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# Development and psychometric properties of the Avoidance Questionnaire for Adolescents (AQA)

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Most questionnaires construe avoidance as resulting from a problem-solving process and analyse only a few, single-factor and mostly non-adequate, forms of avoidance. The aim of the present study was to develop a multi-dimensional questionnaire to measure avoidance among adolescents. We tested the Avoidance Questionnaire for Adolescents (AQA) with 12-, 15- and 18-year-olds to measure most forms of avoidance in social problem-solving as well as to shed light on the relationships between the sub-processes of social problem-solving. Exploratory factor analysis (EFA) was employed to examine the measure's factor structure, while confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used to support the theoretical process model of avoidance. The convergent and discriminative validity of the AQA was tested in relation to the Social Problem-Solving Inventory–Revised (SPSI–R). Two versions (a long version of 42 items and a short version of 23 items) of the 11-factor AQA were developed in accordance with the results. The long and short versions were found to be valid measures of problem-solving with regards to negative thoughts, feelings and physical symptoms; negative self-efficacy/insolvability; prevention; annulation; ignoring the problem; expectation/diversion; mulling; procrastination/rethink; stopping/subordination; external pressure; and asking for help. The factors show positive or negative correlations with the SPSI–R factors. The results of the SEM support the original process model. Based on earlier Hungarian research carried out with the SPSI–R, avoidance shows a tendency to increase in adolescence. In contrast, the results of the AQA show that the earliest age differences occur in the ignoring the problem, procrastination, stopping, diversion and expectation factors.

**Keywords**: avoidance, adolescents, questionnaire, problem-solving, validity

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**Introduction**

There are several definitions of avoidance (e.g., Elliot, Eder, & Harmon-Jones, 2013; D'Zurilla et al., 2004); however, there is no unified, widely accepted one to date, which embraces the wide scope of these definitions (including reason, aim, type and emotional-cognitive-behavioural manifestation). Most definitions of avoidance deal with the reason and aim of avoidance, what or who is avoided, and how avoidance is carried out (Eskin, 2013).

The reason and aim of avoidance are often interpreted along the lines of approximating and distancing motives, with approximating motives contrasting with distancing motives (Elliot et al., 2013). According to Elliot (2006), the driving force of avoidance is that people want to distance themselves from somebody or something. They would like to prevent encounters with the unwanted person or experience and the tension that comes with such an occurrence. The aim of avoidance is to keep away from an occurrence or stop an activity which is uncomfortable for the individual, makes her/him sad or feel ashamed, or causes frustration. In addition to being accompanied by a positive feeling, distancing may bear a preventive aspect by putting off the chance of the individual of ending up in an uncomfortable situation and preventing a feeling of unpleasantness (Elliot, 2006).

Antony and Stein (2008) distinguished between total and partial avoidance as well as escape. Total avoidance means that individuals avoid situations where they know or suspect that somebody poses a threat to them. Antony and Stein (2008) think there is a high likelihood of them not being able to handle a problem. If there is no possibility of total avoidance, they may flee the unpleasant or fear-inducing situation. In the case of partial avoidance, people do something that isolates them from the situation while they remain in it physically. They may use this isolation to gather their strength and think over their options. Thus, avoidance cannot always be interpreted as a dysfunctional behaviour (Antony & Stein, 2008).

Borkovec, Ray and Stober (1998) analysed the characteristics of thought before, during and after avoidance. They concluded that avoidance often comes with a high degree of worrying, during which some people treat future dangers as more abstract, verbal-based thoughts and avoid higher-tension emotional processing and the attendant mental imagery. As Hayes, Strosahl and Wilson (1999) observed, despite the frequent negative consequences, people quite often display avoidance, a tendency which may be due to the negative reinforcement caused by avoidance. In the short run, it brings relief, the individual senses that her/his situation and the way she/he feels is improving because of avoidance, and, as a result, preference for avoidance strengthens. These situations, thoughts, feelings and experiences are not necessarily negative and not always problem-related. However, reacting effectively is difficult. On the other hand, quite often, it is the individual who attributes these thoughts, feelings and memories to problems; therefore, their solution will not be effective due to the routine behaviour of avoidance (Hayes et al., 1999).

Avoidance is a process which can be interpreted along the lines of the general process of social problem-solving (D'Zurilla et al., 2004; D'Zurilla & Nezu, 2007). The problem orientation phase is followed by taking options into consideration and selecting a solution which seems appropriate and implementing it. The solution can be followed by retrospective evaluation, which may impact the analysis and solution of future problems. D'Zurilla et al. (2004) see this as a conscious process; however, they point out that the

avoidance process may be influenced, modified and aborted by automatically emerging thoughts and emotions (Frauenknecht & Black, 2010).

Avoidance has a negative orientation basis (D'Zurilla et al., 2004); as a social problem-solving style, it does not merely entail a failure to face the problem and one's motivation to overcome the features of the problem, but rather procrastination and a complete failure to solve the problem. This is due to the small degree of taking responsibility and the desire to mitigate the unpleasant feeling or thought of the problem. Most forms of avoidance (e.g., escape and annulation) are generally regarded as not adequate problem-solving strategies.

*Measuring avoidance*

Most assessments of avoidance regard avoidance as a result of a problem-solving process and analyse only a few and mostly non-adequate forms of avoidance. Selecting a form of avoidance, however, is not always conscious and is strongly related to the person and the situation (Frauenknecht & Black, 2010). The preventive characteristic of avoidance is only used in a few instruments (e.g., procrastination due to a rethink) (Heppner & Petersen, 1982). The forms of avoidance measured mostly consist of one factor (e.g., SPSI–A, Frauenknecht & Black, 2010; SPSI–R, D'Zurilla et al., 2002), thus neither providing a detailed picture of forms of avoidance separately nor revealing their relationships. Some of the questionnaires measure avoidance with affective, behavioural and cognitive items (e.g., PF–SOC, Heppner, Cook, Wright, & Johnson, 1995). There are some instruments which measure cognitive avoidance strategies and emotions in connection with conflict behaviour (e.g., ACBS, Ubinger, Handal & Massura, 2012; CAQ, Sexton & Dugas, 2008).

