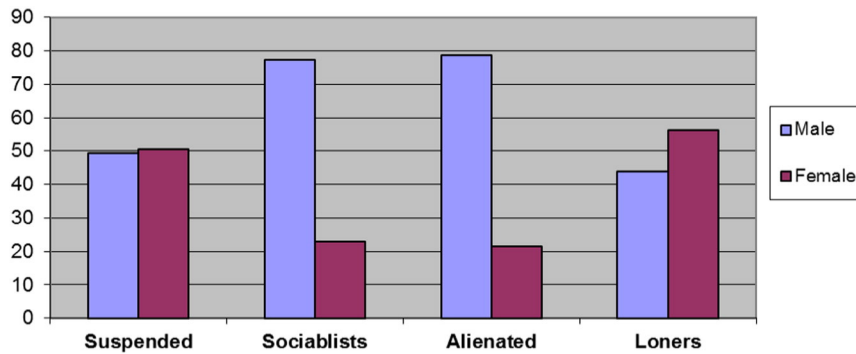** $p < .01$.
*** $p < .001$.

**Fig. 2.** Gender distribution for each group (percentages).

among Alienated than among Suspended and Loners, and Sociablists spend more time on social leisure activities than Loners.

To examine gender differences among the groups we conducted a $\chi^2$ test for independence. As seen in Fig. 2, among Sociablists and Alienated there are relatively high rates of young men, whereas among Suspended and Loners the rate of young women is relatively high [$\chi^2(3) = 26.59$, $p < .001$].

B. Groups of youth at risk derived from the typology as compared to the contrast group

To validate the typology we obtained, we compared each of the at-risk groups to the contrast group, using the factors that construct the typology. Statistically significant differences with the contrast group will act as another step toward validating the typology. The comparison is presented in Fig. 3.

A post-hoc Scheffe test revealed four statistically significant differences: (1) Between the Suspended and the contrast group in all variables except for social adjustment and life satisfaction. The Suspended show better positive adjustment than the contrast group, but are suspended from school more often and engage in more deviant behaviors. (2) Between the Sociablists and the contrast group in all variables except for social adjustment, with the contrast group being higher in emotional, behavioral, and personal adjustment. (3) Between the Alienated and the contrast group in all variables, with the Alienated being lower on all positive adjustment measures and higher on deviant behaviors and suspensions. (4) Between the Loners and the contrast group in all positive adjustment measures, especially social adjustment, with the Loners being higher. No significant differences were found regarding deviant behaviors and suspension.

To obtain a complete picture, the differences among the four groups of youth at risk were compared with the external variables (which were not included in constructing the typology), using post-hoc Scheffe one-way analyses of variance. All the findings that follow, and which are related to the at-risk groups or to part of them, are in comparison to the



**Fig. 3.** At-risk groups vs. contrast group.

contrast group. All at-risk groups are of a lower socioeconomic background, and the participants in the at-risk groups are older, except for the Loners.

Other than the Suspended, all participants in the at-risk groups had a larger number of negative life events. Alienated and Loners have lower self-esteem and a less secure level of attachment. Loners have weaker ties with friends, and Sociablists and Alienated have higher frequency of social leisure times. Other than the Loners, all groups have better communication with their counselor than with parents or friends. No differences were found between the four at-risk groups and the contrast group in solitary leisure activities, level of communication with parents and friends, and academic achievement.

C. Discriminant analyses, for examining the classification ability of variables that had not been used to construct the typology, between the contrast group of and each of the groups that comprise the typology (separate analyses)

To complete validating the typology we chose to conduct discriminant analyses aimed at examining the degree to which external variables (which were not used to construct the typology), correctly classify participants to the contrast group or to one of the groups created by the typology. The discriminant analyses were conducted stepwise, so that only the statistically significant variables would enter the discriminant function. These analyses distinguished between the contrast group and each of the groups created in the typology.

Discriminant analyses are conducted to differentiate among groups by participants' differential characteristics. The discriminant analysis is similar to a multiple regression when the dependent variable is not continuous, and reveals the linear combinations of predictors that create a maximal distinction between participants in the various groups. The discriminant functions derived, presented in Table 4, were statistically significant.

According to the findings in Table 4, the variables that contributed to a distinction between the contrast group and all four groups yielded by the typology were: socioeconomic background and age — younger age and higher socioeconomic backgrounds are more likely to belong to the contrast group. Other variables which contributed to the distinction between the contrast group and the Suspended, the Sociablists, and the Alienated were *gender*, *secure attachment*, and *social leisure activity* — girls, boys with more secure attachment, and those who do not spend their leisure with friends are more likely to belong to the contrast group. *Communication with counselor* was a variable that contributed to the distinction between the contrast group and the Suspended, the Alienated, and the Loners — weaker communication with the counselors was related to being more likely to belong to the contrast group. *Self-esteem* contributed to the distinction between the contrast group and the Alienated and the Loners, with higher self-esteem being related to a greater likelihood to belong to the contrast group. An

**Table 4**
β scores and correlations (r) for the values of variables included in discriminant functions that differentiate between each group in the typology and the contrast group.

