

Agnieszka Kulik¹

Department of Clinical Psychology, The John Paul II Catholic University of Lublin

Emotional Intelligence and Cumulative Fatigue in Adolescence

Abstract

The author's analysis refers to emotional skills (EI) among adolescents in the context of cumulative fatigue. Ninety-two young people aged 16–18 were examined. The following measures were used: the Polish modification of Cumulative Fatigue Questionnaire by R. Kosugo, and Questionnaire INTE N.S. Schutte and others. The relationship between cumulative fatigue and EI is significant. EI differs and diminishes with the growth of the fatigue level. The rise of fatigue is associated with the tendency to decrease one's abilities to use emotions in action. 'Being in harmony with others' is characteristic of young people with severe fatigue.

The results underline the importance of understanding oneself and using emotions in one's life in the best way.

Keywords: adolescent, emotional intelligence, fatigue

Introduction

Cumulative fatigue (chronic, prolonged fatigue) is the result of a prolonged situation of the excessive load. One of its most important characteristics is a sense of general fatigue which does not cease after rest. Fatigue causes a real lowering of different forms of activities undertaken (Fukuda, 1997; Jason et al, 1999)². Being

¹ Agnieszka Kulik, Dept. of Clinical Psychology, The John Paul II Catholic University of Lublin, Al. Raclawickie 14, 20–950 Lublin, Poland; akulik@kul.lublin.pl

² The essential problem in diagnosing chronic fatigue among children and teenagers is understanding the chronicity of symptoms. A period of six months is relative for children and young people with regard to different temporary perspectives and different meanings of this time period in their life.

in this state, physiological activity of the organism grows. In response to such stimulation, illness symptoms from more susceptible organs appear (Gillespie et al, 1999; Walford, McC Nelson & McCluskey, 1993). The most frequent symptoms connected with chronic fatigue among teenagers are headache, dizziness, myalgia, sore throat, depressed mood, fever, sleep disturbance, and muscle and joint pain (Jordan et al, 2000; Carter & Marshall, 1995; Mandrowska-Xinxo & Zdunkiewicz, 1994)³.

Fatigue symptoms among teenagers are connected with the possession of personal resources. There is an observed greater excitability of temperament, less resistance to stress, and a higher susceptibility to frustration (Kulik & Szewczyk, 2002; Kulik & Szewczyk, 2003a). Moreover, in all these persons one can observe a lack of self-confidence and dependence on others, matching others and subordinating one's own needs in order to satisfy others (Kulik & Szewczyk, 2001). These features might make control of emotional stimulation difficult.

Some research suggests the role of emotions in cumulative fatigue. In fact, teenagers with high levels of fatigue more often cope with stress through concentration on emotions (Kulik & Szewczyk, 2003b). Research shows that the growth of cumulative fatigue is connected with tendencies to complain about oneself, be prone to crying, recollect better times and accuse oneself of failures as well as to prefer close relations among social contacts. Such symptoms show helplessness, dissatisfaction, self-aggression and unfriendliness towards others. A lack of adequate skills of emotionality seems to be the fundamental problem.

Emotional intelligence (EI) is understood as the skill of living, as the ability to restrain the emotional impulses, the ability to read other people's feelings and to understand oneself as well as to build up positive human relations with others (Salovey & Mayer, 1990; Salovey & Sluyter, 1999; Goleman, 1997). Persons who can recognize what they feel have better self-consciousness. Knowledge of one's own emotions enables a better reading of other people's emotions. People with low personality insight have trouble manage their own emotions, especially in coping with difficult feelings (anxiety, anger, and low moods). They use repression very often and do not respect their own feelings and needs (Goleman, 1997). This emotional inhibition creates problems with using their emotions in information exchange. They do not know how to build up satisfying interpersonal relations. Recent reports have suggested that emotional disturbance is characteristic of chronic fatigue (Kulik & Szewczyk, 2003a; Abbey, 1993; Carter et al, 1995; Wright & Cottrell, 1997; Rangel et al, 2000). Hence, it appears that emotional

³ The diagnosis of chronic fatigue syndrome is possible only after excluding other reasons for the above-mentioned symptoms. This is made by laboratory testing, medical and psychological examination.

intelligence (EI) may play a fundamental role in connection with the growth and feeling of fatigue.