The results on the functioning of avoidance are varied. A considerable discrepancy has been identified in comparative studies between European and American students in the forms and frequency of avoidance; this can mostly be explained by cultural characteristics and effects of the family (D'Zurilla et al., 2002). Twelve to seventeen-year-olds born and raised in Germany (Graf, 2003), Spain and the USA (Maydeu-Olivares et al., 2000) showed a higher degree of impulsivity which was not coupled with the same level of avoidance as in the case of American adolescents, who are more characterised by certain forms of avoidance since the onset of adolescence (e.g., procrastination).

The Hungarian findings from the cross-sectional and longitudinal studies with the SPSI–R (Kasik, 2014) and SPSI–A (Kasik & Gál, 2017) show that avoidance is less typical of 7- to 12-year-olds than of 12- to 18-year-olds (the results of the longitudinal studies confirmed the data from the cross-sectional studies). The frequency of forms of avoidance (ignoring the problem, procrastination, stopping, diversion and expectation) measured with one item at a time slightly increases until adolescence, when this growth intensifies based on both students' self-assessments and their mothers' and teachers' opinions. However, since all these forms of avoidance make up one factor (avoidance), research conducted with these instruments do not provide an insight into the individual characteristics of the different forms of avoidance at different ages or how they change with increasing age.

**Present study**

The aim of the present study was (1) to develop the Avoidance Questionnaire for Adolescents (AQA), which measures the different forms of avoidance in the problem-solving process; (2) to examine the fit of the theoretical process model with structural equation modelling (SEM); (3) to examine the convergent and discriminative validity of the AQA; and (4) to examine the age differences of avoidance among 12-, 15- and 18-year-olds. In Study 1 (2015) we created a theoretical framework and a process model to understand avoidance as a process within social problem-solving (e.g., Sexton & Dugas, 2008). In Study 2 (2016), based on Study 1, we developed the AQA and used EFA to examine its factor structure among 12- to 18-year-olds. We investigated its convergent and discriminative validity with the SPSI–R (D'Zurilla et al., 2002). In Study 3 (2017), we used CFA to confirm the factor structure among 12- to 18-year-olds and SEM to confirm the theoretical process model of avoidance.

***Study 1 (2015)***

Based on the previous studies, we created a theoretical framework (Table I) consisting of four main factors (negative orientation, experiences, change and forms of avoidance), with each factor consisting of a number of sub-factors. *Negative orientation* consists of negative feelings, thoughts and/or behaviour, *experiences* includes past experiences such as knowledge, facts, customs, rules and modes of problem-solving, *change* refers to how avoidance can be altered and modified in the problem-solving process, and *forms of avoidance* consists of eleven forms of avoidance.

Avoidance is a process which can be interpreted along the lines of the general process of social problem-solving (D'Zurilla et al., 2004). We identified six parts of the process model of avoidance (Figure 1), namely, experiences, negative orientation, prevention, does not begin problem-solving, begins problem-solving by her-/himself, and begins problem-solving due to others. Negative experience and behavioural patterns define negative orientation ($A_1$). Negative experiences and negative orientation often result in the prevention of problems ($A_2$), and a failure to begin to look for a solution in addition to different forms of avoidance usually culminate in non-effective problem-solving ($A_3$). Based on negative experiences and negative orientation, problem-solving can express itself in forms of avoidance which contain the possibility of an effective solution. This can be due to individual decision ($A_4$) or to others' influence ($A_5$). There is a possibility for the individual to change and start dealing with the problem with support from others ($A_6$) or due to others ($A_7$) even if this manifests itself as a form of avoidance.

**Table I. Theoretical framework: Factors and sub-factors (Study 1, 2015)**

| Main factors | Sub-factors | Number of items |
|---|---|---|
| Negative orientation | **Negative positioning of the problem:** social problems are bad for the person | 4 |
| | **Insolvability:** the problem is seen as a negative, ruinous, damaging phenomenon and bears a strong correlation with the thought of problems being unsolvable | 4 |
| | **Negative self-efficacy:** insolvability often stems from how we evaluate ourselves | 4 |
| Experiences | **Environmental example:** avoidance behaviour among the main actors (e.g., parents and teachers) in one's environment | 4 |
| | **Memories/Negative thoughts:** negative memories related to earlier problem-solving, including thoughts | 4 |
| | **Memories/Negative feelings:** negative memories related to earlier problem-solving, including feelings | 4 |
| | **Negative physical symptoms:** problem-solving is strongly related to physical symptoms (e.g., headache) | 4 |
| Forms of avoidance | **Prevention:** past experiences play an important role in one's escape from problems and making an effort to lead a life in which one ends up in the least possible number of problematic situations | 4 |
| | **Escape:** manifestation of general avoidance in a given situation paired with characteristics of a particular situation and reactions to them | 4 |
| | **Annulation:** total diversion, similarly to negative emotion- and thought-fuelled nullification, considering the problem as not existing | 4 |
| | **Ignoring the problem:** omitting and failing to deal with the problem | 4 |
| | **Diversion:** pursuing other activities, which is often some kind of pleasant activity, to lessen the number of thoughts and feelings related to the problem | 4 |
| | **Mulling:** putting off solving the problem and speculating about possible solutions paired with considerable rationality, that is, concentrating on the problem and its solution | 4 |
| | **Procrastination:** putting off the problem – in most cases because of negative orientation and self-efficacy – rather than evaluating the possibilities and the solution | 4 |
| | **Rethink:** preparing a solution during this time | 4 |
| | **Expectation:** the problem will be solved either by itself or by others, but this can turn into activity which may result in any mode of problem-solving. Expectation may result in the problem actually being solved by others or by itself. | 4 |
| | **Stopping:** deciding not to deal with the problem and excluding oneself from it | 4 |
| | **Passivity:** individual starts to solve the problem, but later s/he becomes an observer with the purpose of ceasing the unpleasant situation with the least effort; this is often coupled with a subordinate role of following the advice of someone else so as to leave the problematic situation as early as possible. | 4 |
| Change | **Asking for help:** individual decides on her/his own that s/he will try to solve the problem with somebody else's support | 4 |
| | **External pressure:** the shift from one form of avoidance to another which can also be caused by an external factor, and the individual may arrive at this decision on her/his own as well | 4 |

