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Associations between assertiveness, psychological well-being, and self-esteem in adolescents

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Abstract

This study explored the associations between adolescents' assertive behavior, psychological well-being, and self-esteem. The sample consisted of 1,023 students (14.9 ± .51; 47.6% boys). Two dimensions of the Scale for Interpersonal Behavior (distress and performance), 2 factors of the General Health Questionnaire-12 (depression/anxiety and social dysfunction), and 2 factors of the Rosenberg Self-Esteem Scale (positive self-esteem and negative self-esteem) were used; data were analyzed using hierarchical linear regression. It was found that (a) the more anxious respondents felt in assertive situations, the less frequently they engaged in these situations; and that (b) both dimensions of assertiveness were associated with psychological well-being and self-esteem.

Adolescence is an important time for establishing the social position of individuals. During this time, young people are exposed to a wide range of new social situations, such as parties, bars, and concerts. As a result, young people come into contact not only with friends, but also with strangers, compelling them to learn and develop new social roles without the supervision of their parents (Inglés, Hidalgo, & Méndez, 2005). Peer relationships play a critical role in the development of social skills and the feelings that are essential for personal growth and adjustment (La Greca & Lopez, 1998). The possession of social skills such as effective communication can lead to a more positive social self-image and may determine the degree to which adolescents are able to succeed within their peer group (Riggio, Throckmorton, & DePaola, 1990).

Previous research focusing on assertiveness as a social skill (Orme & Bar-On, 2002) has shown that this construct has a number of different dimensions, including the ability to express oneself without anxiety or aggression in different situations (Bouvard et al., 1999). Assertiveness has also been defined as the process of direct and appropriate communication of a person's needs, wants, and opinions without punishing or putting down others (Arrindell & van der Ende, 1985). It can be used as an instrument for initiating and maintaining socially supportive relationships and hence enjoying better emotional well-being (Eskin, 2003).

Other studies have explored the relationship between assertiveness and mental health in adolescence and have found certain variables that influence assertiveness, including culture (Eskin, 2003), self-esteem (Bijstra, Bosma, & Jackson, 1994), psychological distress (Taylor, Liang, Tracy, Williams, & Seigle, 2002), depression (Eskin, 2003), risk behavior (Cuijpers, 2002), and gender (Bourke, 2002). Although some earlier studies showed that boys are more assertive than girls (Eskin, 2003), data from recent years have found that girls have a significantly higher score on assertive communication and independence (Bourke, 2002) or that there are no significant gender differences in assertiveness (Karagözoğlu, Kahve, Koç, & Adamişoğlu, 2008). Therefore, in the present study gender differences are not investigated, but the associations between the assertive subscales and the two factors of psychological well-being and the two factors of self-esteem were controlled for sex. The associations between the depression/anxiety and social dysfunction factors of psychological well-being and positive and negative self-esteem factors on one hand and the four assertive subscales—positive feelings, negative feelings, assertiveness, and personal limitations—on the other were explored in the present study. The

above-mentioned studies did not explore assertive behavior and its associations with the mentioned variables at the level of the subscales. Such an approach might add to our knowledge in this field. The existing literature is oriented mainly on exploring assertive behavior between boys and girls or between various nations and cultures where differences could be expected.

The aim of our study was to explore the associations between these dimensions of assertiveness and adolescents' psychological well-being and self-esteem while controlling for sex. The relationship between the levels of anxiety felt in assertive situations (the distress dimension) and the frequency of engagement in these situations (the performance dimension) was examined. A negative relationship between these two dimensions was expected. At the same time, the association between the assertive dimension and psychological well-being and self-esteem was explored. It was anticipated that both the distress and performance dimensions of assertiveness would be negative predictors of psychological well-being and self-esteem. Finally, the influence of the distress dimension on psychological well-being and self-esteem was explored, controlling for the performance dimension. It was also of interest to examine changes in the distress dimension when controlling for the frequency of engaging in such situations (performance). It was anticipated that when adolescents felt distress in assertive situations and when these situations were occurring regularly (performance), then the negative association of the distress dimension on the studied variables would increase.

