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Adolescent dropouts' functioning in relationships with parents and peers

Funkcjonowanie nastolatków porzucających naukę w relacjach z rodzicami i rówieśnikami

Abstract: This qualitative *case study* examines differences in the functioning of 14-19-year-old dropouts based on their relationships with parents and peers. Using a decision tree generated by Quinlan's algorithm, a model consisting of the variant modes of adolescent dropouts' functioning is constructed. The model reveals the mechanism and genesis of differences in the dropouts' functioning in relationships with parents and peers: while some of them feel rejected by the parents and seek safety among peers, others try to manipulate parents and peers to improve their self-image, and still others attempt to handle their problems independently. Consequently, the model explains why adolescent dropouts discontinue education and how their parents and/or peers can help educators create more effective support programmes.

Keywords: adolescent, school dropout, parents, peer, *case study*, data mining method, Quinlan's algorithm.

Introduction

Adolescence is a developmental period characterised by increasing complexity and internal diversity of relationships between the teenager and the people around them. In most studies the relationships are analysed as separate developmental factors, but there also authors who examine them as a system of interacting elements (Brown and Bakken, 2011). Among the latter,

there are Gorrese and Ruggieri (2012), who studied how relationships with the parents and peers jointly affect adolescents' functioning and Raboteg-Šarić, Merkaš, and Miljević (2018), who focused on the diversity and dynamics of relationships between adolescents, parents, and peers.

The study analyses the functioning of adolescent dropouts in relationships with parents and peers based on questionnaire data from the survey of NEETs carried out by another research team and using the PTR strategy and Quinlan's algorithm.

The study gives an insight into the internal organisation of relationships between adolescents and their milieu and shows five variant modes of their behaviour after dropping out of school. In order to explain their mechanism and genesis, a qualitative model is constructed¹. It can serve as a reference in redefining the existing educational and therapeutic strategies for young dropouts and an inspiration for creating new ones.

Adolescents' relationships with parents and peers as the context of their development

Relationships with the parents. An increasingly strong need for autonomy and independence considerably reduces adolescents' psychological dependence on their parents. Many studies associate the development and functioning of adolescents with the character and quality of relationships in their families. It is also reported that close-knit families, supportive parents, and a feeling of safety and acceptance allow adolescents to develop skills, define their identity, believe in their self-worth and self-sufficiency, and learn how to be responsible and handle life roles effectively (McKinney and Renk, 2008).

The evolution of family relationships that takes place as children become adolescent can be a difficult process both for them and for their parents. The involved parents, anxious about the prospects of their relationships with the children becoming weaker or collapsing, may respond by tightening parental control, consequently suppressing their efforts to learn how to be independent (Oleszkowicz and Senejko, 2013). The uninvolved parents, and those who have strained relationships with their adolescent children, may not respond at all, thus depriving them of guidance that teenagers need to develop internal control and the ability to cope with problems; such adolescents tend

¹ More recent studies on school dropout prediction have used machine learning methods (Psyridou *et al.* 2024; Colak Oz, Güven, and Nápoles, 2023; Rezk and Selim, 2024).

to blame others when they make wrong decisions and avoid vital decisions (Branje, 2018).

Relationships with the peers. Adolescents start seeking acceptance, safety, and support, and a sense of affiliation among their peers (Brown and Bakken, 2011; McLean and Jennings, 2012). The peer group helps them establish which things have value and what the value is, which helps them create value systems of their own. It is also a source of behavioural patterns, enables interpersonal interactions, determines relationships among its members, as well as helping them meet other vital needs. Peers enable adolescents to understand who they are and develop a sense of self-worth from the group's acceptance. Last but not least, they play a significant role in the formation of their identities.

Adolescents who experience a lack interest, attention and care at the home (Deković and Meeus, 1997) have an inferior self-image, lower self-worth, and run a higher risk of emotional problems. These adolescents may show a tendency to spend more time with their peers to find the safety that their families fail to offer them.