This problem was the main objective of the present research. Analysis referred to the emotional skills (EI) among adolescents in the context of cumulative fatigue. An attempt was made to answer the question about the relationship between the level of emotional intelligence and its skills and cumulative fatigue among adolescents. Are teenagers with high EI less tired, or not? Which EI abilities play a basic role in the growth of fatigue?

Materials and Methods

Measures

The following methods were used in the research:

1. Cumulative Fatigue Questionnaire by Rokuro Kosugo (CFQ) in the Polish adaptation by A. Kulik and L. Szewczyk (Kulik & Szewczyk, 2005). The questionnaire is designed to examine the growth of chronic fatigue among teenagers. It contains satisfactory psychometric ratings, thus making the measurement of symptoms accurate and reliable ($\alpha_{\text{Cronbacha}} = 0.94$; $r_{\text{tt}} = 0.9$). It consists of 59 questions divided into six descriptive categories: general fatigue (symptoms: sleepiness or difficulty with sleep, morning fatigue and a negative frame of mind, lack of strength, feeling exhausted); weakened vitality (lack of energy, lowered mood, avoidance of effort); irritability reflecting conditions of loading (symptoms: tendency to be irritable, nervous tension, chronic dissatisfaction, problems controlling emotions and stimulation, hypersensitivity to stimuli); physical fatigue (symptoms: impairment of appetite, digestive disorders, tendency to catch colds, dizziness, muscle pain, difficulty with everyday duties); anxiety about one's own abilities (tendency to worry, lack of self-confidence, sense of lowered worth, difficulty concentrating); and discouragement connected with learning and school (negative attitude to school and education, reluctance to continue schooling, boredom, difficulties in peer and in teacher relations). Examinees were to state the degree of symptom intensity on a three-point scale: "never", "sometimes", or "often". The sum of all the answers determines the total result, which is the chronic fatigue level.
2. Questionnaire INTE N.S. Schutte and others for measuring emotional intelligence (EI) (Jaworowska & Matczak, 2001). The questionnaire consists of 33 sentences referring to different skills which constitute emotional intelligence in accordance with Mayer and Salovey's interpretation. Examinees expressed their attitude towards particular statements by choosing one of five possible answers deciding to which extent that statement describes them: "I strongly

disagree”, “I rather disagree”, “difficult to say”, “I rather agree”, “I strongly agree”. Since a more precise description of this variable was needed, content analysis of the items was conducted, and the following categories were distinguished: A1) an understanding of one’s own emotions (the ability to perceive, to understand one’s own feelings and to control oneself and to be aware of self-presentation); A2) an understanding of other people’s emotions (the ability to perceive and understand other people’s emotions, skill in reading correct nonverbal messages connected with emotions); B) making use of emotions in action (the ability to use emotions for supporting thinking and action, investing emotions in motivation for activities); C) being in harmony with other people (the ability to harmonize with others, skill in arousing feelings of confidence and compassion with others, empathy).

Participants

The examination was conducted in groups during school lessons. Four groups were examined independently. Prior to being examined, pupils were informed about the investigation. An explorer informed them about the aim of investigation, introduced instructions before the investigation and distributed and finally collected the questionnaires.

One hundred and four young people aged 16–18 were examined. They were pupils from two types of schools: a Polish secondary school (64 pupils; 61%) and a technical school (40 pupils; 39%). Twelve questionnaires were rejected because of the lack of answers. Ninety-two questionnaires were used for further analysis. Among those examined were 62 males (67%) and 30 females (33%). Fifty-two pupils (57%) were between ages 16–17 and 40 pupils (43%) between 17–18. The mean age of these groups was 16.77 (SD=0.68).