| Differentiation between the contrast group and | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Suspended | | Sociablists | | Alienated | | Loners | |
| | β | r | β | r | β | r | β | R |
| Socioeconomic background | .571 | .667 | .541 | .663 | .506 | .585 | .790 | .706 |
| Age | .626 | .728 | .566 | .602 | .319 | .387 | .221 | .269 |
| Gender | −.185 | −.120 | −.452 | −.416 | −.532 | −.314 | – | – |
| Secure attachment | −.242 | .018 | −.177 | −.077 | −.275 | −.263 | – | – |
| Social leisure activity | .212 | .123 | .364 | .307 | .445 | .347 | – | – |
| Communication with counselor | .337 | .356 | – | – | .301 | .210 | .383 | .211 |
| Self-esteem | – | – | – | – | −.350 | −.353 | −.387 | −.496 |
| Ties with friends | – | – | – | – | – | – | −.378 | −.459 |

additional variable that contributed to the distinction between the Loners and the contrast group was *ties with friends*, with stronger ties being related to a greater likelihood to belong to the contrast group. The percentage of correct classification of the four groups and the contrast group in these analyses is presented in Fig. 4.

The discriminant analyses revealed a statistically significant distinction between each group and the contrast group: In the Suspended group the analysis allowed to correctly classify 85.2% of participants (78.4% of the Suspended and of the contrast group), [cr canonical correlation) = .68, λ = .53, χ² = 196.02, df = 6, p < .001]. In the Sociablists group the analysis allowed to correctly classify 84.0% of participants (75.3% of the Sociablists and 87.9% of the contrast group), [cr = .69, λ = .53, χ² = 196.76, df = 5, p < .001]. In the Alienated group 91.4% can be correctly classified (82.9% of the Alienated and 93.0% of the contrast group) [cr = .71, λ = .49, χ² = 178.85, df = 7, p < .001]. In the Loners group 88.2% of participants can be correctly classified (83.3% of Loners and 88.8% of the contrast group), [cr = .64, λ = .59, χ² = 127.46, df = 5, p < .001].

## 5. Discussion

In this study we attempted to design a systematic typology of the youth at risk population by personality attributes. We used a complex of personal and behavioral variables, aiming to find distinct groups which clinical treatment centers could use to tailor services for particular types of youth.

Constructing the typology was a three-stage process, beginning with identifying the variables that distinguish between youth at risk and the normative contrast group. The second stage was the construction of the typology, including an analysis of the differences among the various types of youth at risk derived and between them and the contrast group. In the third and final stage we conducted analyses to validate the typology to highlight the differences between the types yielded.

To construct the typology we used *k*-means cluster analysis, which is based on the Euclidean distance of each participant for each variable from the center of the group derived. We analyzed the differences between the yielded clusters, and compared each cluster with the contrast group of normative adolescents. The cluster analysis yielded four types of youth at risk — Suspended, Sociablists, Alienated, and Loners. Each group will be presented (by size relative size in this study), and its main characteristics listed and described. Following each description are short suggestions for interventions. All these are based on existing, validated methods familiar to professionals. However, the details of applying them to each group are beyond the scope of this paper.

### 5.1. Suspended

Despite its relatively high adjustment scores, this group is characterized by being suspended from school. Adolescents in this group do not make any special attempt to avoid suspension, although, judging by their adjustment factors which are higher than those of the other groups, they are capable of doing so. The Suspended engage in relatively few deviant behaviors and have the highest degree of life satisfaction among the four groups. In the validation stage we examined whether the Suspended are characterized by better objective and subjective factors which would place them in the relatively best condition of youth at risk.

The Suspended are older than the other groups and include relatively more girls. Because they have suffered less negative life experiences, and have higher levels of self-esteem and secure communication, we may assume that membership in this group is partially by choice, and that with appropriate intervention, this choice should be relatively easy to change. Their positive adjustment is higher than that of members of the contrast group, but they engage in more deviant behaviors which may be the cause of suspension.

No difference between the Suspended and the contrast group was found in the external variables which we not used to construct the typology.

The Suspended and the contrast group shared similarities that could be the starting point for intervention programs for the Suspended. They had the same number of negative life experiences, the same rates of self-esteem, secure attachment, ties with friends, solitary leisure activities, communication with parents, communication with friends, and academic achievements. These similarities could be the starting point for appropriate intervention programs for the Suspended.

Moore and Allen (1996) emphasized the influence of volunteering on the young volunteer, and Skinner, Furrer, Marchand, and Kindermann (2008) found that students' emotional connection and commitment are major contributors to their social behavior at school, suggesting such commitment could be enhanced. Thus, one approach to intervention would be to engage the Suspended in voluntary community service alongside normative adolescents, allowing them the opportunity for positive self-expression. Their adjustment levels indicate that the Suspended are capable of taking responsibility for themselves and for their behavior.
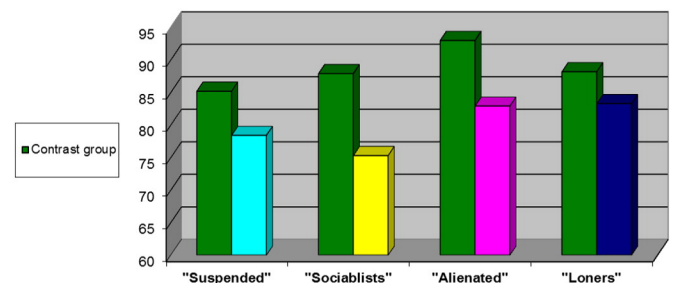


**Fig. 4.** Percentage of correct classification of the topological groups and the contrast group in the discriminant analysis.

