The European Proceedings of
Social & Behavioural Sciences
EpSBS

Future Academy

ISSN: 2357-1330

http://dx.doi.org/10.15405/epsbs.2017.09.24

3rd icH&Hpsy 2017

3rd International Conference on Health and Health Psychology

SOMATOFORM SYMPTOMS IN ADOLESCENTS WHO VISIT THE EMERGENCY DEPARTMENT: ALEXITHYMIA AND DEFENSIVE STRATEGIES

Eleonora Marzilli (a)*
*Corresponding author

(a) Department of Dynamic and Clinic Psychology, Faculty of Medicine and Psychology, Sapienza University of Rome, Via dei Marsi n. 78, 00185 Rome, Italy, eleonora.marzilli@uniroma1.it

Abstract

Somatoform symptoms represent one of the main reasons of access to emergency department (ED) in adolescence. Research in this field has limitedly focused on difficulties to recognize and cope with their own emotions, considering the access rate to an ED. The present study aims to verify whether adolescents who accessed an ED for somatoform symptoms show high alexithymia traits and use specific defense strategies. Adolescents (range: 15-24 years) who visited an ED for somatoform symptoms (N=37) or who accessed to an ED for somatoform symptoms in the past (N=37) were involved in this study and completed the TAS-20 to assess alexithymia and the REM-71 to assess use of defense mechanisms. A control group of adolescents from general population were paired. Adolescents who visited an ED for somatoform symptoms shown more alexithymic traits and a higher use of maladaptive defense strategies respect to control group. Higher rates of access to ED are associated with more use of repression, but only for adolescents who accessed to an ED in the past. Finally, alexithymic characteristics are associated with use of specific defense strategies. Our findings confirm that ED is one of the most used services of young people suffering from somatoform symptoms. In this perspective, ED visits are to be considered as adolescents' unconscious attempt to seek psychological help. These findings evidence the importance of prevention programs based on increasing of awareness and acceptance of unconscious needs and on the promoting of use of adaptive defense mechanisms.

Keywords: Somatoform, adolescent, emergent department, alexithymia, defences.

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

1. Introduction

Somatoform symptoms represent common features of psychological and psychosomatic disorders which induce a broad spectrum of pain and physical discomfort, including recurrent tension headache, abdominal inflation, gastrointestinal symptoms and other somatic symptoms that are inconsistent or cannot be medically explained (Murray et al., 2015; Dehoust et al., 2017; Heidari et al., 2017).

According to DSM-5 (American Psychiatric Association, 2003), somatoform symptoms generally occur in adolescence (Klineberg et al., 2014) and tend to persist through adulthood without treatment (Winter et al., 2014; Jeon, 2015).

In adolescence, it has been evidenced a rate of prevalence of approximately 11% to 22% (Hildernik et al., 2013; van Geelen, Rydelius, & Hagquist, 2015) with an increment during development. The most common adolescents' somatoform symptoms are continuous headache, dizziness, fatigue, musculoskeletal pain, stomachache and abdominal pain (Thomson et al., 2014). However, manifestation of somatoform problems tend to be usually polysymptomatic (Emich-Widera et al., 2012). Especially after puberty, there is a distinct difference in gender in which females adolescent girls reporter higher psychosomatic problems respect to adolescent boys, with a ration of 5:1 (Bujoreanu et al., 2014; Ruchkin & Schwab-Stone, 2014). Moreover, it has been evidenced that 18.3% of adolescents who suffering from someone of these signs of somatic pain generally experience pain more than once per week (Larsson & Sund, 2007; Jeon, 2015). Individual tend to attributes these symptoms to a physical illness and this conduce to seeking medical advices (Fiertag & Eminson, 2014). Developmental clinicians and researchers have suggested that in adolescence can be difficult express own feeling and emotions through language. In this time, faster biological, cognitive and social changes that occur may increase negative affect and emotional reactivity. Because of this, adolescents may often manifested their emotional hardship through physical (somatic) symptoms (Mohapatra et al., 2014). In particular, according to psychodynamic framework, psychological distress of somatoform adolescent patients has been interpreted as a consequence of an unconscious repression of intolerable affects in order to avert interpersonal conflicts, which would lead severe negative emotions (Beutel et al., 2008). Moreover, also increased concern to body sensations that characterized adolescents who recurrent experience somatic symptoms, play a key role to distract person from interpersonal conflicts (de Greck et al., 2013; Casini, 2015; Probst et al., 2017).