Adolescents' relationships with the parents and peers. The relationships between adolescents and their parents and peers form a system that varies in time. They can be symmetric (good relationships with both parents and peers), asymmetric (good relationships with the peers compensate for strained relationships with the parents), or unrelated to each other (existing in two separate domains). The relationships with parents and peers are two systems of reference that have different functions in adolescent development, but their origins and functions are closely intertwined (Raboteg-Šarić, Merkaš, and Miljević, 2018; Boele et al., 2019).

Although adolescents increasingly loosen their relationships with the parents and strive to push the boundaries of their freedom, they still need parental attention and support. Consequently, their attitude to parents is marked by conflicting emotions: stubbornness and defiance and a need for care and love.

Dropping out of school - causes and consequences

The variety of relationships, requirements and evaluations experienced by adolescents in secondary-school years constitutes a training ground that introduces them to social roles, rules, and expected behaviours (Wysocka and Tomiczek, 2014), shapes their attitude to the wider world, and their future relationships and activity. School is also an important place where adolescents build and develop relationships with the peers.

Despite the role that school plays in their lives, some adolescents decide to discontinue their education (Mahoney, 2018). In most cases such decisions have to do with some family problems, learning problems, or a feeling of not being understood and accepted by the schoolmates and teachers (De Witte et al., 2013). Surveys show that adolescent dropouts feel lonely, experience self-definition problems, and suffer from low-self-worth. They also lack motivation, and even when they take action, they are hardly interested in its outcome.

Methodology

The purpose of this study was to advance the understanding of how adolescent dropouts function in relationships with their parents and peers. To this end, the following research questions were formulated:

- What is the nature and dynamics of relationships between adolescent dropouts and their parents and peers?
- What is the genesis and mechanisms of the functioning of adolescent dropouts?

Subjects

Using an age criterion of 14-19 years, a sample of seventy adolescent dropouts was selected from a database created by M. Dobrowolska et al. (Silesian University of Technology, Poland) during a survey of 140 NEETs aged 12-29 years in the years 2016-2017. The basic characteristics of the subjects and their families are shown in Table 1.

Table 1. Basic data² on adolescent dropouts and their families (n=70, mean age 16.93).

Participants' characteristics			Number (n)
Sex	girls		12
	boys		58
Education	primary		37
	lower secondary		23
	vocational		6
	upper secondary		4
Family type	complete		67
	incomplete		3
Financial status	low		15
	rather good		49
	very good		6
Parents' education	primary or lower	mothers	25
		fathers	29
	basic vocational	mothers	15
		fathers	22
	secondary	mothers	17
		fathers	11
	tertiary	mothers	17
		fathers	7
Parents' working status	employed	mothers	53
		fathers	44
	occasionally employed	mothers	8
		fathers	8
	unemployed	mothers	9
		fathers	15

All adolescents lived in the region of Upper Silesia, mainly in the post-mining areas with the highest unemployment rates caused by mine closures. Economic reforms dramatically changed the traditional family structure across the region, making unemployed fathers stay at home and mothers seek gainful employment.

The majority of adolescents in the sample dropped out of elementary and junior secondary schools, had siblings, and moderately comfortable families. Mothers were usually better educated than fathers and had steady jobs.

² These data were derived for illustrative purposes from a comprehensive database containing numerical and categorical data thoroughly describing each subject's family and living conditions, relationships in their households, with peers, in and off school environments, etc. Unlike traditional research comparing groups created based on the researcher's criteria, this study focused on the characteristics of functioning of individual adolescent school dropouts (see footnote 3).

Sources of research data

Surveyed by M. Dobrowolska and her team, adolescent dropouts had been asked to complete psychological questionnaires as well as personal questionnaires containing questions about their families, e.g., the financial situation, family problems, and their interpretations. Both types of questionnaires were carefully analysed to select items and descriptive categories that were the most relevant given the purpose of this study (Table 2).