They should be encouraged to do so, which would give them positive outlets for their time and energy, replacing their channeling them into deviant behaviors.

### 5.2. Sociablists

Relatively high social adjustment marks the Sociablists. While their other positive adjustment measures are slightly below average, all their negative adjustment measures are much higher than average. Thus, they are characterized by deviant behaviors and many suspensions from school. It seems that high social adjustment does not prevent negative behaviors, and at times may even bring them on, when the adolescent's peer group is not appropriate. There are more boys among the Sociablists than among Loners and Alienated, and their self-esteem and secure level of attachment are higher than those in these two groups.

When we compared the Sociablists to normative adolescents, we found that they are similar only in social adjustment, and had lower measures for all other forms of positive adjustment. Additionally, their life satisfaction is lower than that of normative adolescents. Although these differences are relatively small, when negative adjustments are examined, there is a great gap between normative youth and the Sociablists. The latter engage in more deviant behaviors and are suspended from school more often. An examination of external variables reveals that the Sociablists are older, of lower socioeconomic status, have had more negative life events, their frequency of social leisure activities is greater, and their communication with their counselor is stronger.

Social adjustment is positively prominent among the Sociablists, yet all other measures are lower than those of the other groups, so that intervention should be directed at connecting the Sociablists to a better peer group. As their self-esteem and secure attachment are on par with those of the contrast group, it is possible that members of this group made friends with the wrong people who led them to engage in deviant behaviors, which, in turn, damaged their positive adjustments, throwing the adolescents into a vicious circle. This circle could possibly be broken by removing the adolescents from negative influences and bringing them closer to more normative ones. In her examination of the reasons for substance abuse and for changing addictive behavior Sentell (2008) concluded that the peer group influences individuals, causing them to behave in a negative manner or affecting withdrawal from such behavior. Rumberger (2001) also claimed that the peer group plays a major influencing role regarding risk behaviors. Because the Sociablists have multiple deviant behaviors, any intervention should begin with on-going supervision that will prevent them from engaging in such behaviors. They can be integrated only when they do not present danger to others (Bogart, Collins, Ellickson, & Klein, 2006).

### 5.3. Alienated

Low scores on all adjustment measures are the hallmark of the Alienated. Their adjustment scores are lower than those of the Suspended and the Sociablists, with the exception being social adjustment where the Loners have lower scores. The Alienated also scored highest on deviant behaviors and suspension, and seem to be the most problematic group identified in this typology. The rate of boys is relatively high among the Alienated, and its members, like the Loners, have experienced more negative life events, suffer from relatively low self-esteem and have relatively low levels of secure attachment compared to the Suspended and the Sociablists.

The Alienated received the highest score for social leisure activity, but some of this activity has negative connotations, such as loitering and spending time in bars and game arcades. As we have seen, the score for this variable is related to deviant behavior and suspension from school, and clearly distinguished between normative youth and youth at risk.

When we compared the adolescents in this group to the normative ones, we found statistically significant differences between the Alienated and the contrast group in all the measures that constructed the typology. The Alienated are low on all positive adjustment measures and high on deviant behaviors and suspensions. Turning to the external variables, the Alienated come from a lower socio-economic background than the contrast group, are older, have had more negative life events, their self-esteem is lower, their attachment less secure, their social leisure activity is higher, and those who have a counselor have good communication with him or her.

Despite the fact that the Alienated academic achievements, ties with friends, and communication with parents, friends, are similar to the other groups, intervention is more difficult. Mullis, Cornille, Mullis, and Huber (2004), proposed an "ecological" intervention for female prison inmates who were minors, engaging the girls' environment – parents, friends, and counselors – to try and affect her. This form of intervention could be appropriate for the Alienated, who, for the most part, are in Ministry of Welfare shelters, mainly for juvenile delinquents. In the present study, these adolescents showed higher-than-average cognitive abilities, with a good grasp of instructions, manifest initiative, and creative thinking. Some Alienated said that when something is not to their liking they act to change it, not always in acceptable ways. It would seem, therefore, that these adolescents have potential and an ability to act, so that the intervention must reach them and channel these attributes to positive directions. Creativity is indeed used to bring young people into the fold of society using music, theater, sculpture, and painting (Baker & Homan, 2007; Teasdale, 1999; Winter, 2007).

### 5.4. Loners

The Loners are distinguished from the other clusters by a markedly lower level of social adjustment, and other positive adjustments in this group are also considerably lower than average. Their emotional and behavioral adjustment is lower than that of the Suspended and the Sociablists, and their life is satisfaction relatively lower than that in other clusters. However, their deviant behaviors are relatively few and the number of suspensions lowest.

There is a relatively high rate of girls among the Loners. Loners' self-esteem and level of secure attachment is lower than those of the Suspended and the Sociablists, their ties with friends are significantly weaker than in the other clusters, and their social leisure activities relatively few.

When we compared the Loners to the contrast group, we found statistically significant differences in all positive adjustment measures. The Loners have low scores in these measures, especially in their social adjustment. No significant differences were found regarding deviant behaviors and suspension, so that the Loners are the opposite of the Suspended, who were characterized by a large number of deviant behaviors and suspensions, but had relatively high adjustment scores.

When examining external variables, we found that in comparison to the contrast group, the Loners came from a lower socio-economic background. The Loners experienced more negative life events; their self-esteem is lower, their attachment less secure, and their ties to friends weaker than those of members of the contrast group.