Several studies focused on factors that may increased the risk of experiencing somatoform symptoms, have shown that somatic pain and functional pain medically unexplained are caused by dynamic and reciprocal interactions between biological, psychological and interpersonal factors, including pressure from schools and families, and poor quality of family functioning (Basch et al., 2015). Moreover, it has been reported that adolescents suffering from somatoform symptoms have a higher risk to develop social and emotional maladjustment (Mohapatra et al., 2014), especially anxiety and depressive symptoms (Bellini et al., 2013), missing schools and academic stress (Cozzi et al., 2017), withdraw and avoid social relationship with peers (Cottrell, 2016).

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

2. Problem Statement

Please replace this text with context of your paper. Recently, several authors have point out that somatoform symptoms in adolescents population are one of the main reasons of access to primary care services for seeking professional help and performing a number of specialist examinations (Casini, 2015; Tøt-Strate et al., 2016). Indeed, it has been reported that approximately 25-50% of emergency department (ED) visits by adolescents are for non urgent and non organic problems (Alderman, 2012; Cozzi et al., 2017). Research among adults population have shown that somatoform symptoms are significant associated with both difficulty in expressing and verbalizing emotional states and experiences (Panayiotou et al., 2015; Saariaho et al., 2016) and use of immature defense mechanisms (Hyphantis et al., 2013a, 2013b). Moreover research have widely underlined the presence of significant associations between alexithymia and immature defense strategies (Alilu et al., 2014). In contrast, only few studies have examined the above associations in adolescent samples, suggesting that somatoform symptoms are correlated to adolescents' difficulties to recognize and cope with their own emotions (Tozzi et al., 2013). In particular, adolescents whit recurrent psychosomatic diseases reported a high level of alexithymic traits (Burba et al., 2006; Casini, 2015; Cerutti et al., 2016a, 2017) and massive use of maladaptive defense strategies (Xiao & Fu, 2006; Mulloy, 2013) compared with healthy controls

3. Research Questions

To the authors' knowledge, however, there is a dearth of studies focused on possible associations between alexithymia and use of specific defense mechanisms in adolescents with somatoform symptoms, considering the access rate to an ED

4. Purpose of the Study

Based on these theoretical and empirical premises, the principal aim of this paper was to evaluate whether adolescents whit somatoform symptoms who visited an ED reported higher levels of alexithymia and maladaptive defense mechanisms. In particular, the present study aims to verify:

- whether adolescents suffering from somatoforms symptoms show difficulties to recognize and describe their own emotions and use specific defense mechanisms
- whether a higher rates of access to ED are associated with more alexithymic characteristics and a massive use of defense mechanisms

5. Research Methods

5.1. Procedure and participants

Over a period of one year, N=73 adolescents (age range: 15-24 years) visited an Italian ED for somatic symptoms who were medically unexplained. We excluded from the total number, adolescents with psychiatric and/or psychological diseases (N=12); adolescents who didn't agree to take part at the research (N=15); adolescents whose parents didn't give their consent to their offspring' participation in the study (N=9). In order to control possible effect of the environment (ED) we also selected a sample of

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

37 adolescents (age range: 15-24 years), from general population, who accessed to an ED for somatoform symptoms in the past. Moreover, due to collaboration of Italian schools and University, a control group of 37 adolescents (age range: 15-24 years) which have never been visited an ED and/or have never been hospitalized from the beginning of their adolescence, and which had no serious or chronic health problems, were paired. Thus, final total samples are composed by three group: Group A: 37 adolescents (27 girls and 11 boys) who visited an ED for somatic symptoms at the moment of study; Group B: 37 adolescents (27 girls and 11 boys) who visited an ED for somatic symptoms in the past; Group C: 37 adolescent (27 girls and 11 boys) from general population who represent the health control group. 61% of the adolescent were firstborn and 89% of their families had a middle socioeconomic status (Hollingshead, 1975). Most of them (74%) were intact family groups and 94% were Caucasian. All participants completed self-report measures (describe below):