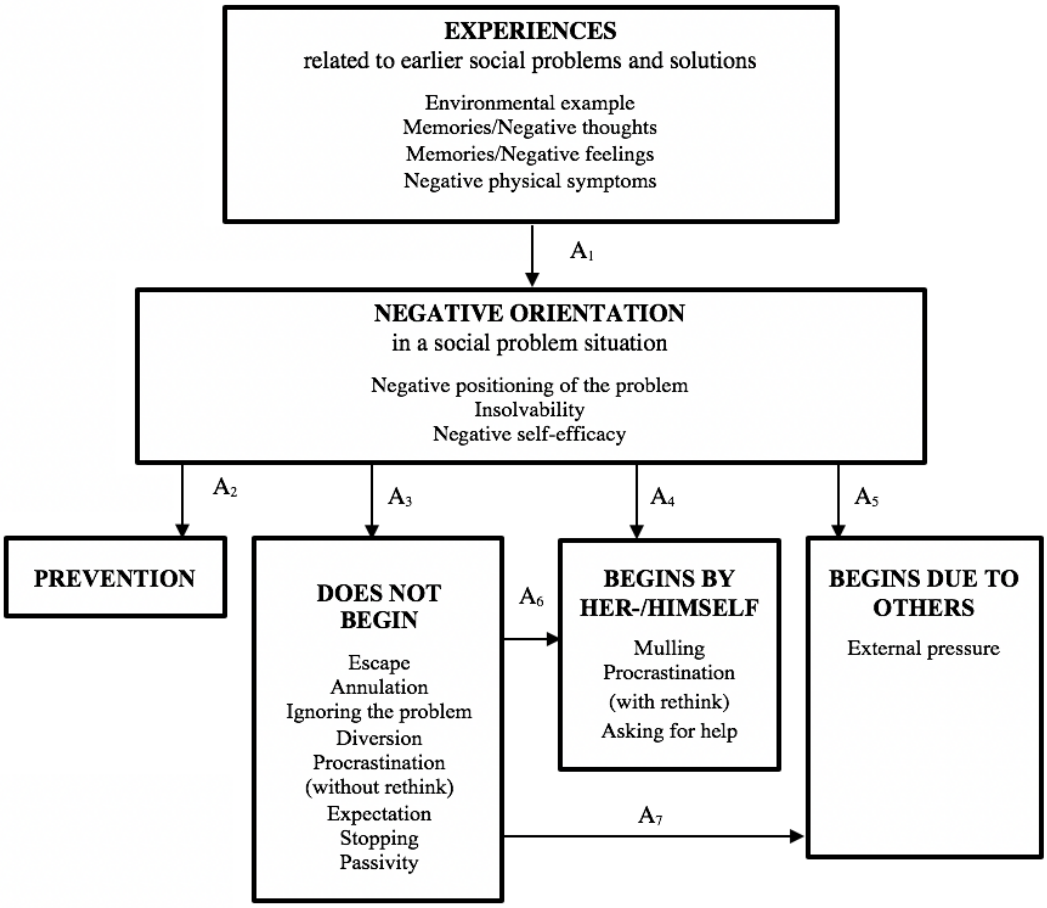


**Figure 1. Process model of avoidance as a social problem-solving style**

***Study 2 (2016)***

*Item construction*

Based on the theoretical model, four statements were formulated for all factors by each member of a five-member group of psychologists and researchers (see Table I). Furthermore, 50 12-year-old (23 boys/27 girls), 15-year-old (24 boys/26 girls) and 18-year-old (25 boys/25 girls) students were selected (based on our previous studies in which these age groups showed increasing tendencies on the SPSI–R avoidance factor, Kasik, 2014) and asked to formulate two statements for each factor. These statements were discussed in a focus group (children, developmental psychologists and researchers), and, based on a list created from the common items collected from the students and the focus group, the authors formulated 80 statements for all the factors.

*Participants*

The AQA was calibrated among 12- (N=243 M=12.11 SD=.57), 15- (N=248 M=15.07 SD=.45) and 18-year-old (N=250 M=17.66 SD=.44) Hungarian students ($N_{total}$=733, $girls_{12,\ 15,\ 18}$ =58, 54, 57%, $boys_{12,\ 15,\ 18}$ =42, 46, 43%). All students were native Hungarian speakers. Choosing these age groups was influenced by the results of earlier studies carried out with 8- to 18-year-olds (Kasik, 2014; Maydeu-Olivares et al., 2000). The earlier

results show that the SPSI–R factors change at these ages. The whole sample was representative according to the mother's educational level, and the differences between the sub-samples were not significant.

Students evaluated each of the 80 statements on a scale ranging from 0 to 4 (0=absolutely not true for me, 1=somewhat true for me, 2=moderately true for me, 3=very true for me, and 4=absolutely true for me). The pencil-and-paper survey (and the next round of data collection after two weeks) had the informed consent of the heads of the institutions, form teachers and parents.

*Measure*

To analyse the convergent and discriminative validity of the AQA, the students (N=733) also completed the SPSI–R (D'Zurilla et al., 2002; Hungarian version: Kasik, 2014). The SPSI–R measures positive and negative orientation towards the problem and its solution (positive and negative orientation) and the characteristics of the problem-solving styles of rationality (putting the facts into the centre, focusing on connections and consequences), impulsivity (placing feelings in the centre), and avoidance (avoiding the problem and putting off solving it). SPSI–R includes 25 statements (five items/factor), which are evaluated on a scale of 0 to 4 (the meaning of the numbers is identical to those in the AQA). Like earlier measurements, the Hungarian version of the SPSI–R had good reliability with all age groups. The Cronbach's alpha for the three age groups ranges from .86 to .90, indicating good internal consistency between the items.

*Statistical analysis*

To determine the possibility of the EFA of the data (with SPSS 24), we used Bartlett's sphericity test and Kaiser–Meyer–Olkin's sample adequacy measure (Table II). Cronbach's $\alpha$ was used to measure the reliability of internal consistency, acceptable from a value of .7 (Nunnally, 1978). We used ANOVA to investigate age differences and the Kruskal–Wallis test to determine whether samples originate from the same distribution. During the correlation analysis, we used Pearson's r with the z-test.

*Results*

Factor analysis resulted in a 42-item questionnaire (AQA–L) for all age groups (see Appendix A). The items loaded into 11 factors. Items with low factor loadings (.40 and below) were omitted as well as those where the cross load was above this value. To develop a shorter questionnaire (AQA–S), a factor analysis was carried out with the two items (with three items in the case of negative thoughts, feelings, physical symptoms) with the biggest factor load. The reliability and validity indices of the questionnaires were good (Table II). Since the temporary stability of both versions was satisfactory (Table III), the age differences of the repeated measurement are not presented here.