Methods

Sample

The study sample consisted of 1,023 students (487 boys, 47.6%) from 18 elementary schools in Kosice (230,000 inhabitants), Slovak Republic. The selected schools were located in different parts of Kosice in order to ensure a representative sample for the city. The selection of the sample was random and stratified based on sex and age. The age of the respondents ranged from 14 to 17 years, with a mean age of 14.9 years ($SD = .51$). Data were collected from April to June 2003. The questionnaires were completed on a voluntary and anonymous basis by respondents during two regular 45-minute classes in the absence of a teacher and in the presence of a trained researcher. The response rate was 82.6% as a result of the absence of students from school.

Measurements

Psychological well-being

The General Health Questionnaire (GHQ) is a self-administered screening instrument used to measure psychological well-being. It is designed to cover four identifiable elements of distress: depression, anxiety, social impairment, and hypochondria. The GHQ can be used as a one, two, three, or four factorial measure using different settings and has been translated into different languages (Goldberg & Williams, 1988; Martin & Newell, 2005; Penninkilampi-Kerola, Miettunen, & Ebeling, 2006). In this study, psychological well-being was measured using two factors (depression/anxiety and social dysfunction) of a shortened version of the GHQ—the GHQ-12 (see Sarkova et al., 2006, for further discussion). The depression/anxiety factor identifies feelings of distress and consists of items 2, 5, 6, 9, 10, and 11 (lost sleep due to worry, constantly under strain, cannot overcome difficulties, feeling unhappy, loss of self-confidence, and thinking yourself worthless). Items 1, 3, 4, 7, 8, and 12 (ability to concentrate, playing a useful part, capable of making decisions, enjoying normal activities, facing up to problems, feeling reasonably happy) are components of the social dysfunction factor and indicate the inability to carry out one's normal 'healthy' functions (Goldberg & Williams, 1988). The GHQ-12 questions compare how a respondent's present state differs from his usual state. For scoring, a four-point Likert scale (0, 1, 2, 3) was used, with sum scores for each factor ranging from 0 to 18. A higher score indicated more depression/anxiety and social dysfunction. Cronbach's alpha was .80 for the depression/anxiety factor and .64 for social dysfunction.

Self-esteem

Self-esteem can be defined as a person's global appraisal of his/her positive or negative value and was measured using the Rosenberg Self-esteem Scale (Rosenberg, 1965). The scale was originally developed to measure global feelings of self-worth or self-acceptance among adolescents and is generally considered as the standard against which other measures of self-esteem are compared (Blascovich & Tomaka, 1991). Most studies use the scale as a one-dimensional, ten-item instrument, while others report a two-dimensional solution (Blascovich & Tomaka, 1991; Sarkova et al., 2006). The two-dimensional instrument has been previously administered in a study of 53 countries (Schmitt & Allik, 2005) and in 2 studies in Slovakia (Halama, 2008; Sarkova et al., 2006). Therefore, in this study, the scale was used as a two-factor instrument consisting of a general self-confidence subscale for positive self-esteem (items 1 = satisfied with self, 3 = having good quality, 4 = equal to others, 7 = feeling valuable, and 10 = positive attitude) and a general self-deprecation subscale for negative self-esteem (items 2 = feeling no good at all, 5 = not proud, 6 = feeling useless, 8 = lack of respect, and 9 = feeling a failure) (Blascovich & Tomaka, 1991; Kaplan & Pokorny, 1969; Sarkova et al., 2006). Each item for both factors had four response options (1 = *strongly agree*,

2 = *agree*, 3 = *disagree*, 4 = *strongly disagree*), and the sum score for each factor ranged from 5 to 20, with a higher total score indicating higher positive and negative self-esteem. Cronbach's alpha was .71 for positive self-esteem and .63 for negative self-esteem.