5.2. Assessment of alexithymic features

In order to assess the difficulty to describe and identify emotions, we used the Toronto Alexithymia Scale (TAS-20) (Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994; Italian version – La Ferlita et al., 2007), a 20 item self-report scales. The scale is based of four-factor structure, coherent with the construct of the alexithymia. Factor 1 includes seven items evaluating the ability to identify emotions. The second Factor consists of five items which assess difficulty describing feelings to other. The third factor includes four items which assess the subjective significance or importance assigned to emotion. Finally, Factor 4 consists of four items which evaluate externally oriented thinking. Higher scores on these factors are indicative of more alexithymia features. The tool shows good reliability, reporting an alpha coefficient of internal reliability of .86) (Parker, Taylor, & Bagby, 2003).

5.3. Assessment of defense strategies

In order to evaluate the use of defense mechanisms, we used the Response Evaluation Measure for Youth (REM-71) (Steiner, Araujo, & Koopman, 2001), a self-report scale comprised of 71 items which allow to assess 21 different defenses strategies. Defenses are grouped into three factors: Factor 1 includes twelve defenses considered immature in terms of distortion of reality (Acting Out, Conversion, Splitting, Displacement, Dissociation, Fantasy, Passive Aggression, Projection, Suppression, Somatization, Undoing, Withdrawal); Factor 2 includes six defenses characterized by an attempt to deny or minimize feelings that are subjective experienced as intolerable (Denial, Repression, Humor, Intellectualization, Reactive Formation, Omnipotence) Factor 3 includes three mature defenses which allow an adaptive functioning (Idealization, Altruism, Sublimation). Higher scores on these scales detect a recurrent use of defense mechanisms. The scales have reported satisfactory internal consistency (average alpha of Cronbach = 0.56) and the current Italian version demonstrated a good internal consistency and a alpha coefficient of reliability of .84. (Prunas et al., 2009).

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

5.4. Statistical analyses

To examine the difficulty in identifying and describing emotions and the use of specific defense mechanisms in all groups considered, we conducted univariate analyses of variances (ANOVAs). Post-hoc used for contrasts was Scheffè's test. Moreover, Pearson's correlation coefficient was used to verify possible association between rate of access an ED and all subscales of TAS-20 and REM-71, in Group A and B. Finally, in order to examine possible associations between the scores of the different questionnaires the correlation coefficient of Pearson was used. In all our analyses we conducted, we didn't find significant effects of adolescents' age and sex on the variables misured. All data were analyzed using IBM SPSS statistics software version 24.0.

6. Findings

6.1. Assessing of the use of adolescents' defense mechanisms

In order to verify if adolescents who visited an ED due to somatoform symptoms use higher levels of defense mechanisms, an ANOVA has been conducted on all groups' scores of all defenses of REM-71. In Table 1 are shown average scores, standard deviations, F and p values. We reported only significant differences.

Results show the presence of significant differences between adolescent with somatoform symptoms (Group A e B) and control group (Group C) in defense strategies use. In particular, adolescents of Group A reported higher levels of Sublimation compared to control group ($p<.05$) and more Conversion respect to Group B ($p<.05$) and to Group C ($p<.01$). Adolescent who visited an ED for somatoform symptoms in the past (Group B) shown higher scores of Dissociation, Fantasy, Onnipotence ($p<.05$) and Sublimation ($p<.01$) compared to control group. Moreover, they reported higher scores of Factor 1, Factor 2 and Factor 3 of REM-71 than control group ($p<.05$).

Table 01. Means, standard deviations, F and p values of adolescents' scores on REM-71 subscales

REM-41	Group A	Group B	Group C	F (2, 108)	*p* values
Dissociation	3,97 (2,17)	4,67 (1,88)	3,46 (1,72)	3,629	,030*
Fantasy	3,69 (1,98)	4,79 (1,97)	3,56 (1,84)	4,491	,013*
Omnipotence	5,06 (1,69)	5,60 (1,71)	4,63 (1,40)	3,385	,038*
Conversion	2,31 (2,13)	1,43 (0,87)	1,24 (0,63)	6,348	,002**
Somatization	4,32 (1,91)	4,38 (2,02)	3,37 (1,72)	3,303	,041*
Sublimation	5,62 (1,46)	5,83 (1,49)	4,60 (1,51)	7,222	,001**
Factor I	4,17 (1,08)	4,45 (0.99)	3,82 (1,11)	3,224	,044*
Factor II	4,92 (0,90)	5,03 (1,06)	4,46 (0,89)	3,653	,029*
Factor III	6,36 (1,14)	6,61 (1,08)	5,91 (1,23)	3,444	,035*

* Significant at $p < 0.01$.