**Table II. Reliability and validity of AQA (Study 2, 2016)**

| Factor/Total AQA | Number of items on long (short) version | Cronbach's α | | | | | |
|---|---|---|---|---|---|---|---|
| | | Long version (42 items) | | | Short version (23 items) | | |
| | | 12-year-olds | 15-year-olds | 18-year-olds | 12-year-olds | 15-year-olds | 18-year-olds |
| Negative thoughts, feelings, physical symptoms | 6(3) | .71 | .85 | .80 | .70 | .69 | .67 |
| Negative self-efficacy/insolvability | 3(2) | .74 | .76 | .87 | .71 | .83 | .75 |
| Prevention | 5(2) | .80 | .86 | .87 | .80 | .80 | .82 |
| Annulation | 3(2) | .75 | .78 | .80 | .73 | .73 | .74 |
| Ignoring the problem | 3(2) | .63 | .69 | .72 | .64 | .65 | .70 |
| Expectation/diversion | 4(2) | .76 | .75 | .73 | .72 | .81 | .87 |
| Procrastination/rethink | 3(2) | .66 | .71 | .80 | .69 | .71 | .74 |
| Mulling | 5(2) | .86 | .86 | .87 | .81 | .79 | .81 |
| Stopping/subordination | 3(2) | .73 | .80 | .77 | .82 | .77 | .71 |
| External pressure | 3(2) | .76 | .78 | .80 | .72 | .77 | .75 |
| Asking for help | 4(2) | .88 | .81 | .82 | .88 | .85 | .87 |
| Total AQA | 42(23) | .87 | .88 | .90 | .81 | .82 | .82 |
| KMO | | .82 | .79 | .77 | .73 | .77 | .73 |
| Bartlett | | 5552.31 | 3867.80 | 4317.51 | 2203.10 | 2637 | 2823.71 |
| df | | 861 | 861 | 861 | 253 | 253 | 253 |
| p | | .000 | .000 | .000 | .000 | .000 | .000 |
| Total variance (%) | | 62.14 | 63.75 | 65.28 | 81.16 | 82.54 | 80.14 |

**Table III. Correlations between the first and second results of data collection (Study 2, 2016)**

| Factor | r 12-year-olds L/S | r 15-year-olds L/S | r 18-year-olds L/S |
|---|---|---|---|
| Negative thoughts, feelings, physical symptoms | .61/.62 | .56/.54 | .52/.55 |
| Negative self-efficacy/insolvability | .60/.57 | .53/.57 | .59/.62 |
| Expectation/diversion | .52/.57 | .51/.56 | .52/.55 |
| Procrastination/rethink | .51/.54 | .52/.55 | .63/.65 |
| Prevention | .59/.57 | .64/.65 | .59/.55 |
| Annulation | .62/.59 | .54/.60 | .57/.57 |
| Ignoring the problem | .60/.61 | .58/.61 | .49/.48 |
| Mulling | .65/.64 | .61/.62 | .61/.63 |
| Stopping/subordination | .61/.57 | .59/.56 | .62/.65 |
| External pressure | .45/.50 | .42/.44 | .41/.47 |
| Asking for help | .63/.62 | .61/.57 | .63/.65 |

*Note*. Pearson r; in all cases p<.05; L/S=Long version/Short version

The items that express support or cause for negative thoughts, feelings and physical symptoms related to problem-solving and the original three factors are now grouped into one factor. Negative self-

efficacy/insolvability displays a distrust on the part of the individual in solving her/his problems: he/she thinks that (s)he is incapable of doing something to effect a solution and believes that her/his problems are unsolvable. Stopping/subordination means that the individual took on a subordinate role to spend less time dealing with the problem, to be able to stop it, to complete the problem-solving process, to arrive at a solution, to withdraw, and, towards this end, takes the other person's side and does not argue with her/him even if (s)he actually believes that the other person is not right. Prevention refers to engaging in the appropriate behaviour, according to the individual, to prevent the emergence and experience of problems, arguments and conflicts. Items related to mulling express one's speculation about the problem over a longer time. Expectation/diversion means that the individual does not want to solve her/his problem, (s)he expects that it will solve itself, and (s)he does something else instead of solving the problem to divert her/his attention. Procrastination/rethink, annulation, ignoring the problem, external pressure and asking for help consist of their original items (Table I).

In both AQA–L and AQA–S, the same four age discrepancies were identified (Table IV). External pressure is most typical of 12-year-olds and least typical of 18-year-olds. Prevention and stopping/subordination are more common among 12-year-olds, while annulation and procrastination/rethink are more characteristic of 18-year-olds. Asking for help and negative self-efficacy/insolvability are more general among 12- and 15-year-olds, and mulling is more among 15- and 18-year-olds. We found no significant age-related difference in negative thoughts, feelings and physical symptoms, ignoring the problem, and expectation/diversion.

The Kruskal–Wallis test indicate that the medians of the age groups are significantly different in annulation, stopping/subordination, external pressure, asking for help, prevention and mulling (all $p<.05$), but not significant in expectation/diversion, ignoring the problem, procrastination/rethink, negative self-efficacy/insolvability, and negative thoughts, feelings and physical symptoms. ANOVA three factors (expectation/diversion, ignoring the problem and negative thoughts, feelings and physical symptoms) show no significant age differences, and the medians are not significantly different according to the Kruskal–Wallis test.

Table V shows the correlations between the AQA–L and SPSI–R (the short version yielded similar results, so it will not be discussed). The AQA factors are significantly related to the avoidance factor (SPSI–R), except for prevention. The z-test (in bold in Table V, $p<.05$) shows significant difference between 12- and 15-year-olds in annulation–avoidance ($z=1.15$), mulling–negative orientation ($z=1.72$) and asking for help–negative orientation ($z=1.30$). There is a significant difference between 12- and 18-year-olds in ignoring the problem–avoidance ($z=-1.47$), mulling–negative orientation ($z=1.13$), asking for help–negative orientation ($z=1.10$) and negative self-efficacy/insolvability–negative orientation ($z=-1.34$), and between 15- and 18-year-olds in negative self-efficacy/insolvability–negative orientation ($z=-1.55$), negative self-efficacy/insolvability–impulsivity ($z=-1.25$), negative self-efficacy/insolvability–avoidance ($z=-1.61$), neglect–avoidance ($z=-1.67$), and asking for help–positive orientation ($z=-1.75$).