Table 2. Questionnaire items and descriptive categories characterising the subjects, their families and peers

Questionnaire items	Descriptive categories
Participants	
Personal questionnaire	- self-image and social points of reference
Rosenberg Self-Esteem Scale ¹ (items 1,7)	- attitudes, beliefs, plans, goals
Resilience Scale ² (item 4)	- readiness to confront challenges and cope with difficulties
Stress Perception Questionnaire ³ (items 4,10,11,18)	- responses to difficult situations
How Are You Coping? ⁴ (items1, 6)	- stance towards work
Work Attitudes Questionnaire ⁵ (items1,4,9,7)	
Family	
My Family ⁶ (items 9-12)	- relationships within the family
Personal questionnaire	- relationships with the parents
My Parents as a Married Couple ⁷ (items1,10)	- relationships between the parents
Peers	
Stress Perception Questionnaire ³ (item19)	- relationships with the peers
General Proactivity Scale ⁸ (item10)	

*1. Łaguna, Lachowicz-Tabaczek and Dzwonkowska, 2007; 2. Ogińska-Bulik and Juczyński, 2011; 3. Plopa and Makarowski, 2010; 4. Juczyński and Ogińska-Bulik, 2009; 5. Czerw, 2013; 6-7. Plopa and Połomski, 2010; 8. Bańka, 2005.

The study conducted by M. Dobrowolska and her team conformed to the ethical and data security standards for psychological research (Dobrowolska and Sasila 2018). In this study, the data were additionally coded with letters and numbers to increase their anonymity.

Data analysis

The data were analysed at two levels using the Strategy of Process Transformation Reconstruction³ (PTR strategy; for detailed description of the approach see: Rzechowska, 2010, 2021, 2023; Rzechowska and Szymańska, 2017). At Level I, case studies are performed to portray individual adolescents and their relationships with the parents and peers. At Level II, adolescents with similar characteristics were grouped together using Quinlan's algorithm⁴ and a qualitative model showing the different modes of adolescents' functioning in relationships with their parents and peers and explaining their genesis and mechanisms was constructed. The process of analysis is explained step-by-step in Table 3.

One section of the decision tree obtained with Quinlan's algorithm is shown below to illustrate the process of reconstructing the modes of adolescent dropouts' functioning in relationships with the parents and peers. Based on the section, the M_4 mode was created (Fig. 1).

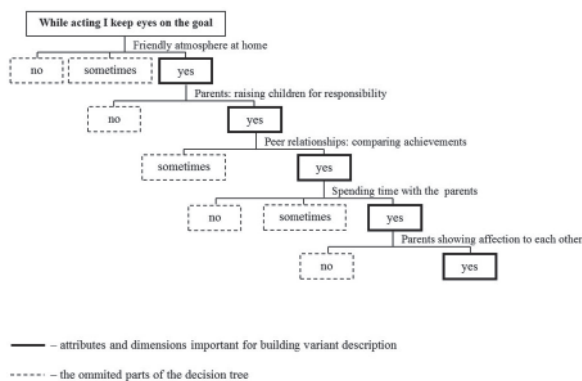


Figure 1. A section of the decision tree generated by Quinlan's algorithm

³ The PTR strategy designed by Rzechowska in 2004 helps reproduce the natural evolution of the phenomenon under study. It is thus different from the traditional approach that seeks to describe relationships between the phenomenon's components using a framework of available theories and/or theoretical models. According to the PTR, the characteristics of a phenomenon should be treated at each level of analysis as unchangeable data sets, as data aggregation or averaging may lead to the loss or omission of valuable information.