Following the investigation, the examinees were divided into three groups according to their cumulative fatigue levels based on their total Cumulative Fatigue Questionnaire scores:

1. the group with the low level of fatigue (mild fatigue). The results ranged from 0 to 29. The average level of fatigue in the group was 18.92 ± 6 . This group consisted of 24 persons among which there were 21 males (87.5%) and three females (12.5%). Among persons with mild fatigue, one-third of pupils were from the Polish secondary school and two-thirds from the technical school. The mean age of these participants was 16.92 ± 0.8 . Mostly males from the technical school were in this group.
2. the group with a moderate level of fatigue (moderate fatigue). The results ranged from 30 to 59. The average level of fatigue 41.65 ± 9.6 . This group consisted of 46 persons among which there were 34 males (74%) and 12 females

(26%). Among persons with moderate fatigue were 30 pupils (65%) from the Polish secondary school and 16 pupils (35%) from the technical school. The mean age in this group was 16.74 ± 0.7 .

3. The group with the high level of fatigue (severe fatigue). The results exceeded 60 points. The average level of fatigue 71.73 ± 10.1 . This group consisted of 22 persons: 8 males (36%) and 14 females (64%), among whom 18 pupils (82%) were from the Polish secondary school and 4 pupils (18%) from the technical school. The mean age of these participants was 16.68 ± 0.6 .

To summarise, the examined groups differed from each other regarding gender and type of school.

Statistics

Results were worked out statistically in The Centre of Statistics using a pack SPSS (Statistical package for the Social Sciences). With respect to the character of comparisons, different statistical procedures were used. First, in order to describe the examined groups, the arithmetical mean and standard deviation were used. Because of differences in numbers of observed data, the test χ^2 with Yates' correction on continuity was used. Next, to define differences between groups, the Onaway analysis was conducted. The homogeneity of groups was verified by means of Levene's test. Variances between groups were evaluated in terms of the ANOVA procedure. With the help of Dunnett's test, post hoc significances of the differences between pairs of groups were checked. Finally, Pearson's r was used in order to designate the strength and character of the relationship between fatigue and emotional intelligence. The level of significance for data is indicated as two-tailed on the basis of p value. The profiles of results regarding fatigue and emotional intelligence show value z because the scales of measures have different numbers of items.

Results

To explore the role of emotional intelligence in cumulative fatigue, an analysis in several steps was conducted, namely: comparison of groups having different levels of fatigue with respect to emotional intelligence, and research on dependence between cumulative fatigue and emotional intelligence.

Step 1

Table 1 shows that the results of emotional intelligence reached average values. The highest level of emotional intelligence was found among persons with mild fatigue. However, persons with the severe fatigue presented the lowest level.

Table 1. Emotional intelligence in groups of cumulative fatigue (mean, SD, z-stand.)

Factors	Cumulative fatigue			Significance ANOVA
	mild	moderate	severe	
Total group				
Mean of INTE	6,88±1,85 ^b	5,85±1,88	5,32±1,81	0,02
Categories of emotional intelligence:				
• understanding other people's emotions (7–35)*	26,42±3,26 (0,11)	26,07±4,72 (0,03)	25,09±4,93 (-0,19)	n.s.
• understanding one's own emotions (6–30)	23,71±3,13 ^b (0,29)	22,89±3,24 (0,03)	21,59±2,68 (-0,38)	0,07
• making use of emotion in action (13–65)	54,79±5,31 ^{ab} (0,51)	50,52±6,76 (-0,16)	50,09±5,06 (-0,23)	0,02
• being in harmony with other people (6–30)	23,17±3,61 (0,01)	22,80±3,36 (-0,09)	23,72±3,28 (0,18)	n.s.
^a significant difference between group of mild fatigue and group of moderate fatigue ^b significant difference between group of mild fatigue and group of severe fatigue * range min-max				

The groups of teenagers with mild, moderate and severe cumulative fatigue significantly differ from one another [$F(2.89)=4.294$; $p<0.02$]. Significant statistical differences were found between the groups with mild and severe fatigue. However, between the groups with moderate and severe fatigue, no significant differences in the level of emotional intelligence were observed.