**Table IV. Age differences (Study 2, 2016)**

| Factor | Long version (42 items) | | | | Short version (23 items) | | | |
|---|---|---|---|---|---|---|---|---|
| | 12-year-olds | 15-year-olds | 18-year-olds | ANOVA F(p) | 12-year-olds | 15-year-olds | 18-year-olds | ANOVA F(p) |
| | M(SD) | M(SD) | M(SD) | | M(SD) | M(SD) | M(SD) | |
| Negative thoughts, feelings, physical symptoms | .65(.64) | .71(.75) | .76(.88) | 1.57(.20) | .74(.77) | .67(.72) | .66(.66) | 1.62(.28) |
| Negative self-efficacy/insolvability | .54(.84) | .56(.83) | .42(.76) | 1.51(.05) | .52(.85) | .46(.77) | .33(.69) | 2.83(.04) |
| Expectation/diversion | 1.2(.95) | 1.10(.84) | 1.25(.86) | 1.18(.30) | 1.01(.94) | .97(.98) | 1.11(1.08) | 1.61(.20) |
| Procrastination/rethink | 1.39(.90) | 1.50(.92) | 1.78(.91) | 6.32(.01) | 1.45(1.02) | 1.56(1.01) | 1.82(.99) | 8.20(.001) |
| Prevention | 2.26(1.13) | 2.11(1.05) | 1.87(1.01) | 4.11(.03) | 2.30(1.16) | 2.02(1.21) | 1.87(1.21) | 8.95(.000) |
| Annulation | 1.03(1.09) | 1.11(1.02) | 1.33(1.01) | 5.05(.03) | 1.17(.95) | 1.32(1.05) | 1.83(1.05) | 3.98(.03) |
| Ignoring the problem | .62(.76) | .78(.74) | .85(.83) | .49(.61) | .60(.80) | .59(.80) | .56(.78) | .15(.83) |
| Stopping/subordination | 1.22(1.01) | .83(.95) | .94(.95) | 11.59(.000) | 1.28(1.18) | .88(1.03) | .84(.95) | 13.74(.000) |
| Mulling | 1.39(.98) | 1.72(1.02) | 1.91(1.04) | 12.79(.000) | 1.33(1.07) | 1.66(1.15) | 1.81(1.16) | 12.31(.000) |
| External pressure | 2.34(1.06) | 1.89(1.07) | 1.41(1.12) | 16.45(.000) | 2.40(1.16) | 2.22(1.16) | 1.84(1.15) | 18.63(.000) |
| Asking for help | 1.34(1.05) | 1.37(.95) | 1.20(.94) | 10.14(.000) | 1.48(1.18) | 1.38(1.13) | 1.14(1.02) | 7.46(.001) |

**Table V. Relationship between AQA–L and SPSI–R (Study 2, 2016)**

| AQA | Sub-sample | SPSI–R | | | | |
|---|---|---|---|---|---|---|
| | | Positive orientation | Negative orientation | Rationality | Impulsivity | Avoidance |
| Negative thoughts, feelings, physical symptoms | 12 | -.29 | .63 | n.s. | n.s. | n.s. |
| | 15 | n.s. | .56 | -.13 | .21 | .23 |
| | 18 | n.s. | .47 | -.15 | .22 | .19 |
| Negative self-efficacy/insolvability | 12 | -.15 | **.22** | n.s. | .20 | .21 |
| | 15 | -.12 | **.21** | n.s. | **.16** | **.13** |
| | 18 | -.17 | **.34** | n.s. | **.24** | **.27** |
| Expectation/diversion | 12 | -.14 | n.s. | n.s. | n.s. | n.s. |
| | 15 | n.s. | .11 | n.s. | .13 | .34 |
| | 18 | n.s. | .20 | n.s. | .17 | .27 |
| Procrastination/rethink | 12 | -.17 | n.s. | .18 | .12 | .15 |
| | 15 | -.15 | n.s. | .20 | .10 | .11 |
| | 18 | -.17 | n.s. | .17 | .11 | .13 |
| Prevention | 12 | n.s. | .14 | .11 | n.s. | n.s. |
| | 15 | -.10 | .18 | .10 | n.s. | n.s. |
| | 18 | -.13 | .23 | .11 | n.s. | n.s. |
| Annulation | 12 | n.s. | .20 | n.s. | n.s. | **.42** |
| | 15 | n.s. | .19 | n.s. | .10 | **.29** |
| | 18 | n.s. | .22 | n.s. | .12 | .34 |
| Ignoring the problem | 12 | -.30 | .44 | n.s. | n.s. | **.23** |
| | 15 | n.s. | .25 | n.s. | .12 | .28 |
| | 18 | n.s. | .30 | n.s. | .18 | **.35** |
| Stopping/subordination | 12 | n.s. | .11 | n.s. | .13 | .12 |
| | 15 | n.s. | .27 | n.s. | .23 | .17 |
| | 18 | n.s. | .23 | n.s. | .22 | .13 |
| Mulling | 12 | n.s. | **-.54** | n.s. | n.s. | n.s. |
| | 15 | -.15 | **-.12** | .12 | .15 | .20 |
| | 18 | -.16 | **-.27** | .13 | .14 | .22 |
| External pressure | 12 | .24 | n.s. | n.s. | n.s. | -.12 |
| | 15 | .15 | n.s. | n.s. | .12 | -.14 |
| | 18 | n.s. | n.s. | .11 | .11 | -17 |
| Asking for help | 12 | .26 | **-.38** | n.s | -.15 | -.12 |
| | 15 | **.17** | **-.23** | .12 | -.13 | -.10 |
| | 18 | **.30** | **-.19** | .18 | -.12 | -.14 |

*Note.* n.s.=not significant; in all cases p<.05; bold=significant difference (p<.05) based on the z-test

***Study 3 (2017)***

*Participants*

New data was collected from 12- (N=310 M=12.13 SD=.78), 15- (N=301 M=15.07 SD=.45) and 18-year-olds (N=341 M=18.11 SD=.51) in 2017 ($N_{total}$=952, $girls_{12,\ 15,\ 18}$ =54, 55, 56%; $boys_{12,\ 15,\ 18}$ =46, 45, 46%). The

whole sample was representative according to the mother's educational level (the differences between the age groups were not significant: $\chi^2$=21.19 p=.25).