* Significant at $p< .05$

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

6.1. Assessing of the use of adolescents' defense mechanisms

In order to verify if adolescents who visited an ED due to somatoform symptoms have difficulties to recognize and describe their own emotions, ANOVA has been conducted on all groups' scores on all TAS-20 factors. Table 2 shows mean scores, standard deviations, F and p values. Results show the presence of significant differences between adolescents who visited an ED for somatoform symptoms and control group in the capacity of recognize and describe their own emotions. In particular, adolescents' of Group A shown more difficulties in subjective significance or importance assigned to emotions, reporting higher scores in Factor 3 of TAS-20 ($p<.05$) respect to control group.

Table 02. Media, standard deviations, F and p values of adolescents' scores on TAS-20 subscales

TAS-20	Group A	Group B	Group C	F (2, 108)	*p* values
Factor 1	13,64 (5,64)	13,94 (5,00)	12,08 (4,96)	1,366	,260
Factor 2	17,05 (4,19)	17,75 (5,10)	16,94 (4,23)	,349	,706
Factor 3	14,37 (2,75)	13,10 (2,71)	12,54 (3,29)	3,807	,025*
Factor 4	9,08 (3,46)	10,24 (3,71)	9,10 (3,33)	1,323	,271
TAS-20 tot	56,78 (10,61)	58,13 (10,36)	53,18 (9,62)	2,32	,103

* Significant at $p< .05$

6.1. Relationships between rate of access to an ED, TAS-20 and REM-71

In order to verify whether adolescents who recurrently visited an ED for somatoform symptoms show more difficulties to indentify and cope with their own emotions, we conduced correlation analyses to verify possible association between rate of access an ED and all subscales of TAS-20 and REM-71, in Group A and B. Among adolescents with somatoform symptoms (N=74), 52,7% have visited an ED for somatoform problems one time in the last year, 27% two times, 12% three times, and 8% four times. Results shown that higher rates of access to ED are associated with more use of Repression, but only for adolescents who accessed to an ED in the past ($p=.001$).

Finally, our results shown that alexithymic characteristics were associated with use of specific defense strategies. In particular, in Group A, correlation analyses between three factors of REM-71 and four factors of TAS-20 have reported significant associations between Factor 1 of REM-71 and Factor 1 ($p<.01$), Factor 2 ($p<.05$), Factor 3 ($p<.05$) and Factor 4 ($p<.01$) of TAS-20. Factor 2 of REM-71 was associated with Factor 2 of TAS-20 ($p<.01$). In Group B, has been reported significant association between Factor 1 of REM-71 and Factor 1 ($p<.001$), Factor 2 ($p<.0001$), and Factor 4 ($p<.001$) of TAS-20

7. Conclusion

This study aimed to verify whether adolescent's who visited an ED for somatoform symptoms shown difficulty to recognize, describe and cope with emotions of self and others effectively, considering the rate of access. Our results have confirmed that ED is one of the most used services of young people suffering from somatoform symptoms, with higher healthcare costs involved due to heavy utilization of resources (Weiss, D'Angelo & Rucker, 2014). Psychodynamic clinicians (Witthöft & Hiller, 2010; Casini,