Due to the above-mentioned fact, a more precise analysis of the particular abilities connected with emotional intelligence was then conducted. The persons examined did not differ much statistically regarding the ability to be in harmony with other people and to understand other people's emotions. Statistically, significant differences between the examined groups referred to the ability to make use of emotion in action [$F(2.89)=4.767$; $p<0.02$] and to understand one's own emotions [$F(2.89)=2.744$; $p<0.07$]. Significant differences in action under the influence of emotions occurred between the groups with mild and moderate fatigue as well as between the groups with mild and severe fatigue. The differences among adolescents within the range of ability to understand one's own emotions occurred between the groups with severe fatigue and mild fatigue and there was a tendency.

Accordingly, Figure 1 presents necessary data (in order to describe groups) regarding the different groups. Emotional ability profiles among adolescents with different levels of fatigue present the specificity of each group's function. Persons with mild fatigue can be characterized mostly by a positive ability to make use of emotion in action, which is accompanied by understanding well both one's own and other people's emotions. The profile of a person with moderate fatigue

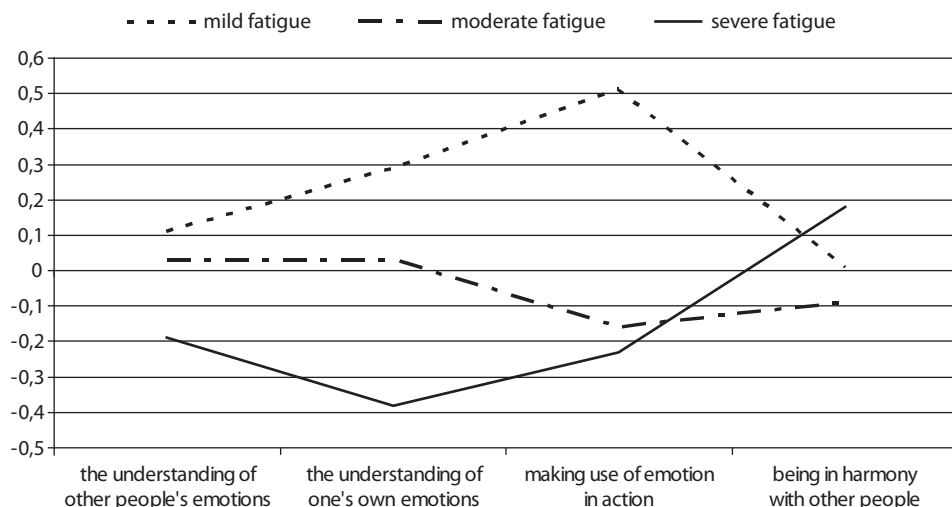


Figure 1. EI and fatigue – profiles

is nearly flat and does not show any significant differences between categories of emotional intelligence. The separate abilities schema is revealed in the profile of people with severe fatigue. The most characteristic feature of that profile is the ability to be in harmony with other people.

Step 2

Table 2 presents correlations between emotional intelligence and chronic fatigue. The correlations were negative, which means that the lower the level of emotional abilities, the higher the level of fatigue. However, the strength of that relationship was weak and oscillated within the bounds of $r = 0.25$ to $r = 0.34$. The significant correlations occurred between EI and weakened vitality [$r = 0.34$; $p < 0.001$], anxiety [$r = -0.29$; $p < 0.01$] and irritability [$r = 0.25$; $p < 0.05$]. The correlation between the total level of fatigue and EI was $r = 0.26$ ($p < 0.05$).

The strength of the relationships between cumulative fatigue and particular emotional abilities was different. The correlation between fatigue and understanding one's own emotions is 0.25–0.27. This skill is particularly important for weakened vitality, irritability and anxiety. The correlation between cumulative fatigue and making use of emotions in action is 0.22–0.34. It means that using control in doing something and using emotion in problem solving reduces the level of cumulative fatigue, especially: less weakened vitality, irritability, anxiety and discouragement. There were no essential statistical dependencies of fatigue on understanding of other people's emotions and being in harmony with others.