*Statistical analysis*

The CFA of the long and short versions of the AQA was carried out with Mplus 6.11 (Muthén & Muthén, 2010). We used weighted least squares, mean and variance-adjusted (WLSMV) estimation, and theta parameterisation (Maximum Likelihood). The fitness of the model was examined with the Tucker–Lewis Index (TLI) – with the relative fit index, non-centrality-based fit index and comparative fit index (CFI), and two absolute fit indices (RMSEA and SRMR). The pertinence of the model is indicated by CFI and TLI index values above .90 and .95 as well as the RMSEA value being lower than .06 or .08 (Byrne & Stewart, 2006), and the SRMR lying between .07 and .09 (e.g., Bagozzi, 2010). The Chi-squared statistic is not very useful for large data sets (Schumacker & Lomax, 2004). SEM was used to support the theoretical process model of avoidance (Dodge, 2003), combining the age samples collected in 2016 and 2017 (N=1,685).

*Results*

There was satisfactory model alignment in AQA–L : 12: $\chi^2$=1280.62 p<.001 df=724 $\chi^2$/df=1.76 CFI=.92 TLI=.91 RMSEA=.05 (p<.11) SRMR=.06; 15: $\chi^2$=1115.56 p<.001 df=724 $\chi^2$/df=1.54 CFI=.93 TLI=.92 RMSEA=.04 (p<.98) SRMR=.06; 18: $\chi^2$=1356.06 p<.001 df=724 $\chi^2$/df=1.87 CFI=.91 TLI=.91 RMSEA=.05 (p<.39) SRMR=.05; whole sample: $\chi^2$=1665.81 p<.001 df=724 CFI=.94 TLI=.94 RMSEA=.04 (p<1.00) SRMR=.04.

The model alignment was also satisfactory in the case of the AQA–S: 12: $\chi^2$=349.31 p<.001 df=197 $\chi^2$/df=1.77 CFI=.92 TLI=.91 RMSEA=.05 (p<.11) SRMR=.05; 15: $\chi^2$=298.59 p<.001 df=197 $\chi^2$/df=1.52 CFI=.96 TLI=.94 RMSEA=.04 (p<.89) SRMR=.05; 18: $\chi^2$=314.01 p<.001 df=197 $\chi^2$/df=1.59 CFI=.95 TLI=.94 RMSEA=.04 (p<.94) SRMR=.05; whole sample: $\chi^2$=458 p<.001 df=197 CFI=.97 TLI=.96 RMSEA=.31 SRMR=.03.

In the 2017 survey, age-related differences were the same as in Study 2 with one exception. All three age groups significantly differed in mulling ({12}<{15}<{18}) both on the AQA–L (F=11.77 p=.001) and AQA–S (F=15.34 p=.000).

The theoretical process model was confirmed with SEM for all sub-samples in the case of the AQA–L. The theoretical process model had reasonably acceptable fit indices. However, the paths from Factors II, III and IV to Factor V were not significant in the case of 12-year-olds. The paths from Factor I to Factor VI and from Factors IV and III to Factor V were not significant for 15- and 18-year-olds.

These paths were refined, and the model was re-estimated. It should be noted that there is a significant path in the two older subgroups from Factor II to Factor VI. The goodness-of-fit indices for re-estimated models were consistent with the theoretical model, and these were accepted as the final models (Figures 2–4): 12: $\chi^2$=1475.49 p<.001 df=759 $\chi^2$/df=1.94 CFI=.84 TLI=.82 RMSEA=.06 (p<.00) SRMR=.09; 15: $\chi^2$=1244.26 p<.001 df=759 $\chi^2$/df=1.64 CFI=.94 TLI=.93 RMSEA=.04 (p<1.00) SRMR=.06; 18:

$\chi^2$=1554.55 p<.001 df=759 $\chi^2$/df=2.05 CFI=.92 TLI=.91 RMSEA=.04 (p<1.00) SRMR=.07; whole sample: $\chi^2$=2322.10 p<.001 df=762 $\chi^2$/df=3.05 CFI=.92 TLI=.91 RMSEA=.04 SRMR=.07.