2015) have interpreted ED visits as adolescents' unconscious request to receive psychological help. In particular, our data evidenced the presence of massive use of defense strategies in adolescents with somatoform symptoms, especially in adolescents who visited an ED in the past (Group B). We hypothesized that adolescents of Group A reported a lower use of defense mechanisms due to the particular environment where they were (ED), which has been suggested to be associated with a lowering of defenses (King, Churchill, & Cross, 2007). Regarding our second aim, our findings confirmed that adolescents with somatoform difficulties have higher levels of alexithymic traits and are coherent with recent studies that have shown the presence of strong association between alexhitymic features and somatoform symptoms (Casini, 2015; Cerutti et al., 2016b). Moreover, higher rates of access to ED of adolescents who accessed to an ED in the past are significant associated with use of specific defense strategies (i.e., repression). Finally, in accordance with previous studies (Helmes et al., 2008), our results have confirmed that alexithymic characteristics were associated with use of specific defense strategies. These findings could evidence the importance of prevention programs focused on increasing of awareness and acceptance of unconscious needs and on promoting use of adaptive defense mechanisms (de Greck et al., 2013). This study has some limits: the sample homogeneity in terms of cultural, geographical, and socio-economic status limits generalizations of the results; we did not evaluate adolescents' emotional-behavioral functioning and/or the presence of psychopathological symptoms as suggested by previous studies (Rajindrajith et al., 2013); we did not examine family functioning and quality of relationships of adolescents with their peers that literature have underlined to be widely linked to somatoform symptoms in adolescence (Basch et al., 2015). To the authors' knowledge, moreover, no other study have focused on possible associations between adolescents' somatoform symptoms with both alexhitymic traits and defensive strategies, considering adolescents' rates of access to an ED

References

Alderman, E. M., Avner, J., & Racine, A. (2012). Adolescents' Use of the Emergency Department Does Source of Primary Care Make a Difference?. *Journal of primary care & community health, 3*(1), 36-41.

Alilu, M. M., Abdolmohamadi, K., Zade, M. H., Hamidi, R., & Basmenj, N. K. (2014). The role of defensive mechanisms and emotional regulation in alexithymia. *Journal of current research in science, 2*(3), 395.

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders - DSM-5. 5th Edition.* American Psychiatric Publishing, Arlington.

Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item toronto alexithymia scale I. Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38*, 23–32.

Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994). The twenty-item toronto alexithymia scale – II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research, 38*, 33–40.

Basch, M. C., Chow, E. T., Logan, D. E., Schechter, N. L., & Simons, L. E. (2015). Perspectives on the clinical significance of functional pain syndromes in children. *Journal of pain research, 8*, 675.

Bellini, B., Arruda, M., Cescut, A., Saulle, C., Persico, A., Carotenuto, M., ... & Tozzi, E. (2013). Headache and comorbidity in children and adolescents. *The journal of headache and pain, 14*(1), 79.

Beutel, M. E., Michal, M., & Subic–Wrana, C. (2008). Psychoanalytically-oriented inpatient psychotherapy of somatoform disorders. *Journal of the American Academy of Psychoanalysis and Dynamic Psychiatry, 36*(1), 125-142.

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Bujoreanu, S., Randall, E., Thomson, K., & Ibeziako, P. (2014). Characteristics of medically hospitalized pediatric patients with somatoform diagnoses. *Hospital pediatrics, 4*(5), 283-290.

Burba, B., Oswald, R., Grigaliunien, V., Neverauskiene, S., Jankuviene, O., & Chue, P. (2006). A controlled study of alexithymia in adolescent patients with persistent somatoform pain disorder. *The Canadian Journal of Psychiatry, 51*(7), 468-471.

Casini, E. (2015). *Somatizzazione e adolescenza. Quando le emozioni sono sequestrate nel corpo*. Franco Angeli, Milano.

Cerutti, R., Presaghi, F., Spensieri, V., Valastro, C., & Guidetti, V. (2016a). The Potential Impact of Internet and Mobile Use on Headache and Other Somatic Symptoms in Adolescence. A Population-Based Cross-Sectional Study. *The Journal of Head and Face Pain, 56*(7), 1161-1170.

Cerutti, R., Spensieri, V., Valastro, C., Presaghi, F., Canitano, R., & Guidetti, V. (2017). A comprehensive approach to understand somatic symptoms and their impact on emotional and psychosocial functioning in children. *PloS one, 12*(2), e0171867.

Cerutti, R., Valastro, C., Tarantino, S., Valeriani, M., Faedda, N., Spensieri, V., & Guidetti, V. (2016b). Alexithymia and psychopathological symptoms in adolescent outpatients and mothers suffering from migraines: a case control study. *The journal of headache and pain, 17*(1), 39.

Cottrell, D. J. (2016). Fifteen-minute consultation: Medically unexplained symptoms. *Archives of disease in childhood-Education & practice edition, 101*(3), 114-118.