Assertiveness

Assertiveness was measured using the 47-item multidimensional self-reporting Scale for Interpersonal Behavior (SIB) (Arrindell & van der Ende, 1985). The items were classified into four subscales: (1) display of negative feelings or negative assertion—requesting a change in a person's irritating behavior and standing up for one's rights in a public situation (13 items); (2) expression of and dealing with personal limitations—admitting ignorance about a topic, recognition of one's failure or limitation, the ability to deal with criticism and pressure, requesting help and attention (13 items); (3) initiating assertiveness—expressing one's own opinion (10 items); and (4) a display of positive assertion of social skills—giving and receiving praise or compliments, displaying positive feelings (8 items). Each subscale has, according to the authors, two dimensions: the degree of discomfort (distress) and the frequency of engaging (performance) in situations associated with attempts at self-assertion in specific social contexts (Arrindell & van der Ende, 1985; Bijstra et al., 1994; Bouvard et al., 1999). Respondents had to indicate on a 4-point scale to what extent such situations made them anxious (for the distress dimension: 1 = *not at all*, 2 = *a little bit*, 3 = *quite*, 4 = *very*) and how often they engaged in such situations (for the performance dimension: 1 = *never*, 2 = *seldom*, 3 = *frequently*, 4 = *always*). The sum score for each subscale and the two dimensions was acquired by calculating the relevant items for the given subscale and dimension. Cronbach's alpha (a) for the subscale "display of negative feelings" was .76 for the distress dimension and .71 for the performance dimension; (b) for the subscale "expression of and dealing with personal limitations" it was .81 for the distress dimension and .74 for the performance dimension; (c) for the subscale "initiating assertiveness" it was .78 for the distress dimension and .71 for the performance dimension; and (d) for the subscale "display of positive assertion" it was .76 for the distress dimension and .73 for the performance dimension. Cronbach's alpha was .93 for the distress dimension of the SIB and .90 for the performance dimension.

Statistical analyses

The associations between the distress and performance dimensions of assertive behavior were explored using the Pearson correlation coefficient. Power analysis was performed using GPower version 3.0.10 (Faul, Erdfelder, Lang & Buchner, 2007). Next, two factors of psychological well-being (depression/anxiety and social dysfunction) and self-esteem (positive and negative self-esteem) were used as dependent variables in a hierarchical linear regression. We explored the associations of the two assertiveness dimensions with the dependent variables separately. In the first model, the distress dimension of each subscale of assertiveness was entered as an independent variable. In the second model, the performance dimension of each subscale of assertiveness was entered as an independent variable. Finally, in the third model, the distress dimension of each subscale of assertiveness was adjusted for the performance dimension. Sex was controlled for in both cases. Analyses were done using the statistical software package SPSS version 12.1 (SPSS Inc., Chicago, IL).

Results

The means and standard deviations of the all studied variables used are presented in Table 1.

Correlations for all of the studied variables are presented in Table 2. As the table shows, both factors of psychological well-being and self-esteem were significantly correlated with the assertive subscales of the distress dimension. On the other hand, social dysfunction and both the positive and negative self-esteem factors did not significantly correlate with the negative feelings and personal limitations of the performance dimension. Depression/anxiety did not correlate with positive feelings, and social dysfunction and negative self-esteem did not correlate with assertiveness of the performance dimension. In addition, the distress dimension of negative assertion and personal limitations did not correlate with the corresponding subscales of the performance dimension. Although some of the correlation coefficients were significant, their values were very small indeed, and the power of the test was about .5; a larger sample size is needed to confirm/reject the relation. The other two subscales, positive feelings and assertiveness, were found to be negatively correlated, with a power of the correlation tests larger than .8 ($r = -.30$ for positive feelings and for assertiveness). In other words, the more distress respondents felt in assertive situations, the less frequently they engaged in such situations.

Based on the findings from the correlation analysis, which were shown to be significant, further analyses were performed. In the next step, the association between the distress and performance dimensions, together with each assertive behavior subscale on the depression/anxiety and social dysfunction factors of psychological well-being, and the positive and negative self-esteem factors was explored (Table 3). Sex was also controlled for during this process.

Depression/Anxiety

The association between the distress and performance dimensions of the assertive behavior subscales and psychological well-being factors was analyzed. The distress