Loners do not engage in deviant behaviors, and their main reason for being at risk is social adjustment. Intervention could mediate between them and society, which would also contribute to their other adjustments (Pinzi, 1989; Roth, 2009). Mediation facilitates learning and forming connections (Salomon & Perkins, 1998), and social relations have been found to be one of the most important influences on social functioning (Bogart et al., 2006; Janosz et al., 2000; Lewin & Gold, 1999; Man, 1991).

The Loners clearly demonstrate the need for a typology that distinguishes between various clusters of youth at risk, so as not to attach them to adolescents with a many deviant behaviors, such as the

Sociablists. If these two types are brought together, a new series of problems might emerge. Based on Kniveton (1987), who found that children who are socially weak tend to imitate inappropriate actions, the Loners may try to become friends of the Sociablists and imitate them.

### 5.5. Relationship between the clusters derived and the different therapeutic settings

We examined whether the typology is congruent with the four settings (shelters run by the Ministry of Welfare, youth advancement facilities, various settings run by the Ministry of Education, and private residential schools under the auspices of the Ministry of Welfare). If any congruence were found it could have served as an indication that the clusters are indeed separated therapeutically. However, we learned that this is not the case, and members of all clusters appear in each type of setting at similar rates. The exception is the residential shelters which house a relatively high concentration of Sociablists and Alienated. The shelters are aimed primarily at law-breaking adolescents who were removed from their homes by court order. The Sociablists and the Alienated are characterized by many deviant behaviors, which explain their higher numbers in the residential shelters.

Our research reveals that adolescents from all four clusters are cared for in all types of facilities. Based on the typology derived in the present study, it is doubtful that the uniform intervention in each facility can meet the needs of each adolescent. Hence, cluster-based interventions should be developed within each setting; alternatively, the adolescents could be sent to different settings in accordance with the clusters derived here.

### 5.6. Contribution of the present study

An empirically based classification of dropout youth into relatively homogeneous groups with a broader common denominator could greatly enhance research and serve to develop effective interventions. In our opinion, an intervention aimed at a specific cluster within the youth-at-risk population – with the clustering based on personality as in this study – will facilitate the matching of intervention to each individual, and make it more effective. For example, an Ethiopian-born girl with low social adjustment might do better in a group of girls with similar adjustment levels, for whom a special intervention is implemented, rather than in a group of Ethiopian girls (Levy, 2008).

It is noteworthy that the clusters do not differ in socio-demographic components. Thus, dividing the adolescents by these measures (e.g., native-born vs. immigrants, parents' occupation) would neither reflect the differences in their adjustment skills nor provide a more appropriate response to the individual's personality-based needs. To date, most research on the heterogeneity of youth at risk has focused on the socio-demographic attributes such as ethnicity and family income (Fitzpatrick, Dulin, & Piko, 2010; Piko, Skultéti, Luszczynska, & Gibbons, 2010; Romi & Getahun, 2000). In the present study we propose that the differences between the various types of youth at risk stem primarily from personality attributes and not socio-demographic ones.

Theoretically, the typology constructed in this study contributes to our understanding of youth at risk and its various characteristics. A theory is measured by its ability to explain real phenomena, and the more focused it is, the more it is capable of explaining the subject addressed (Janosz et al., 2000). The current typology can help explain the psychological meaning of being at risk.

There are several approaches to intervention for youth at risk, and, per force, there is a modicum of heterogeneity in them. At the same time, a structured typology, such as presented here, could help match a given intervention the unique attributes of the individual or the group.

In the current study, the typology succeeded in creating distinct groups, and could also be used to locate the best approach within a standard intervention. The typology used personality attributes together with social and behavioral ones, to create heterogeneous groups of youth at risk. Thus, clusters of youth at-risk adolescents not characterized by delinquency or other deviant behaviors were identified. Addressing these groups separately could decrease the difficulty these adolescents have in receiving public help or even seeking it.

In this study we sought to construct a typology of youth at risk that is based on adolescents' personality attributes and on their behavioral attributes. Our underlying understanding in choosing this route was that such a typology could provide clues to a distinction between various circumstances and causes for dropping out of age-appropriate settings, and consequently, not relating to all youth at risk as one broad group. It is our opinion that referring to smaller, more homogeneous groups with a broader common denominator will enable more effective intervention and the creation of settings that are more appropriate to each individual within the group.

### 5.7. Limitations of the study

The data were based on self-reports made by the youth, having carefully selected questionnaires that have been tested and found reliable when filled by youth at risk. Based on the finding of Caduri (2005), we interviewed each adolescent separately and excluded incomplete questionnaires. A good reliability was found.

Although we ended up with an appropriate sample, it is interesting to note the great reluctance of the management of institutions to participate in the research. The researcher's request was turned down by many institutes, and therefore, the research sample was not randomized (unlike the contrast group which is). Nevertheless, it included adolescents from each type of institution for youth at risk in Israel, from all parts of the country.

As noted above, 282 adolescents at risk participated in the study. This is a relatively low number for cluster analysis, the chosen research method, but high for this research population. As this is a population that is hard to reach, the size and representation are satisfactory for the purposes of this study. The number of variables was appropriate for the statistical method.