⁴ Quinlan's algorithm (C4.5), one of the data mining methods based on machine learning, enables the generation of decision trees that allow phenomena to be looked at from a different angle than that offered by established theories (Quinlan, 1993). The assumption underlying the algorithm is that a large dataset may contain some latent knowledge that popular statistical methods are unable to bring out (Nisbet, Miner, & Elder, 2009). The application of Quinlan's algorithm in psychological analysis is an original concept of the author (see the use of the decision tree - Van der Gaag, Kunnen, and Van Geert, 2019).

Table 3. The PTR strategy as applied in the study.

Levels I: analysis of case studies	Level II: analysis of the set of case studies
<p>1. The preliminary analysis of questionnaire items and data potentially relevant to describing the phenomenon under study</p> <p>2. The selection of items describing individual adolescents and their relationships with the parents and peers; the creation of a network of descriptive categories revealing the diverse arrangements of relationships between adolescents and their parents and peers</p> <p>3. The creation of the sets of characteristics describing individual adolescents and their relationships with parents and peers</p>	<p>4. The creation of a database containing the sets of characteristics of individual adolescents; the generation of a decision tree using Quinlan's algorithm (C4.5)</p> <p>5. The clustering of adolescents with similar characteristics to reconstruct the modes (variants) of their functioning in relationships with their parents and peers</p> <p>6. The construction of a qualitative model showing the spectrum of the variant modes of adolescents' functioning in relationships with parents and peers, changes in the relationships, as well as their genesis and mechanisms</p>

The section has the following interpretation. M_4 adolescents are consistent in working towards the goal, have a friendly atmosphere at home, spend time with their parents who are affectionate towards each other, and tend to compare their and peers' achievements. An extended analysis of this and other modes is presented in the Results section.

To ensure the quality and reliability of the findings, all data analysed at Level I were coded and structured by the competent, independent referees. At Level II, the error rate of the decision tree error was estimated (its value was 1.4%, much below the permitted threshold level of 25%) and the variant modes of adolescents' functioning and their spectrum were tested for internal consistency.

Results

The analysis of the decision tree generated five different variant modes ($M1$ - $M5$) showing the functioning of adolescent dropouts in relationships with their parents and peers.

Variant M_1 . Seeking support: in pursuit of temporary acceptance

$M1$ wishing to be noticed, they behave as others expect them. When describing themselves they use overly positive or negative terms. They blame others whenever their decisions, turn out wrong or actions fail. $M1$ present

their parents as indifferent. They make them buy things that can make them attractive among their peers, but even after achieving this goal, they feel inferior to others. M1 seek the company of their peers to have a source of acceptance.

Variant M₂. *To be like others: presenting oneself and one's parents as others expect*

M2 pretend to be ready to take action. To be accepted, they idealize their families and hide their dysfunctions. They make up excuses to explain their inactivity. The families of M2 are financially quite comfortable but their parents have poor parenting skills. M2 idealise their parents, presenting them as thoughtful, open in communication. In real life, M2 rarely tell anyone about family problems (the information could only be found in the personal questionnaires). The only thing they like about their parents is that they buy them what they want to compensate them for a difficult situation at home.

Variant M₃. *To be attractive and accepted: building a sense of effectiveness by manipulating parents and peers*

M3 want to be seen as involved, consistent in action. In fact, they provoke others to tell them what do. They feel effective because they can manipulate their parents and peers. Their education are touchy subjects that they do not want to discuss. The parents of M3 tend to prioritize family roles and responsibilities over relationships. M3 describe their parents as supportive, ready to give advice. M3 claim that they obey the family rules, but their focus is on those that can bring them a reward. Having involved parents, M3 can focus their efforts on acceptance of their peers. They demonstrate their abilities through action. M3 derive their sense of self-efficacy from the ability to manipulate their parents and peers. To get the things they need to be attractive and impress their peers, they mislead their parents into believing that they follow their expectations or fake obedience.