Table 1 Descriptive Characteristics of the Sample

	Male $n = 487$	Female $n = 536$	Whole sample $n = 1,023$
		Mean (*SD*)	
Age			Mean—14.9 years (14–17, *SD* .51)
Psychological well-being			
Depression/anxiety	10.41 (3.71)	12.38 (4.09)	11.44 (4.03)
Social dysfunction	11.24 (2.37)	11.48 (2.55)	11.37 (2.47)
Self-esteem			
Positive self-esteem	15.44 (2.22)	15.15 (2.14)	15.29 (2.18)
Negative self-esteem	13.69 (2.49)	12.97 (2.67)	13.31 (2.61)
Assertiveness/Distress			
Negative feelings	22.00 (5.38)	22.60 (5.26)	22.32 (5.32)
Positive feelings	13.99 (4.07)	14.84 (3.99)	14.44 (4.05)
Assertiveness	16.47 (4.51)	16.94 (4.52)	16.72 (4.52)
Personal limitation	21.30 (5.81)	21.84 (5.29)	21.59 (5.54)
Assertiveness/Performance			
Negative feelings	27.65 (4.18)	27.89 (3.93)	27.77 (4.05)
Positive feelings	18.13 (3.26)	18.34 (3.23)	18.24 (3.24)
Assertiveness	23.04 (3.62)	23.60 (3.75)	23.34 (3.69)
Personal limitation	28.38 (3.98)	29.59 (3.92)	29.02 (3.99)

dimension was found to have a strong association with depression/anxiety in all of the assertive behavior subscales. However, the association of the performance dimension with this factor was weaker for two of the subscales: assertiveness and positive feelings (Table 3). After adjustment of the distress dimension for performance, the association of the distress dimension with depression/anxiety did not change for any of the four subscales (Table 3).

Social dysfunction

The distress dimension was found to have a strong association with social dysfunction for all of the assertive behavior subscales. The association of the performance dimension with social dysfunction was not significant, with the exception of the positive feeling subscale. When the distress dimension was adjusted for the performance dimension, the association was weaker for the assertiveness and positive feeling subscales.

Positive self-esteem

The distress dimension was found to have a strong association with positive self-esteem in all of the assertive behavior subscales. The association of the performance dimension with positive self-esteem was strong for both the positive feelings and assertiveness subscales. However, it was not significant for either the personal limitation or negative feeling subscale (Table 3). The subsequent adjustment of the distress dimension for the performance dimension did not change the association for any of the four subscales.

Negative self-esteem

The distress dimension had a strong association with negative self-esteem in all of the assertive behavior subscales, while the association of the performance dimension was significant with the positive feelings and assertiveness subscales. As with positive self-esteem, the association of the distress dimension with negative self-esteem did not change when adjusted for the performance dimension (Table 3).

Discussion

The aim of the study was to explore the associations of two dimensions of assertiveness with psychological well-being and self-esteem in adolescents. The relationship between anxiety in assertive situations and the frequency of engaging in these situations was examined. As expected, strong correlations between these dimensions were found. That is, the greater the anxiety felt in expressing positive feelings and assertiveness (distress dimension), the less frequently adolescents engage in these situations (performance dimension). At the same time, as we expected, there are strong correlations between depression/anxiety, social dysfunction, positive and negative self-esteem, and the assertive subscales. These findings are in line with Riggio, Watring, and Throckmorton (1993), who also found strong correlations between psychological well-being, self-esteem, and social skills.

In the next step, the association of assertiveness with two factors of psychological well-being and two factors of self-esteem was explored. As expected, the distress dimension, as

Table 2 Correlations Between the Studied Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Depression/Anxiety	1												
2. Social dysfunction	.45***	1											
3. Positive self-esteem	−.36***	−.33***	1										
4. Negative self-esteem	−.46***	−.28***	.46***	1									
5. Negative feelings[a]	.24***	.12***	−.25***	−.22***	1								
6. Positive feelings[a]	.23***	.13***	−.24***	−.20***	.60***	1							
7. Assertiveness[a]	.18***	.12***	−.24***	−.16***	.68***	.66***	1						
8. Personal limitation[a]	.25***	.12***	−.23***	−.20***	.68***	.60***	.65***	1					
9. Negative feelings[b]	.16***	.02	.05	−.01	−.06	−.04	−.07**	.01	1				
10. Positive feelings[b]	.02	−.10***	.21***	.09**	−.12***	−.30***	−.20***	−.11***	.46***	1			
11. Assertiveness[b]	.10***	−.02	.13***	.06	−.08**	−.13***	−.30***	−.07*	.60***	.60***	1		
12. Personal limitation[b]	.17***	.01	−.05	−.05	.02	−.03	−.03	.02	.64***	.39***	.60***	1	
13. Sex	.24***	.05	−.07**	−.14***	.06	.11***	.05	.05	.03	.08**	.03	.15***	1

Note. [a]Distress dimension. [b]Performance dimension. ***$p < .001$. **$p < .01$. *$p < .05$.

well as the performance dimension, was negatively associated with depression/anxiety and positive and negative self-esteem but was not associated with social dysfunction. This weaker relationship between assertiveness and depression/anxiety and social dysfunction in comparison with the stronger relationship between assertiveness and positive and negative self-esteem is consistent with findings of other studies (Bijstra et al., 1994; Riggio et al., 1990). While assertiveness could be seen as a behavior toward the outside world, it is at the same time strongly associated with feelings toward oneself. Therefore, it appears that the association of assertiveness with depression and self-esteem is stronger than with social dysfunction.