Classifying youth at risk into groups by behavioral and personality attributes allows us to find an appropriate setting and a tailored program for each group both in the mode of intervention and in prevention. We propose viewing youth at risk as a diverse, heterogeneous population, composed of various groups. The present study could fill a currently existing theoretical and practical vacuum in the treatment of youth at risk, and can lay the foundation to matching the intervention to the special and unique needs of each group. Further study to validate this typology should be conducted in Israel with different group(s) of at risk Israeli youth.

Future studies should be designed to examine the match between the interventions proposed here – as well as other interventions – to the four clusters derived. Additional studies could address the relationship between existing interventions and each of the four clusters.

In the current study, the typology succeeded in creating distinct groups, and could also help to better match interventions to individuals. The typology used personality attributes together with social and behavioral ones, to create homogeneous groups of youth at risk. By tailoring interventions to personality-based groups we could decrease the difficulty these adolescents have in receiving public help or even asking for it.

Finally, we must acknowledge the difficulty in introducing a new concept into well-established and functioning intervention programs. The proposed typological approach does not aim to do away with current practices, but rather to introduce another element, geared toward the personality traits of the adolescent, with the hope that such

integration will better serve all adolescents at risk who are – by choice or by force – in therapeutic settings.

## Acknowledgments

## References

Abouserie, R. (1994). Sources of stress in relation to locus of control and self-esteem in university students. *Educational Psychology, 14*, 323–330. http://dx.doi.org/10.1080/0144341940140306.

Achenbach, T. M. (1991). *Manual for the child behavior checklist: 4–18 and 1991 profile.* Burlington, VT: University of Vermont, Department of Psychiatry.

Baker, S., & Homan, S. (2007). Rap, recidivism and the creative self: A popular music programme for young offenders in detention. *Journal of Youth Studies, 10*(4), 459–476. http://dx.doi.org/10.1080/13676260701262566.

Barnett, D., Vondra, J. I., & Shonk, S. M. (1996). Self-perceptions, motivation, and school function of low-income maltreated and comparison children. *Child Abuse and Neglect, 20*(5), 397–410. http://dx.doi.org/10.1016/0145-2134(96)00015-4.

Baumrind, D. (1991). Parenting style and adolescent development. In R. M. Lerner, A. C. Peterson, & J. Brooks-Gun (Eds.), *Encyclopaedia of Adolescence* (pp. 746–758). New York: Garland.

Beker, J., & Heyman, D. S. (1972). A critical appraisal of the California differential treatment typology of adolescent offenders. *Criminology, 10*(1), 3–59. http://dx.doi.org/10.1111/j.1745-9125.1972.tb00544.x.

Belsky, J. (1981). Early human experience: A family perspective. *Developmental Psychology, 17*(1), 3–23. http://dx.doi.org/10.1037/0012-1649.17.1.3.

Berger, R., & Shechter, Y. (1987). Girls in distress: A group at the crossroads of risk. *Hevra uRevaha (Society and Welfare), 5*, 344–356 (Hebrew).

Bogart, L. M., Collins, R. L., Ellickson, P. L., & Klein, D. J. (2006). Adolescent predictors of generalized health risk in young adulthood: A 10-year longitudinal assessment. *Journal of Drug Issues, 36*(3), 571–596. http://dx.doi.org/10.1177/002204260603600304.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* New York: Basic Books.

Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory.* London: Routledge.

Brandon, P. D., & Hofferth, S. L. (2003). Determinants of out-of-school childcare arrangements among children in single-mother and two-parent families. *Social Science Research, 32*(1), 129–147. http://dx.doi.org/10.1016/S0049-089X(02)00022-4.

Brennan, T. (1987). Classification: An overview of selected methodological issues. In M. Gottfredson, & M. Tonry (Eds.), *Prediction and classification: Criminal justice decision making, 9.* (pp. 201–248). Chicago: University of Chicago Press. http://dx.doi.org/10.1086/449136.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press.

Caduri, T. (2005). Examining the validity of a self-report questionnaire for attachment patterns among adolescents at risk — narratives, personality, and adjustment. Unpublished master's thesis. Department of Psychology, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Cantril, H. (1965). *The pattern of human concerns.* New Brunswick, NJ: Rutgers University Press.

Caudle, D. D. (2008). *Cluster analysis of children referred for evaluation using the personality inventory for children.* Doctor of Education Dissertation: University of Houston.

Central Bureau of Statistics, Israel (1994). The uniform classification of occupations. Technical publication 64. http://www.cbs.gov.il/www/publications/occupations/tochen.pdf (Hebrew)

Central Bureau of Statistics, Israel (2009). Portrait of Society. *Israel: Fourth Report, Chap. 4: Education and learning* (pp. 95–147) (http://www.cbs.gov.il/publications09/rep_02/pdf/h_print.pdf, Hebrew).

Central Bureau of Statistics, Israel (2013). Portrait of Society. *Israel: Sixth Report, Chap. 4: Education and learning* (pp. 118–153) (http://www.cbs.gov.il/publications13/rep_06/pdf/part04_h.pdf, Hebrew).

Chapman, C., Laird, J., Ifill, N., & KewalRamani, A. (2011). *Trends in high school dropout and completion rates in the United States: 1972–2009, (NCES 2012-006).* U.S. Department of Education, National Center for Education Statistics (http://nces.ed.gov/pubs2012/2012006.pdf).

Clark, D. B., Cornelius, J. R., Kirisci, L., & Tarter, R. E. (2005). Childhood risk categories for adolescents substance involvement: A general liability typology. *Drug and Alcohol Dependence, 77*, 13–21. http://dx.doi.org/10.1016/j.drugalcdep.2004.06.008.