Cozzi, G., Minute, M., Skabar, A., Pirrone, A., Jaber, M., Neri, E., ... & Barbi, E. (2017). Somatic symptom disorder was common in children and adolescents attending an emergency department complaining of pain. *Acta Paediatrica, 106*, 586–593.

de Greck, M., Bölter, A. F., Lehmann, L., Ulrich, C., Stockum, E., Enzi, B., ... & Northoff, G. (2013). Changes in brain activity of somatoform disorder patients during emotional empathy after multimodal psychodynamic psychotherapy. *Frontiers in Human Neuroscience, 7*, 410.

Dehoust, M. C., Schulz, H., Härter, M., Volkert, J., Sehner, S., Drabik, A., ... & Quirk, A. (2017). Prevalence and correlates of somatoform disorders in the elderly: Results of a European study. *International Journal of Methods in Psychiatric Research, 26*(1).

Emich-Widera, E., Kazek, B., Szwed-Białożyt, B., Kopyta, I., & Kostorz, A. (2012). Headaches as somatoform disorders in children and adolescents. *Mental Illness, 4*(1).

Fiertag, O., & Eminson, M. (2014). Somatising: clinical presentations and aetiological factors. *Clinical Topics in Child and Adolescent Psychiatry,* 183.

Heidari, Z., Feizi, A., Roohafza, H., Keshteli, A. H., & Adibi, P. (2017). Somatoform symptoms profiles in relation to psychological disorders–A population classification analysis in a large sample of general adults. *Psychiatry Research, 254*, 173-178.

Helmes, E., McNeill, P. D., Holden, R. R., & Jackson, C. (2008). The construct of alexithymia: Associations with defense mechanisms. *Journal of clinical psychology, 64*(3), 318-331.

Hilderink, P. H., Collard, R., Rosmalen, J. G. M., & Voshaar, R. O. (2013). Prevalence of somatoform disorders and medically unexplained symptoms in old age populations in comparison with younger age groups: a systematic review. *Ageing research reviews, 12*(1), 151-156.

Hyphantis, T., Goulia, P., & Carvalho, A. F. (2013a). Personality traits, defense mechanisms and hostility features associated with somatic symptom severity in both health and disease. Journal *of psychosomatic research, 75*(4), 362-369.

Hyphantis, T. N., Taunay, T. C., Macedo, D. S., Soeiro-de-Souza, M. G., Bisol, L. W., Fountoulakis, K. N., ... & Carvalho, A. F. (2013b). Affective temperaments and ego defense mechanisms associated with somatic symptom severity in a large sample. *Journal of affective disorders, 150*(2), 481-489.

Jeon, J. H. (2015). Influencing Factors of Adolescent Girl's Somatization. *Advanced Science and Technology Letters, 104*, 128-133.

King, N. M., Churchill, L. R., & Cross, A. W. (Eds.). (2007). *The Physician as captain of the ship: a critical reappraisal* (Vol. 29). Springer Science & Business Media.

Klineberg, E., Rushworth, A., Bibby, H., Bennett, D., Steinbeck, K., & Towns, S. (2014). Adolescent chronic fatigue syndrome and somatoform disorders: a prospective clinical study. *Journal of paediatrics and child health, 50*(10), 775-781.

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

La Ferlita, V., Bonadies, M., Solano, L., De Gennaro, L., & Gonini, P. (2007). Alessitimia e adolescenza: studio preliminare di validazione della TAS-20 su un campione di 360 adolescenti italiani. *Infanzia e Adolescenza, 6*(3), 131–144.

Larsson, B., & Sund, A. M. (2007). Emotional/behavioural, social correlates and one-year predictors of frequent pains among early adolescents: influences of pain characteristics. *European Journal of Pain, 11*(1), 57-57.

Mohapatra, S., Deo, S. J., Satapathy, A., & Rath, N. (2014). Somatoform disorders in children and adolescents. *German journal of psychiatry, 17*(1), 19-24.

Mulloy, B. M. (2013). Immature Defense Mechanisms, Somatization, and Attitudes Toward Seeking Professional Psychological Help: A Reinvestigation of the Psychoanalytic Theory of Somatization. *Ann Arbor, 1001*, 48106-1346.

Murray, A. M., Toussaint, A., Althaus, A., & Löwe, B. (2015). A systematic review of the current barriers to diagnosing somatoform disorders in primary care. *Journal of Psychosomatic Research, 78*(6), 615-616.