Table 2. Correlation (Pearson's r) between cumulative fatigue and emotional intelligence and its categories among teenagers

Factors	The understanding of one's own emotions			Understanding of other people's emotions			Making use of emotion in action			Being in harmony with other people			Emotional intelligence		
	Total group	Female	Male	Total group	Female	Male	Total group	Female	Male	Total group	Female	Male	Total group	Female	Male
Cumulative fatigue	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-0,25*	n.s.	n.s.	n.s.	n.s.	n.s.	-0,26*	n.s.	n.s.
General fatigue	n.s.	n.s.	n.s.	n.s.	-0,38*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Weakened vitality	-0,25*	-0,38*	n.s.	n.s.	-0,40*	n.s.	-0,34***	-0,51**	n.s.	n.s.	n.s.	n.s.	-0,34***	-0,51**	n.s.
Irritability	-0,25*	n.s.	n.s.	n.s.	n.s.	n.s.	-0,23*	n.s.	n.s.	n.s.	n.s.	n.s.	-0,25*	n.s.	n.s.
Physical fatigue	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Anxiety	-0,27**	-0,50**	n.s.	n.s.	-0,39*	n.s.	-0,23*	n.s.	n.s.	n.s.	n.s.	n.s.	-0,29**	-0,45*	n.s.
Discouragement	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-0,22*	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

* $p < 0.05$

** $p < 0.01$

*** $p < 0.001$

This characteristic refers to females but not males. Among females correlations were found in the following categories between emotional intelligence and its skills, and cumulative fatigue: EI and weakened vitality [$r = 0.51$; $p < 0.01$] and anxiety [$r = 0.45$; $p < 0.05$]; making use of emotions in action and weakened vitality [$r = 0.51$; $p < 0.01$]; understanding of one's own emotions and weakened vitality [$r = 0.38$; $p < 0.05$] and anxiety [$r = 0.50$; $p < 0.01$]; understanding of other people's emotions and weakened vitality [$r = 0.40$; $p < 0.05$] and anxiety [$r = 0.39$; $p < 0.05$]; and general fatigue [$r = 0.38$; $p < 0.05$]. They were negative. No correlation in the group of males was found.

Discussion

The aim of the examination of adolescents aged 16–18 was to characterize how emotions function among children and adolescents in cases of chronic and cumulative fatigue. Analysis of dependencies occurring between the levels of emotional intelligence (EI) and the level of cumulative fatigue among adolescents allowed the researcher to conduct further observations.

The results might suggest the occurrence of certain emotional difficulties typical of persons with moderate and intensified fatigue together with the growth of the fatigue level. The presented data seem to suggest that adolescents with mild and moderate fatigue understand themselves better than those teenagers with severe fatigue. Apart from that, persons with the mild fatigue are able to use their emotions in action better than those persons with the moderate and severe fatigue.

Emotional intelligence among the examined differs and diminishes together with the growth of the fatigue level. The lack of emotional abilities plays the most important role in the reduction of vitality, the appearance of irritability and the growth of anxiety connected with one's own abilities. Especially, the ability to understand oneself and the ability to use emotions in action are particularly susceptible to the above-mentioned disturbances connected with fatigue. Such features as depression, anxiety and aggression are characteristic of youngsters with cumulative fatigue (Kulik & Szewczyk, 2003a; Rangel et al., 2000). The increase of these emotions is related to diminution in understanding oneself and the lack of ability to monitor adequately and take advantage of one's own emotions. The lack of understanding oneself leads both to the lack of diagnosis and denominating what one feels. It means difficulties with self-consciousness.