Claus, R. N., & Quimper, B. E. (1991). *Dropout study 1990–1991.* Lansing, MI: Saginaw Public School, Department of Evaluation Services.

Dembo, R., & Schmeidler, J. (2003). A classification of high-risk youths. *Crime & Delinquency, 49*(2), 201–230. http://dx.doi.org/10.1177/0011128702251054.

Dolev, T., Kahan-Strawczynski, P., & Shemes, A. (1999). *Survey of characteristics of youth in the care of the Division for the Enhancement of Youth under the auspices of the Ministry of Education: Research report.* The Joint-Brookdale Institute (Hebrew): Jerusalem.

Erikson, E. H. (1963). *Childhood and society* (second edition ). N.Y.: W.W. Norton.

Etzion, D. (2010). Typology of youth in distress in Israel. Unpublished doctoral dissertation. School of Education, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Fields, S. A., & Ogles, B. M. (2002). An empirical typology of youth with severe emotional disturbances. *American Journal of Orthopsychiatry, 72*(2), 250–261. http://dx.doi.org/10.1037//0002-9432.72.2.250.

Fitzpatrick, K. M., Dulin, A., & Piko, B. (2010). Bullying and depressive symptomatology among low-income, African-American youth. *Journal of Youth and Adolescence, 39*(6), 634–645. http://dx.doi.org/10.1007/s10964-009-9426-8.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109. http://dx.doi.org/10.3102/00346543074001059.

Getahun, S. (2001). Identity of self, personal adjustment, social adjustment, and perception of family functioning among detached youth of Ethiopian descent and detached youth of native Israelis. Unpublished master's thesis. School of Education, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Gibbs, J. C. (1991). Socio-moral developmental delay and cognitive distortion: Implication for the treatment of antisocial youth. In W. M. Kurtines, & G. L. Gewirtz (Eds.), *Handbook of moral behavior and development* (pp. 95–110). Earlbaum: Hillsdale, NJ.

Glenn, H. S., & Nelson, J. (2000). *Raising self-reliant children in a self-indulgent world: Seven building blocks for developing capable young people.* Roseville, California: Prima Publishing, 49–74.

Grupper, E., & Romi, S. (2014). *Children and adolescents at risk in Israel. Overview of the field and core issue, Vol. 1,* MOFET: Tel Aviv (Hebrew).

Grupper, E., & Romi, S. (2015). *Children and adolescents at risk in Israel. The voice of young people and issues faced by child and youth care workers, Vol. 2,* MOFET: Tel Aviv (Hebrew).

Grupper, E., Salkovsky, M., & Romi, S. (2014). Children and adolescents at risk: Definitions, development and methods of interventions. In E. Grupper, & S. Romi (Eds.), *Children and adolescents at risk in Israel; Vol 1: Overview of the field and core issues* (pp. 19–53). Tel Aviv: MOFET (Hebrew).

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524. http://dx.doi.org/10.1037//0022-3514.52.3.511.

Himi, H. (2014). The HILA Program: A second chance for youth at risk. *International Journal of Humanities and Social Science, 4*(3), 153–161.

Hovav, M. (1989). *Characteristics of people over 18: Comparing adolescents and young adults in distress: Reflection.* Jerusalem: Ministry of Labour and Welfare (Hebrew).

Janosz, M., Archambault, I., Morizot, J., & Pagani, L. S. (2008). School engagement trajectories and their differential predictive relation to dropout. *Journal of Social Issues, 64*(1), 21–40. http://dx.doi.org/10.1111/j.1540-4560.2008.00546.x.

Janosz, M., Le Blanc, M., Boulerice, B., & Tremblay, R. E. (2000). Predicting different types of school dropouts: A typology approach with two longitudinal samples. *Journal of Educational Psychology, 92*(1), 171–190. http://dx.doi.org/10.1037//0022-0663.92.1.171.

Jimenez, L., Dekovic, M., & Hidalgo, V. (2009). Adjustment of school-aged children and adolescents growing up in at-risk families: Relationships between family variables and individual, relational and school adjustment. *Children and Youth Services Review, 31*, 654–661. http://dx.doi.org/10.1016/j.childyouth.2008.12.007.

Jimerson, S., Egeland, B., Sroufe, L. A., & Carlso, B. (2000). A prospective longitudinal study of high school dropouts examining multiple predictors across development. *Journal of School Psychology, 38*(6), 525–549. http://dx.doi.org/10.1016/S0022-4405(00)00051-0.

Joint (2002). *Questionnaire for 7th–11th-grade students.* Jerusalem: The Joint-Brookdale Institute (Hebrew).

Joint (2003). *Study "Girls on the map": A questionnaire about girls in care.* Jerusalem: The Joint-Brookdale Institute and the Israeli Ministry of Labour and Welfare (Hebrew(.

Kamphaus, R. W., Distefano, C., & Lease, A. M. (2003). A self-report typology of behavioral adjustment for young children. *Psychological Assessment, 15*(1), 17–28. http://dx.doi.org/10.1037/1040-3590.15.1.17.