Finally, it had been expected that the negative effect of the distress dimension on depression/anxiety, social dysfunction, and positive and negative self-esteem would increase when the frequency of performance was controlled for. However, this was not the case in this study, although there may be several reasons and explanations for the way people behave in social situations. Several factors associated with assertive behavior might play a role, and those intrapersonal (extroversion, introversion, self-regulation, self-control), psychosocial (social fears), or emotive (social self-esteem) factors, once taken into account, could provide a better understanding of assertive behavior in adolescence. At the same time, self-regulation as a feature of normal socialization and ability to control the reaction to stress or conflict situations could be considered as one of important factors necessary for a healthy development in various domains, e.g., interpersonal behavior (Fonagy & Target, 2002; Rueda, Posner, & Rothbart, 2005; Rueda, Posner, Rothbart, & Davis-Stober, 2004). The study of Tangney, Baumeister, and Boone (2004) confirmed a connection of this construct with different aspects of development in adolescence (e.g., psychological adjustment, interpersonal relations). The mentioned study revealed significant associations between depression, anxiety, self-esteem, and self-control. Also, a connection between positive interpersonal relations and self-control was confirmed in this study. It is also shown that there are statistical differences in levels of self-esteem and assertiveness among students with good family relationships in comparison with those with bad family relationships (Karagözoğlu et al., 2008). The inclusion of these factors in further analyses is necessary to gain a better understanding of the topic (Inglés et al., 2005). Another possible explanation may be the adaptation of adolescents to social situations. The anxiety they feel in assertive situations may be the same regardless of how often they engage in them. While they may feel anxious, the association of anxiety with psychological well-being and self-esteem does not appear to increase with the increasing frequency of such situations. In line with Bijstra et al.'s (1994) study, low performance may be interpreted negatively when it is associated with high distress, such as avoidance behavior. On the other hand, low

Table 3 Results from Linear Regression Analysis: Associations of Assertive Dimensions with Depression/Anxiety, Social Dysfunction, Positive Self-esteem, and Negative Self-esteem

	Depression/Anxiety		Social dysfunction		Positive self-esteem		Negative self-esteem	
	Step 1 β^{sig}	Step 2 β^{sig}	Step 1 β^{sig}	Step 2 β^{sig}	Step 1 β^{sig}	Step 2 β^{sig}	Step 1 β^{sig}	Step 2 β^{sig}
Personal limitation–distress dimension	.24***	.24***	.12***	.12***	–.22***	–.22***	–.20***	–.20***
Sex	.24***	.23***	.04^{ns}	.06^{ns}	–.06^{ns}	–.07*	–.14***	–.14***
R^2	12%	14%	2%	1%	5%	5%	6%	6%
Personal limitation–performance dimension	.13***		–.003		–.04		–.03	
Sex	.24***		.62		–.07*		–.15***	
R^2	8%		.2%		.6%		2%	
Assertiveness–distress dimension	.16***	.21***	.12***	.11**	–.24***	–.21***	–.16***	–.15***
Sex	.23***	.22***	.04	.04	–.05	–.06	–.13***	–.13***
R^2	8%	10%	1%	1%	6%	6%	4%	4%
Assertiveness–performance dimension	.09**		–.02		.13***		.07*	
Sex	.24***		.05		–.07*		–.14***	
R^2	7%		.1%		2%		2%	
Positive feelings–distress dimension	.21***	.23***	.13***	.10*	–.23***	–.18***	–.18***	–.17***
Sex	.22***	.22***	.04	.06	–.05	–.06*	–.12***	–.13***
R^2	10%	11%	2%	2%	6%	8%	5%	5%
Positive feelings–performance dimension	.01		–.12**		.22***		.10**	
Sex	.25***		.06		–.08**		–.15***	
R^2	6%		1%		5%		3%	
Negative feelings–distress dimension	.23***	.24***	.12***	.12***	–.25***	–.25***	–.21***	
Sex	.23***	.23***	.05^{ns}	.05^{ns}	–.06^{ns}	–.07*	–.13***	
R^2	11%	14%	2%	1%	6%	7%	6%	
Negative feelings–performance dimension	.16***		.02^{ns}		.05^{ns}		–.01^{ns}	
Sex	.24***		.05^{ns}		–.08**		–.14***	
R^2	8%		.1%		1%		2%	