A low ability to understand oneself might cause difficulties in being aware of one's own desires, moods, emotional needs and motivation. It leads to difficulties in realizing one's own expectations and in failing to create a real self-concept, namely an image of the world and one's own role in it. The effects of these ob-

stacles result in some personality difficulties both with identifying oneself and delimiting distinct “I-you” borders. Difficulties regarding the control of one’s own behaviour are often the effect of a lack of self-awareness. This lack of consciousness of one’s own emotions causes imbalance in relation to the social environment. It means that the person is not able to defend their rights in parallel with staying in good relationships with others (Brannon, 2002). This failure can be considered as a lack of adjustment as well. Such dysfunctional features show a lack of emotional integrity among the persons examined and indicate potential disturbances of the basic process of adaptation (Lazarus, 1986). Thus, they might be the origins of worries about the future, of tendencies to magnify threats and engage in self-aggression, and of feelings of exhaustion (Kulik & Szewczyk, 2003a). An external manifestation could be the consciousness of behaviours observed among children with chronic fatigue (Rangel et al, 2000). On the other hand, control of emotions requires a large amount of energy and can exhaust personal resources, especially among young people. Failures in controlling one’s own emotions can also reinforce fatigue, whereas cognitive activities require energetic resources which are significantly reduced among exhausted persons.

On the other hand, lack of self-awareness can lead to favouring the expectations of other persons. It can lead to seeking external criteria for behaviour or to seeking support from others. It participates in building harmonious relationships with other persons. Adolescents with cumulative fatigue are directed mostly towards being in consonance with other people and having harmonious mutual relations with others. One of the possible reasons for that is a personality of teenagers with cumulative fatigue. The characteristic feature is noticed in the behaviour of an “adopted child” (Kulik & Szewczyk, 2001), which means that teenagers obtain confirmation of their self-esteem and identities by realizing them through the other people’s expectations. Teenagers with a high level of fatigue are also characterized by avoidance of confrontation and uncertainty. They evince tendencies toward conventional behaviours, adjusting themselves to the opinion of other persons and therefore overly depending on them. Simultaneously, this attitude bends towards favouring others. The characteristic feature of such attitudes is a lack of internal autonomy (De Vries & Van Heck, 2002) and a depreciation of the one’s own importance and role (Schweizer et al, 1995). Hence, their behaviour surrenders easily to disorganization. Moreover, the adolescents’ concentration on other people’s expectations restrains their cognitive abilities to analyse real situations, thus starting a chain of unconscious action which as a consequence makes them even more subordinate to others.

An alternative reason for such results can be connected with gender. Researches shows that fatigue is more frequent among females (Jason et al, 1999;

Jordan et al, 1998; Cleare, 2001; Hotopf, 1997; Kulik, 2010). Other research suggests the important role played by interpersonal relationships among females (Brannon, 2002). Females perceive themselves as part of a network of interpersonal connections. Therefore, they pay more attention to good relations with others and are ready to risk their independence, unlike males. Another variable influencing female behavior can be connected with learned habits of displaying feelings. Females are expected to feel in a much more intensive way and to react to the problems of others. Such a role can be an additional source of stress. The preference for relations is connected with lifestyle and social roles. What is more, it is conditioned by culture. Perhaps, cultural and social transformations destabilize interpersonal relations by altering the conditions for development (Bowles & Ware, 1994). Social and cultural conditions are important perpetual chronic fatigue factors (Chalder & Williams, 1997; Rotholz, 2002). Hence, there is an intensive accent on this area of life among fatigued females, especially the young. Seeking one's own place is very important, especially during adolescence. The examined groups are, first of all, young people from secondary schools, who face the future.

Still another possibility is probably age. Some difficulties concerning both understanding of one's emotions and taking advantage of this understanding so that functioning is better, are characteristics of adolescence. The ability to play roles, considered as fulfilling others' expectations, grows with age. It is mostly connected with an altruistic attitude. The high level of this ability, the more easily evoked empathic reactions will be (Davis, 2001). It means greater energetic effort for an organism and causes more excessive exhaustion and the growth of fatigue.

Lack of relationships between emotional ability, general fatigue and physical fatigue seems to indicate other categories not directly connected with emotions. Using emotions to think and do is important for reducing discouragement connected with learning and school.