Kazaz, G. (2004). Relationship between parents' support and involvement and the dropping out of at-risk adolescents. Unpublished master's thesis. Department of Sociology and Anthropology, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Kearney, C. A. (2007). Forms and functions of school refusal behavior in youth: An empirical analysis of absenteeism severity. *Journal of Child Psychology and Psychiatry, 48*(1), 53–61. http://dx.doi.org/10.1111/j.1469-7610.2006.01634.x.

Kitsantas, P., Moore, T. W., & Sly, D. F. (2007). Using classification trees to profile adolescent smoking behavior. *Addictive Behaviors, 1*, 9–23. http://dx.doi.org/10.1016/j.addbeh.2006.03.014.

Knesset (2011). Research and Information Center Commission on Children's Rights. http://www.knesset.gov.il/mmm/data/pdf/m03151

Kniveton, B. H. (1987). Misbehaving peer models in the classroom: An investigation of the effects of social class and intelligence. *Educational Studies, 13*(2), 161–168. http://dx.doi.org/10.1080/0305569870130205.

Kwon, K., & Lease, A. M. (2007). Clique membership and social adjustment in children's same-gender cliques: The contribution of the type of clique to children's self-reported adjustment. *Journal of Developmental Psychology, 53*(2), 216–242. http://dx.doi.org/10.1353/mpq.2007.0012.

Lahav, H. (1992). The development of caring for detached youth in Israel. Unpublished master's thesis. School of Education, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Lahav, H. (2004). Dropping out of school: The debate about the numbers and about who pays the price. *Minituk le Shiluv (From Detachment to Inclusion), 12*, 7–20 (Hebrew(.

Langman, P. (2009). Rampage school shooters: A typology. *Aggression and Violent Behavior, 14*(1), 79–86. http://dx.doi.org/10.1016/j.avb.2008.10.003.

Lazarus, R. S. (1963). *Personality and adjustment.* N. J.: Prentice Hall http://dx.doi.org/10.1037/13116-000.

Levi-Zelik, N. (2002) Socio-demographic effects on self-perception of learning difficulties and risk behaviors. Unpublished master's thesis. Department of Sociology and Anthropology, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Levy, D. (2008). Adjustment among women of Ethiopian origin: The contribution of personal and environmental resources. Unpublished doctoral dissertation. School of Social Work, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Lewin, K., & Gold, M. (1999). Personal adjustment and group belongingness. In K. Lewin, & M. Gold (Eds.), The complete social scientist: A Kurt Lewin reader (pp. 327–332). Washington, DC, US: American Psychological Association xi. http://dx.doi.org/10.1037/10319-014.

Maier, H. W. (1994). Attachment development is "in". Journal of Child and Youth Care, 9, 35–51.

Man, P. (1991). The influence of peers and parents on youth life satisfaction in Hong Kong. Social Indicators Research, 24(4), 347–365.

Matsuba, M. K., Elder, G. J., Petrucci, F., & Marleau, T. (2008). Employment training for at-risk youth: A program evaluation focusing on changes in psychological well-being. Child & Youth Care Forum, 37(1), 15–26. http://dx.doi.org/10.1007/s10566-007-9045-z.

McComb, A., & Forehand, R. (1989). Adolescent school performance following parental divorce: Are there family factors that can enhance success? Adolescence, 24, 871–880.

Mikulincer, M., Florian, V., & Tolmacz, R. (1990). Attachment styles and fear of personal death: A case study of affect regulation. Journal of Personality and Social Psychology, 58, 273–280. http://dx.doi.org/10.1037/0022-3514.58.2.273.

Moore, C. W., & Allen, J. P. (1996). The effects of volunteering on the young volunteer. The Journal of Primary Prevention, 17(2), 231–258. http://dx.doi.org/10.1007/BF02248794.

Mullis, R. L., Cornille, T. A., Mullis, A. K., & Huber, J. (2004). Female juvenile offending: A review of characteristics and contexts. Journal of Child and Family Studies, 13(2), 205–218. http://dx.doi.org/10.1023/B:JCFS.0000015708.71295.2a.

Mulvey, E. P., Arthur, M. W., & Reppucci, N. D. (1993). The prevention and treatment of juvenile delinquency: A review of the research. Clinical Psychology Review, 13(2), 133–167. http://dx.doi.org/10.1016/0272-7358(93)90038-N.

Nagari, A. (2003). The significant of the intervention process in Zofia home (a center for crisis intervention for girls at risk and in distress) as perceived by the girls residing there. Unpublished master's thesis, the Israeli branch of Leeds University (Hebrew).

Piko, B. F., Skultéti, D., Luszczynska, A., & Gibbons, F. X. (2010). Social orientations and adolescent health behaviours in Hungary. International Journal of Psychology, 45(1), 12–20. http://dx.doi.org/10.1080/00207590903030279.

Pinzi, R. (1989). The effect of short-term group intervention on children's adjustment to a parent with mental illness. Unpublished master's thesis. School of Social Work, Tel Aviv University, Israel (Hebrew).

Resnick, G., & Burt, M. R. (1996). Youth at risk: Definitions and implications for service delivery. American Journal of Orthopsychiatry, 66(2), 172–188. http://dx.doi.org/10.1037/h0080169.

Ribas, R. C., Jr., De-Moura, M. L. S., Soares, I. D., Gomes, A. A. N., & Bornstein, M. H. (2003). Socioeconomic status in Brazilian psychological research: I. Validity, measurement, and application. Estudos de Psicologia, 8(3), 375–383. http://dx.doi.org/10.1590/S1413-294X2003000300004.