Note. Step 1: distress dimension. Step 2: distress dimension adjusted for the performance. ***$p < .001$. **$p < .01$. *$p < .05$.

performance is not necessarily a negative condition when it is associated with low distress (Bijstra et al., 1994). Distress and performance might be closely related to the demands and the type of assertive situation as well as the character of a person. A study by Inglés et al. (2005) showed that most participating adolescents report that some social situations (e.g., asking a stranger in a public area to put out his cigarette) require more assertiveness than other situations (e.g., thanking somebody for helping). Therefore, an adolescent's difficulties with assertive behavior may be greater when the situation involves some type of conflict. This contrasts with situations that are not so confrontational, such as thanking someone for help with schoolwork. However, this finding could also be applied to other age groups. Although it was anticipated that the subscales from the SIB would show some differences with regard to different assertive situations, this study did not confirm this assumption. The reason could be associated with versions of items in separate subscales of the SIB, and researchers need to be aware of the potential problems surrounding the translation scale. In addition, adolescents may lack the linguistic skills necessary to give appropriate responses and may not sense the subtle differences between items.

Therefore, it appears that the independent variables explain a small percentage of the variance of the dependent variables. When the distress dimension was adjusted for the performance dimension, the explained variance increased, especially for the depression/anxiety factor. Findings based on studies of different age and cultural groups cannot be generalized without additional research. Unfortunately, few studies have focused on the associations between assertiveness and specific aspects of psychological well-being. The majority of recent studies on assertiveness explored gender differences, and only a few of them focused on the associations between assertiveness and mental health (Bijstra et al., 1994; Eskin, 2003; Taylor et al., 2002).

This study has several strengths, of which the most important is the use of two factors of psychological well-being and two factors of self-esteem in combination with four subscales and two dimensions of assertiveness. This enables a deeper understanding of the associations. In terms of limitations, the cross-sectional design of our study restricts our findings. A longitudinal study is necessary for a better understanding of the mentioned variables and might help us to contribute to the unraveling of this pathway.

There are several studies focusing on prevention that show that school-based drug programs that include mediating variables such as self-efficacy, self-esteem, well-being, and social skills could be more effective and might help prevent substance use (Botvin, 2000). According to our findings, we may assume that adolescents' assertiveness is significantly associated with their psychological well-being, self-esteem, and other aspects of their healthy development. However, the cross-sectional design does not allow us to draw conclusions about the causality regarding these associations. Nevertheless, the explored associations could also be taken into account when designing health promotion as well as other intervention programs focused on target group of adolescents. Cuijpers' (2002) review suggests adding life skills training to social influence programs, because thus far there is not sufficient evidence from research on mediating variables that social training, enhancing of self-esteem, and focusing on psychological well-being increase the effects of prevention programs. Because the efficacy of intervention programs is highly dependent on precise identification of relevant and changeable health determinants, it is important to understand and incorporate our findings about the role of assertiveness on psychological well-being and self-esteem among adolescents into these programs.

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References

Arrindell, W. A., & van der Ende, J. (1985). Cross-sample invariance of the structure of self-reported distress and difficulty in assertiveness. *Addictive Behaviour Research and Theory*, *7*, 205–243.

Bijstra, J. O., Bosma, H. A., & Jackson, S. (1994). The relationship between social skills and psycho-social functioning in early adolescence. *Personality and Individual Differences*, *16*, 767–776.

Blascovich, J., & Tomaka, J. (1991). Measures of self-esteem. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.) *Measures of personality and social psychological attitudes* (Vol. I, pp. 121–123). San Diego, CA: Academic Press.

Botvin, G. J. (2000). Preventing drug abuse in schools: Social and competence enhancement approaches targeting individual-level etiological factors. *Addictive Behaviors*, *25*, 887–897.