Variant M₄. *To be as good as others: the regulatory role of external standards*

M4 make plans and implement them consistently despite difficulties. They always compare their results and the results of their peers. Even though they do quite well, they are critical about their achievements and feel inferior to others. This attitude makes them feel incapable and incompetent. The parents of M4 do not mention about incomplete education of their offspring, as

they are more focused on fostering good family relationships. M4 talk about their future only with their peers.

Variant M₅. *To be better than others: the regulatory role of internal standards*

M5 use their experiences to avoid mistakes. When evaluating the result of their work, they listen to what others say of it but also use their own standards. Difficulties that they cannot overcome have a damaging effect on their generally positive attitude and the belief in their abilities. M5 turn to their parents for help, which they try to get by criticising their actions and belittling themselves. When talking about their discontinued education, they mention the activities they have undertaken. The parents of M5 know their friends, support them in becoming independent and teach them that actions have consequences. Rather than raising the issue of further education, they wait for M5 to decide what they want to do in life. M5 rarely mention their peers, even though they play a large role in the formation of their self-worth. Peers help M5 understand who they are and their place in the wider world. M5 are more realistic in assessing their achievements than M4 because they use to this end a combination of their own standards and external opinions.

Discussion

The analysis of 14-19-year-old dropouts revealed five modes of their functioning characterised by increasing complexity and show an association between the dropouts' relationships with the peers and the strength of their relationships with the parents. Age and specific behaviour were not found to be directly related to each other; the only pattern that was observed was that while the M₁-M₃ modes occurred in all age groups, M₄-M₅ were typical of 17-19-year-olds. The modes can be concisely summed up as follows. The parents of M₁ and M₂ do not take much interest in their children. As a result, M1 describe them in disparaging terms and M₂ idealise them when they cannot avoid talking about them. M₃ have parents who are only interested in their children's comfort of living; this attitude is used by M₃ to get from them the things they want and makes parental control illusory. All three groups of adolescents treat their parents as a means to their ends. M₁-M₃ lack safety and acceptance at school, and their parents are not interested in their education.

The parents of M₄ and M₅ are more attentive to their children; they are ready to support them without expecting anything in return and try to

make them realize that choices have consequences. The question of why their children drop out of school anyway cannot be answered without looking more closely at their families.

The parents of M_4 and M_5 struggle to reconcile two different parent-hood styles. The 'old' style, which they experienced themselves, emphasised control, subordination, and accountability. The contemporary style requires that children are provided with optimal developmental conditions (the parents should respond to their needs, be thoughtful, and accept them without expecting anything special in return). Having to choose between these conflicting visions of parenthood, they adopt a hybrid solution: they tell their children what they expect of them but in a soft, veiled manner. As for the young, the care and concern they receive from their parents make them feel that attending school is their responsibility; at the same time their carefree attitude, so typical of adolescence, the ubiquitous acceptance that one has the right to pursue their needs, and the vagueness of parents' expectations cause that they less benefit from social training. As a result, they miss the opportunity to learn how to cope with failures, a lack of acceptance, excessive self-criticism, and a tendency to underestimate one's achievements. Feeling overwhelmed by school and the sense of obligation towards their parents, M_4 and M_5 discontinue education to avoid dilemmas.

Relationships with parents and the quality of relationships with the peers

The peers of M_1 - M_3 play different roles in their lives. For M_1 , they are a counterweight to indifferent parents; M_2 use them to suppress their sense of inferiority, and M_3 need them to feel attractive and to have a sense of agency (Deković and Meeus, 1997). In the case of M_4 and M_5 who have caring parents, peers play a major role in the formation of their self-worth and a sense of effectiveness through direct comparisons (M_4) or as a point of reference in creating standards (M_5) (Heimpel, Elliot, and Wood, 2006). It is interesting that M_4 and M_5 obey the standards even after leaving school when their contacts with peers are less frequent and the relationships with the parents gain in importance.