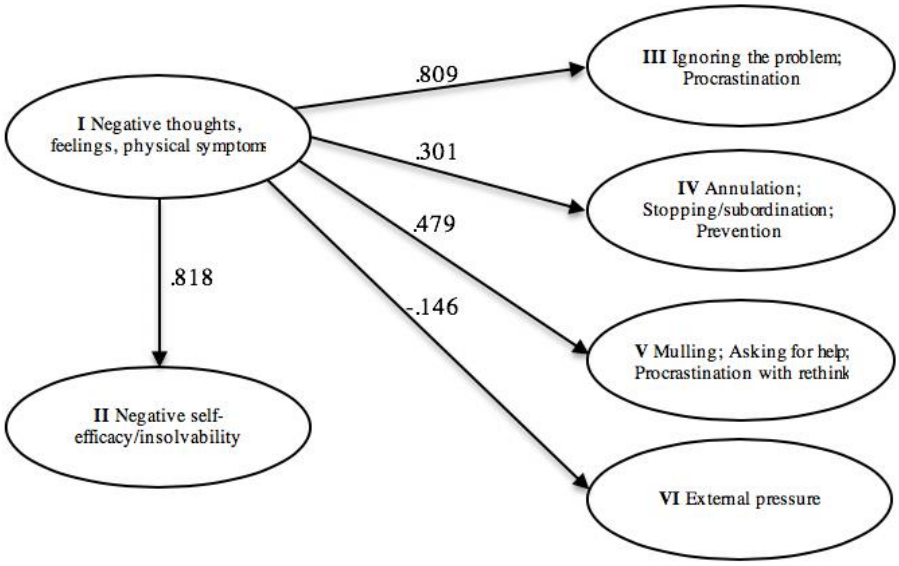


**Figure 2. Results from path analysis: significant correlations, 12-year-olds (Study 3, 2017)**

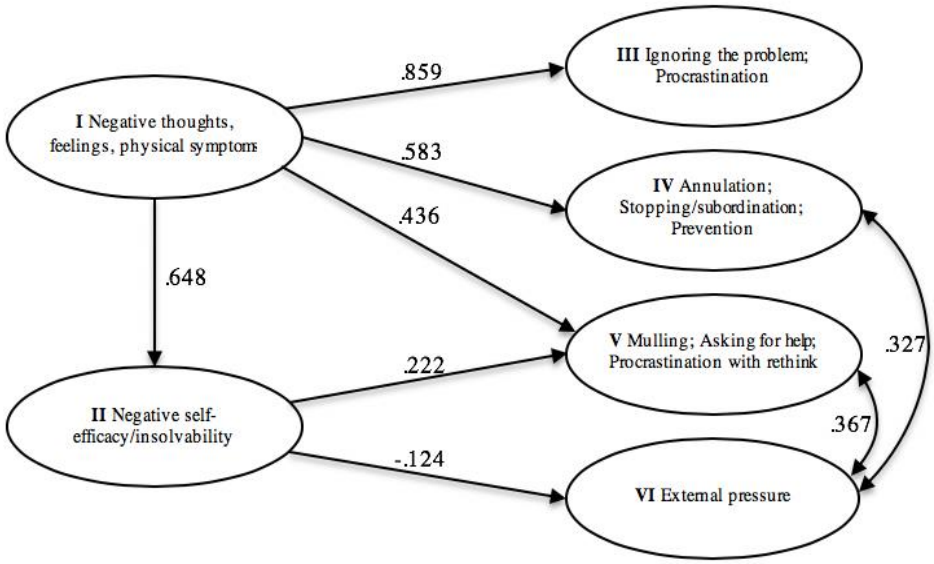


**Figure 3. Results from path analysis: Significant correlations, 15-year-olds (Study 3, 2017)**

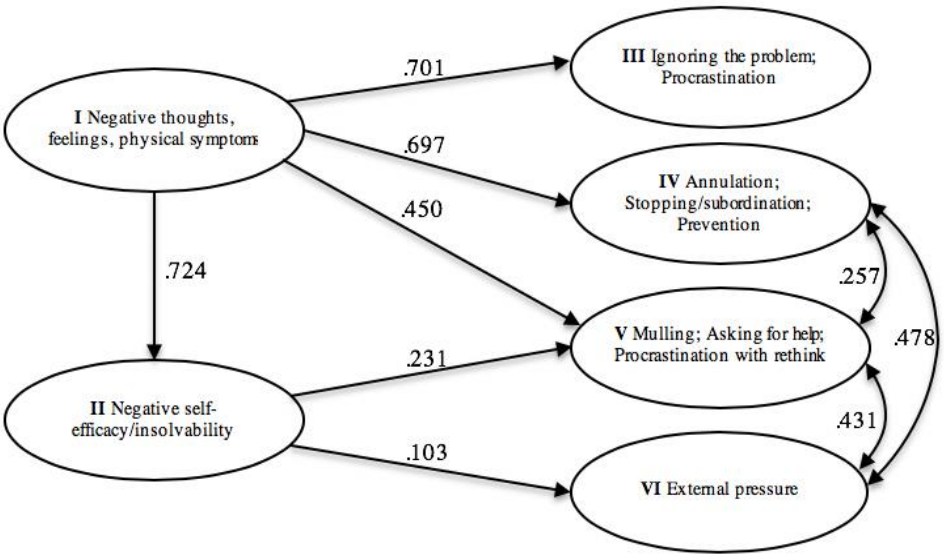


**Figure 4. Results from path analysis: Significant correlations, 18-year-olds (Study 3, 2017)**

**Discussion**

The international and Hungarian results on the functioning and development of forms of avoidance are varied (e.g., Graf, 2003; Kasik, 2014). With regards to age differences, the present data does not wholly support earlier findings (e.g., Kasik, 2014), underlining that measuring avoidance with only one factor does not provide a detailed and reliable picture of avoidance.

The findings suggest that negative thoughts, feelings and physical symptoms, ignoring problems and procrastination to divert attention, can be regarded as avoidance characteristics of adolescence. Procrastination to rethink increases with age, a trend which may be due to the growing use of cognitive strategies to process a problem as a negative experience (e.g., analysis and restructuring, Dalgleish, 2004). The different development of the two forms of procrastination may also occur due to changes in the frequency and quality of the rational problem-solving style. In particular problem situations, procrastination occurs so that the individual can prepare for the most adequate solution – here, procrastination cannot be seen as dysfunctional (with regard to its intention, not its result). This is supported by numerous research results which indicate that the frequency of rational problem-solving (e.g., considering more opportunities) increases during adolescence (e.g., D'Zurilla et al., 2002; Kasik, 2014). In the present study, the correlations of rethink and rationality are between .17 and .20. Furthermore, the data shows that annulation also gains prominence in adolescence. The nature of the problem and the individuals involved in the situation also play a significant role in the implementation of a certain form of avoidance. The fact that mulling is also a significant characteristic of adolescence in addition to ignoring the problem and annulation can also be attributed to this factor.

The findings also show an increase in no longer procrastinating due to external pressure, subordination and asking for help during avoidance. Supposedly, these changes show a strong correlation with the drives of autonomy and self-determination in adolescence (Harris & Franklin, 2015). The change in asking for help, which can also be seen as seeking social support (Sherbourne & Stewart, 1991), is supported

by earlier data, showing that in problematic situations, the frequency of asking for help decreases with age among 10- to 18-year-olds (Kasik, 2010).

Preventing problematic situations is more typical of 12-year-olds than 15- and 18-year-olds. The contents of the items in prevention (e.g., I try to lead my life so that I don't argue with anyone) can be interpreted as desired behaviour and bears a similarity to social desirability. This behaviour shows a decrease in adolescence (Gulyás & Varga, 2009).

In contrast to the theoretical model in our study, the aspects that belong to 'does not begin' factor, divide into two parts. Prevention does not form a separate factor at any age, but forms a group with annulation and stopping/subordination (these all focus on distancing from the problem and dealing with it). Ignoring the problem and procrastination both fall within the other 'does not begin' complex factor. The two 'begin' groups (begins by her-/himself and begins due to others) reflect the original structure.