Romi, S. (2007). Child and youth care: Development and central issues. In S. Romi, & M. Schmida (Eds.), Nonformal education in a changing reality (pp. 231–249). Jerusalem: The Hebrew University Magnes Press (Hebrew).

Romi, S., & Getahun, S. (2000). Self-identity, personal and social adaptation and family functioning among Ethiopian born dropout adolescents in comparison to Israeli born dropout adolescents. Maastricht (MECC). The Netherlands: FICE Conference, 2000.

Romi, S., & Getahun, S. (2009). Ego identity and perceived family functioning: Comparing at-risk native born and immigrant Ethiopian adolescents in Israel. Adolescence, 44(176), 869–890.

Romi, S., & Zoabi, H. (2003). The influence of computer technology learning program on attitudes toward computers and self-esteem among Arab dropout youth. Educational Media International, 40(3–4), 259–268.

Ronel, N., & Gutter, N. (2000). The ELEM "Children of the Night" patrol cars: Street work with adolescents in Israel. Tel Aviv: The Forum on Children and Adolescents. Tel Aviv University (Hebrew).

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Roth, M. (2009). Social support as a mediator in the relation between sensation seeking and psychological adjustment in older adults. Personality and Individual Differences, 47(7), 798–801. http://dx.doi.org/10.1016/j.paid.2009.06.025.

Rumberger, R. W. (2001). Why students drop out of school and what can be done. Santa Barbara, CA: University of California–Santa Barbara (Retrieved May 15, 2003, from http://www.civilrightsproject.ucla.edu/research/dropouts/rumberger.pdf).

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent, & J. E. Rolf (Eds.), Primary Prevention of psychopathology, 3, Hanover. NH: University Press of New England.

Sabo-Lahl, R., & Hassin, T. (2011). Risk situations among children and adolescents: Locating and mapping within the National Program for Children and Youth at Risk. Myers-Joint-Brookdale Institute: Jerusalem (Hebrew).

Salomon, G., & Perkins, D. N. (1998). Individual and social aspects of learning. In P. D. Pearson, & A. Iran-Nejad (Eds.), Review of research in education. 23. (pp. 1–24). Washington, DC: American Educational Research Association. http://dx.doi.org/10.3102/0091732X023001001.

Schmid, R. (2006). Account of the Public Commission for Disadvantaged and At-Risk Children and Youth. Jerusalem: Prime Minister's Office (Hebrew).

Schwartz, W. (1995). School dropouts: New information about an old problem. Washington, DC: Office of Educational Research and Improvement.

Schwartzwald, Y. (1984). Social and educational meanings of self-value. Psychologia veYeutz beHinukh (Psychology and Counselling in Education), 71–89 (Hebrew).

Sentell, M. B. (2008). A retrospective study: Adolescent alcohol use and motivation to change behavior. Dissertation Abstracts International: Section B: The Sciences and Engineering.

Shemesh, A. (1999). Attributes of detached adolescents of Ethiopian descent. Minituk le Shiluv (From Detachment to Inclusion), 9, 45–57 (Hebrew).

Skinner, E., Furrer, C., Marchand, G., & Kindermann, T. (2008). Engagement and disaffection in the classroom: Part of a larger motivational dynamic? Journal of Educational Psychology, 100(4), 765–781. http://dx.doi.org/10.1037/a0012840.

Skinner, H. A. (1978). Differentiating the contribution of elevation, scatter and shape in profile similarity. Educational and Psychological Measurement, 38(2), 297–308. http://dx.doi.org/10.1177/001316447803800211.

South, S. J., Haynie, D. L., & Bose, S. (2007). Student mobility and school dropout. Social Science Research, 36(1), 68–94. http://dx.doi.org/10.1016/j.ssresearch.2005.10.001.

Teasdale, C. (1999). Report: Developing principles and policies for arts therapists working in United Kingdom prisons. The Arts in Psychotherapy, 26(4), 265–270. http://dx.doi.org/10.1016/S0197-4556(99)00010-6.

Tenne, Z. (2006). Avoiding school — Phobia or objection? Megamot (Trends), 44(2), 333–353 (Hebrew(.

Thrope, L. P. (1953). California test of personality. Revition. California: Test Bureau.

Unicef (2009). Progress for children: A report card on child protection, New-York. (http://www.unicef.org/protection/files/Progress_for_Children-No.8_EN_081309(1).pdf).

Wehlage, G. G., Rutter, R. A., Smith, G. A., Lesko, N., & Fernandez, R. R. (1989). Reducing the risks: School as communities of support. New York: Falmer Press.

Winter, M. (2007). National program for caring for children and adolescents at risk: Project book. Jerusalem: Office of the Prime Minister (Hebrew).

Workman, B. (1986). Dear professor: This is what I want you to know. Phi Delta Kappan, 67, 668–671.

Zaider, Y. (1984). The regular siblings of the special child. Unpublished doctoral dissertation. School of Education, Bar-Ilan University, Ramat Gan, Israel (Hebrew).

Zhao, H., Brooks-Gunn, J., McLanahan, S., & Singer, B. (2000). Studying the real child rather than the ideal child: Bringing the person into developmental studies. In L. R. Bergman, R. B. Cairns, L. G. Nilsson, & L. Nystedt (Eds.), Developmental science and the holistic approach (pp. 393–419). Mahwah, NJ: Erlbaum.