None of the five groups of adolescents turned to parents for help in difficult situations, but for different reasons. M_1 - M_2 had dysfunctional parents who they did not trust. M_3 - M_5 did not want to trouble their parents even if they alluded that they would help them, hoping that their problems would vanish by themselves.

Between self-protection and self-regulation

The studied adolescents used different approaches to creating their image: M_1 - M_2 claimed that they had the characteristics valued by other people, M_3 alluded to their effectiveness and ability to manipulate their parents and peers to demonstrate their agency, and M_4 and M_5 emphasised that they met the standards of their milieu.

To divert criticism and protect themselves, M_1 and M_2 talked about their parents disparagingly, emphasised their difficult situation at home, or avoided saying anything that might show them as inferior to their peers. To be noticed and accepted, they pretended to have the characteristics valued by their peers. Like M_3 , they manipulated their parents and peers to have a sense of agency and control.

M_1 - M_3 talked about their abilities but remained passive or feigned activity. They did not confront their problems, in the hope that somebody else will solve them for them (Przybyła-Basista, 2016).

M_4 and M_5 were the only ones to actively tackle their problems. Their behaviours and actions give some insight into the genesis and mechanisms of their self-regulation. Both M_4 and M_5 create their self-image and self-worth based on the results of comparisons of their and peers' achievements. M_4 underestimate their successes and exaggerate failures; as a result, they blame themselves for incompetence and withdraw from activity for a time. For M_5 , unfavourable comparisons with others are an incentive to try harder. M_4 and M_5 are also different in that the former make direct comparisons between their and peers' performance, while the latter measure their performance using their own standards that create based on the peer group's standards. In both cases, the results of the comparisons regulate the behaviour of the adolescents.

M_4 rarely talked with the parents about their problems, even though they could be certain of their understanding and support. M_5 created their self-worth and rationalised their self-image based on their milieu's standards and feedback highlighting their strong and weak points.

Both M_4 and M_5 rarely had contact with their school peers after dropping out, and virtually all their close relationships were limited to their parents.

Between promises and solving problems

The studied adolescents varied in attitude to tasks and problems. M_1 - M_2 , who had inattentive and indifferent parents, avoided commitments and responsibility. They talked about their non-existent activity (M_1 - M_2) or

pretended to be active (M_3), hoping deep inside that someone would solve their problems for them. They treated their peers as a source of safety and security and frequently manipulated them to feel safe.

M_4 - M_5 solved their problems themselves using their own assessment of the situation and knowledge. When carrying out tasks similar to those they had done before, they planned, corrected mistakes, and adjusted strategies. However, outside of their comfort zone, they disregarded achievements and overemphasised failures that made them feel inferior to others. In both M_4 and M_5 , difficulties and excessive self-criticism triggered self-destructive behaviour, less violent in M_5 because of their more realistic image of themselves and the world.

M_5 adolescents were the only to have mentioned that they might go back to school or take a job.

Conclusion

The analysis of adolescent dropouts enabled the creation of a qualitative model showing the modes of their functioning in relationships with the parents and peers: from the rejection of the parents and attempts to find safety among the peers to efforts to improve the self-image by manipulating parents and peers and attempts to tackle problems with the support of the parents.

The model shows that peers play an important role in the development of adolescents, which is not always recognised by adults. Whether they come from dysfunctional families or have caring parents, adolescents need the attention of their peers to feel safe, effective, and to have a sense of self-worth. After dropping out of school, they have less contact with their peers and, consequently, fewer opportunities to gain social experiences. The lack of appropriate social skills and the reluctance to being compared are a hindrance to their functioning in society.

Research into the functioning of adolescent dropouts and their relationships with the parents and peers helps understand their problems, difficulties, and dilemmas. The knowledge of them is vital to designing support programmes for teenagers who at risk of dropping out or who have already given up schooling. The model of adolescents' functioning in their school, family, and peer settings presented in this study gives clues as to how the programmes can be made more effective, as well as providing a foothold for further research into the problems of young people.

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