Based on our results, negative thoughts, feelings and physical symptoms, negative self-efficacy, and insolvability are fundamental to avoidance as a problem-solving process. At all ages, the negative thoughts, feelings and physical symptoms factor affects prevention which, unlike the theoretical model, forms a group with annulation and subordination ('does not begin' in the original model). It also affects ignoring the problem and procrastination ('does not begin' in the original model) and mulling, asking for help and procrastination for a rethink ('begins by her-/himself' in the original model). The negative thoughts, feelings and physical symptoms factor has a negative effect only on external pressure, which separates in the theoretical model as well, among 12-year-olds ('begins due to others' in the original model).

Negative self-efficacy/insolvability only affects mulling, asking for help and procrastination/rethink amongst 15- and 18-year-olds in addition to external pressure (the effect is negative among 15-year-olds). In these age groups, there is a correlation between external pressure and mulling, asking for help and procrastination/rethink, external pressure and annulation, stopping/subordination and prevention. It is only among 18-year-olds there is a correlation between the factor comprising annulation, stopping/subordination and prevention, and external pressure.

It is apparent from the SEM that the different forms of avoidance are distinguishable from each other in adolescence, especially those forms of avoidance where adaptive problem-solving is clearly distinguished, despite the generality of negative self-efficacy and negative thoughts, feelings and physical symptoms.

The relationship between parts of processes, forms of avoidance and the avoidance factor on the SPSI–R is not strong. This can be due to the fact that the avoidance factor on the SPSI–R only measures some forms of avoidance collectively, and the phrasing of these items is different from that in the AQA items. Of these five forms in the present study, as well as in earlier ones (Kasik, 2014), the items expressing procrastination, ignoring the problem and stopping, had the highest factor loadings. It can be clearly seen that the correlation value of the forms of avoidance (expectation/diversion, stopping/subordination and ignoring the problem) which express these, are the strongest when compared to the others.

It is important to note the difference between the factor structure of the AQA and the SPSI–R. The AQA does not have a separate factor with regards to expectation among the forms of avoidance (one factor is formed in conjunction with diversion). Procrastination of finding a solution and rethink also form one factor together (the latter is not measured by the SPSI–R). Results also show that factors which bear a positive

outcome (mulling and asking for help) have a positive relationship with positive orientation and a negative relationship with negative orientation. Negative self-efficacy has a positive relationship with negative orientation and with avoidance.

## Conclusion

Questionnaire development and data interpretation carry both limitations and research opportunities. There was no opportunity of involving third-party evaluators in this research; however, parents, teachers and peers will also need to be involved to obtain a more detailed picture of the characteristics of avoidance. Based on this research, it is not known which people and situations served as the basis for students' evaluations. Thus, it is necessary to develop a person- and situation-specific AQA as well as to conduct a longitudinal study to identify links with other important factors such as anxiety, behavioural problems and coping, in a large sample (N>450 per age group). The AQA–S requires further development to reconsider the two item factors of the current version. Future work will also contribute to the improvement of the AQA to create accurate profiles of preferred forms of avoidance and the relationship between them, thus potentially benefitting the development of prevention programmes.

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## Appendix A. AQA items (short version in bold; number of factors based on Table II in brackets)

| | |
|---|---|
| 1 | I get tense if I have to solve a problem, so I prefer not to bother with it. (1) |
| 2 | I worry about what to do for days to get a problem solved. (8) |
| 3 | **Instead of solving my problems, I look for something fun to do. (6)** |
| 4 | **I ignore my problems. (5)** |
| 5 | **I don't solve my problem at once. I prefer to think about it carefully and come up with the best solution. (7)** |
| 6 | After an argument, I pretend we didn't have one. (4) |
| 7 | **When I have an argument with someone, I say they are right, because I want us to end the argument as soon as possible. (9)** |
| 8 | **I start to solve my problems if my teachers ask me to do so. (10)** |
| 9 | **I don't like to solve my problems on my own. I always need at least one person to help me. (11)** |
| 10 | My problems can't be solved. (2) |
| 11 | I try to lead my life so that I don't argue with anyone. (3) |
| 12 | **I get nervous if I have to solve a problem, so I don't even start. (1)** |
| 13 | I can worry about a problem for days. (8) |
| 14 | **When I have to solve a problem, I prefer to do something else instead. (6)** |
| 15 | I turn my back on my problems. (5) |
| 16 | **I keep putting off solving my problems, so that I have time to choose the best possible solution. (7)** |
| 17 | **After an argument, I act as if nothing had happened. (4)** |
| 18 | I keep silent during an argument, even if I disagree with the other person. (9) |
| 19 | I start to solve my problems if my friends ask me to. (10) |
| 20 | **I always need somebody to help me solve my problems. (11)** |
| 21 | **I can't solve my problems. (2)** |
| 22 | I try to behave so that nobody will start an argument with me. (3) |
| 23 | **While solving a problem, I always think I should give up. (1)** |
| 24 | **I spend a long time thinking about a problem. (8)** |
| 25 | Instead of solving my problems, I look for something pleasant to do. (6) |
| 26 | **I don't care about my problems. (5)** |
| 27 | I don't solve my problems immediately, because I need time to find someone and ask their advice. (7) |
| 28 | **After an argument, I try to forget the whole thing. (4)** |
| 29 | **If I have an argument with someone, I agree with everything they say so that we can stop it as soon as possible. (9)** |
| 30 | **I start to solve my problems if my parents ask me to do so. (10)** |
| 31 | I can't solve my problems alone, so I need someone to help me. (11) |
| 32 | **I can't solve my problems. (2)** |
| 33 | **I behave so that I won't find myself at odds with anyone. (3)** |
| 34 | While solving a problem, I mostly think about how to stop discussing the problem. (1) |
| 35 | **I keep thinking about my problems a lot. (8)** |
| 36 | I often wait for my problems to get solved by themselves. (6) |
| 37 | I don't want to solve my problems alone, so I need someone to help me. (11) |
| 38 | **My goal is for nobody to find a problem with me. (3)** |
| 39 | **I can hardly breathe when I have to solve a problem, so I choose not to solve it. (1)** |
| 40 | I keep thinking a lot about how to solve a problem. (8) |
| 41 | I try to behave so that no one can be angry with me about anything. (3) |
| 42 | I get a headache when I have to solve a problem, so I choose not to solve it. (1) |