Panayiotou, G., Leonidou, C., Constantinou, E., Hart, J., Rinehart, K. L., Sy, J. T., & Bjorgvinsson, T. (2015). Do alexithymic individuals avoid their feelings? Experiential avoidance mediates the association between alexithymia, psychosomatic, and depressive symptoms in a community and a clinical sample. *Comprehensive Psychiatry, 56*, 206–216.

Parker, J. D. A., Taylor, G. J., & Bagby, R. M. (2003). The 20-Item Toronto Alexithymia scale III. Reliability and factorial validity in a community population. *Journal of Psychosomatic Research, 55*, 269–275.

Prunas, A., Madeddu, F., Pozzoli, S., Gatti, C., Shaw, R. J., & Steiner, H. (2009). The Italian version of the response evaluation measure-71. *Comprehensive Psychiatry, 50*(4), 369–377.

Probst, T., Sattel, H., Henningsen, P., Gündel, H., & Lahmann, C. (2017). Alexithymia as a Moderator of Treatment Outcomes in a Randomized Controlled Trial on Brief Psychodynamic Interpersonal Psychotherapy for Patients with Multisomatoform Disorder. *Psychotherapy and psychosomatics, 86*(1), 57-59.

Rajindrajith, S., Devanarayana, N. M., & Benninga, M. A. (2013). Quality of life and somatic symptoms in children with constipation: A school-based study. *Journal of Pediatrics, 163*(4), 1069-1072.

Ruchkin, V., & Schwab-Stone, M. (2014). A longitudinal study of somatic complaints in urban adolescents: the role of internalizing psychopathology and somatic anxiety. *Journal of youth and adolescence, 43*(5), 834-845.

Saariaho, A. S., Saariaho, T. H., Mattila, A. K., Joukamaa, M. I., & Karukivi, M. (2016). The role of alexithymia: An 8-year follow-up study of chronic pain patients. *Comprehensive Psychiatry, 69*, 145–154.

Steiner, H., Araujo, K. B., & Koopman, C. (2001). The Response Evaluation Measure (REM-71): A new instrument for the measurement of defenses in adult and adolescent. *The American Journal of Psychiatry, 158*, 467–473.

Thomson, K., Randall, E., Ibeziako, P., & Bujoreanu, I. S. (2014). Somatoform disorders and trauma in medically-admitted children, adolescents, and young adults: prevalence rates and psychosocial characteristics. *Psychosomatics, 55*(6), 630-639.

Tøt-Strate, S., Dehlholm-Lambertsen, G., Lassen, K., & Rask, C. U. (2016). Clinical features of functional somatic symptoms in children and referral patterns to child and adolescent mental health services. *Acta Paediatrica, 105*(5), 514-521.

Tozzi, E., Andrisani, G., Maiorani, D., Pezzi, L., Leopardi, R., Fiorentini, N., & Sechi, E. (2013). Alexithymia in headache sufferers: A psychosomatic symptom or comorbidity in adolescents?. *Educational Research, 4*(3), 289-293.

van Geelen, S. M., Rydelius, P. A., & Hagquist, C. (2015). Somatic symptoms and psychological concerns in a general adolescent population: Exploring the relevance of DSM-5 somatic symptom disorder. *Journal of psychosomatic research, 79*(4), 251-258.

http://dx.doi.org/10.15405/epsbs.2017.09.24
Corresponding Author: Eleonora Marzilli
Selection and peer-review under responsibility of the Organizing Committee of the conference
eISSN: 2357-1330

Weiss, A. L., D'Angelo, L. J., & Rucker, A. C. (2014). Adolescent use of the emergency department instead of the primary care provider: who, why, and how urgent?. *Journal of Adolescent Health, 54*(4), 416-420.

Winter, S., Quinn, C., Lenz, K., Pfeiffer, E., & Lehmkuhl, U. (2014). Screening for Somatoform Disorders in Children and Adolescents. *Psychology, 5*(14), 1629.

Witthöft, M., & Hiller, W. (2010). Psychological approaches to origins and treatments of somatoform disorders. *Annual Review of Clinical Psychology, 6*, 257-283.

Xiao, L., & Fu, S. (2006). Defense mechanism and its related factors in patients with persistent somatoform pain disorder. *Chinese Journal of Clinical Psychology, 14*, 395-396.