However, there are some limitations of the present study. It seems that laboratory testing could indicate other illnesses or psychological difficulties. Moreover, a greater number of males should be investigated. Some reports have suggested that females have a predisposition to higher emotional intelligence. Simultaneously, they experience symptoms of fatigue differently from males. All these limitations mean that there might be different levels of fatigue symptoms.

Finally, the present study underlines the importance of understanding oneself and using emotions in one's life in the best way. However, it seems that underlying the importance of particular difficulties, controlling one's emotions may be essential in the therapy of adolescents with cumulative fatigue.

References

- Abbey, S.E. (1993). Somatization, illness attribution and the sociocultural psychiatry of chronic fatigue syndrome. In: *Chronic fatigue syndrome*. Chichester: Wiley (Ciba Foundation Symposium, 173), 238–261.
- Bowles, T.V., Fallon, B.J. (1996). Self-concept, Family Functioning and Problem Type: A Replication and extension of a Study of Clinic and Non-clinic adolescents. *Journal of Adolescent Health*, 19, 62–67.
- Brannon, L. (2002). *Psychologia rodzaju*. Gdańsk: GWP.
- Carter, B.D., Edwards, J.F., Kronenberger, W.G., Michalczyk, L., Marshall, G.S. (1995). Case Control Study of Chronic Fatigue in Pediatric Patients. *Pediatrics*, 95 (2), 179–186.
- Carter, B.D., Marshall, G.S. (1995). New Developments: Diagnosis and Management of Chronic Fatigue in Children and Adolescents. *Current Problems in Pediatrics*, 25(9), 281–293.
- Chalder, T., Williams, C. (1997). Illness attribution, illness behavior and personality in chronic fatigue syndrome. *Baillieres Clinical Psychiatry*, 3 (3), 407–418.
- Cleare, A.J. (2001). Regulatory Disturbance of Energy. In: *Everyday Biological Stress Mechanisms. Advances in Psychosomatic Medicine*, 22, 17–34.
- Davis, M.H. (2001). *Empatia. O umiejętności współodczuwania*. Gdańsk: GWP.
- De Vries, J., Van Heck, G.L. (2002). Fatigue: relationships with basic personality and temperament dimensions. *Personality and Individual Differences*, 33, 1311–1324.
- Fukuda, K. (1997). Development of the 1994 chronic fatigue syndrome case definition and clinical evaluation guidelines. In: S. Yehuda & D.I. Mostofsky (Eds.). *Chronic fatigue syndrome*. NY-London: Plenum Press, 29–50.
- Gillespie, N., Kirk, K.M., Heath, A.C., Martin, N.G., Hickie, I. (1999). Somatic distress as a distinct psychological dimension. *Social Psychiatry and Psychiatric Epistemology*, 34, 451–458.
- Goleman, D. (1997). *Emotional Intelligence*. Poznań: Media Rodzina of Poznań.
- Hotopf, M. (1997). Epidemiology of fatigue and chronic fatigue syndrome. *Baillieres Clinical Psychiatry*, 3 (3), 387–406.
- Jason, L.A., Jordan, K.M., Richman, J.A., Rademaker, A.W., Huang, Ch-F., McCready, W. Shalaes, J., King, C.P., Landis, D., Torres, S., Haney-Davis, T., Frankenberry, E.L. (1999). A Community-based Study of Prolonged Fatigue and Chronic Fatigue. *Health Psychology*, 4(1), 9–26.
- Jaworowska, A., Matczak, A. (2001). *Kwestionariusz Inteligencji Emocjonalnej INTE*. Podręcznik. Warszawa: Pracownia Testów Psychologicznych PTP.
- Jordan, K.M., Ayers, P.M., Jahn, S.C., Taylor, K.K., Huang, Ch-F., Richman, J., Jason, L.A. (2000). Prevalence of Fatigue and Chronic Fatigue Syndrome-