Bourke, R. (2002). Gender differences in personality among adolescents. *Psychology, Evaluation & Gender*, *4*, 31–41.

Bouvard, M., Arrindell, W. A., Guerin, J., Bouchard, C., Rion, A., Ducottet, E., et al. (1999). Psychometric appraisal of the Scale for Interpersonal Behavior (SIB) in France. *Behaviour Research and Therapy*, *37*, 741–762.

Cuijpers, P. (2002). Effective ingredients of school-based drug prevention programs. A systematic review. *Addictive Behaviors*, *27*, 1009–1023.

Eskin, M. (2003). Self-reported assertiveness in Swedish and Turkish adolescents: A cross-cultural comparison. *Scandinavian Journal of Psychology*, *44*, 7–12.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, *39*, 175–191.

Fonagy, P., & Target, M. (2002). Early intervention and the development of self-regulation. *Psychoanalytic Quarterly*, *22*, 307–335.

Goldberg, D., & Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-Nelson.

Halama, P. (2008). Confirmatory factor analysis of Rosenberg Self-Esteem Scale in sample of Slovak high school and university students. *Studia Psychologica*, *50*, 255–266.

Inglés, C. J., Hidalgo, M. D., & Méndez, F. X. (2005). Interpersonal difficulties in adolescence: A new self-report measure. *European Journal of Psychological Assessment*, *1*, 11–22.

Kaplan, H. B. & Pokorny, A. D. (1969). Self-derogation and psychosocial adjustment. *Journal of Nervous and Mental Disease*, *149*, 421–434.

Karagözoğlu, S., Kahve, E., Koç, Ö., & Adamişoğlu, D. (2008). Self-esteem and assertiveness of final year Turkish university students. *Nurse Education Today*, *28*, 641–649.

La Greca, A. M., & Lopez, N. (1998). Social anxiety among adolescents: Linkages with peer relations and friendships. *Journal of Abnormal Child Psychology*, *26*, 83–94.

Martin, C. R., & Newell, R. J. (2005). The factor structure of the 12-item General Health Questionnaire in individuals with facial disfigurement. *Journal of Psychosomatic Research*, *59*, 193–199.

Orme, G., & Bar-On, R. (2002). The contribution of emotional intelligence to individual and organisational effectiveness. *Competency and Emotional Intelligence*, *9*, 23–28.

Penninkilampi-Kerola, V., Miettunen, J., & Ebeling, H. (2006). A comparative assessment of the factors, structures and psychometric properties of the GHQ-12 and the GHQ-20 based on data from a Finnish population-based sample. *Scandinavian Journal of Psychology*, *47*, 431–440.

Riggio, R. E., Throckmorton, B., & DePaola, S. (1990). Social skills and self-esteem. *Personality and Individual Differences*, *11*, 799–804.

Riggio, R. E., Watring, K. P., & Throckmorton, B. (1993). Social skills, social

support, and psychological adjustment. *Personality and Individual Differences*, *15*, 275–280.

Rosenberg, M. (1965). *Society and the adolescent child*. Princeton, NJ: Princeton University Press.

Rueda, M. R., Posner, M. I., & Rothbart, M. K. (2005). The development of executive attention. Contributions to the emergence of self-regulation. *Developmental Neuropsychology*, *28*, 573–594.

Rueda, M. R., Posner, M. I., Rothbart, M. K., & Davis-Stober, C. P. (2004). Development of the time course for processing conflict: An event-related potentials study with 4 year olds and adults. *BMC Neuroscience*, *5*, 39–52.

Sarkova, M., Nagyova, I., Katreniakova, Z., Madarasova-Geckova, A., Orosova, O., Middel, B., et al. (2006). Psychometric evaluation of the General Health Questionnaire-12 and Rosenberg Self-Esteem Scale in Hungarian and Slovak early adolescents. *Studia Psychologica*, *48*, 69–79.

Schmitt, D. P., & Allik, J. (2005). Simultaneous administrations of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, *89*, 623–642.

Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*, 271–324.

Taylor, C. A., Liang, B., Tracy, A. J., Williams, L. M., & Seigle, P. (2002). Gender differences in middle school adjustment, physical fighting, and social skills: Evaluation of a social competency program. *The Journal of Primary Prevention*, *23*, 259–272.