- Schweizer, R., Kelly, B., Foran, A., Terry, D., Whiting, J. (1995). Quality of life in chronic fatigue syndrome. *Social Science & Medicine*, 41 (10), 1367–1372.
- Skapinakis, P., Lewis, G., Mavreas, V. (2003). Cross-cultural differences in the epidemiology of unexplained fatigue syndrome in primary care. *British Journal of Psychiatry*, 182, 205–209.
- Walford, G.A., McC Nelson, W., McCluskey, D.R. (1993). Fatigue, depression, and social adjustment in chronic fatigue syndrome. *Archives of Disease in Childhood*, 68, 384–388.
- Ware, N.C. (1994). An anthropological Approach to Understanding Chronic Fatigue Syndrome. In: St.E.Straus (Eds.). *Chronic Fatigue Syndrome*. NY-Basel-HongKong: Marcel Dekker, 85–97.
- Wright, J.B.D., Cottrell, D. (1997). Chronic fatigue syndrome in adolescents and children. *Baillieres Clinical Psychiatry*, 3 (3), 449–471.

- Like Illness in Children and Adolescents. *Journal of Chronic Fatigue Syndrome*, 6(1), 3–21.
- Jordan, K.M., Landis, D.A., Downey, M.C., Osterman, S.L., Thurm, A.E., Jason, L.A. (1998). Chronic Fatigue Syndrome in Children and Adolescents: A Review. *Journal of Adolescent Health*, 22, 4–18.
- Kulik, A. (2010). Zmęczenie przewlekłe u nastolatków. Charakterystyka psychologiczna. Lublin Wydawnictwo KUL.
- Kulik, A., Szewczyk, L. (2001). Uwarunkowania osobowościowe zmęczenia psychicznego u nastolatków w codziennych pozornie ‘bezsresowych’ sytuacjach życiowych. In: L. Szewczyk, A. Kulik (Eds.). *Wybrane zagadnienia z psychologii klinicznej i osobowości*. Psychosomatyka. Lublin: TN KUL, 53–68.
- Kulik, A., Szewczyk, L. (2002). Cumulative fatigue syndrome in the light of genetic theory. *Journal of Psychosomatic Research*, 52, 381.
- Kulik, A., Szewczyk, L. (2003a). Emocjonalność nastolatków a skumulowane zmęczenie. In: L. Szewczyk, M. Skowrońska (Eds.). *Zaburzenia psychosomatyczne u dzieci i młodzieży. Teoria i praktyka*. Warszawa: Wydawnictwo Emu, 79–100.
- Kulik, A., Szewczyk, L. (2003b). Radzenie sobie ze stresem u nastolatków z różnym poziomem zmęczenia. In: Z. Juczyński, N. Ogińska-Bulik (Eds.) *Zasoby osobiste i społeczne sprzyjające zdrowiu jednostki*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego, 177–196.
- Kulik, A., Szewczyk, L. (2005). Kwestionariusz do badania zmęczenia. Psychometryczne właściwości. In: M. Oleś (Eds.). *Wybrane zagadnienia z psychologii Klinicznej i Osobowości. Metody diagnostyczne w badaniach dzieci i młodzieży*. Lublin: TN KUL, 41–61.
- Lazarus, R. (1986). Paradygmat stresu i radzenia sobie. *Nowiny Psychologiczne*, 3–4, 2–39.
- Mandrowska-Xinxo, A., Zdunkiewicz, L. (1994). Higiena pracy ucznia, zmęczenie, wypoczynek. In: A. Jacewski (Eds.). *Biologiczne i medyczne podstawy rozwoju i wychowania*, t.2. Warszawa: WSiP.
- Rangel, L., Garralda, E., Lenin, M., Roberts, H. (2000). Personality in adolescents with chronic fatigue syndrome. *European Journal of Child and Adolescent Psychiatry*, 9, 39–45.
- Rotholz, J.M. (2002). *Chronic Fatigue Syndrome, Christianity, & Culture*. New York: The Haworth Medical Press.
- Salovey, P., Mayer, J.D. (1999). Emotional Intelligence. *Imagination, Cognition, and Personality*, 9, 185–211.
- Salovey, P., Sluyter, D.J. (Eds.) (1999). *Emotional Development and Emotional Intelligence. Educational Implications*. Poznań: Dom Wydawniczy REBIS.