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When somatization is not the only thing you suffer from: Examining comorbid syndromes using latent profile analysis, parenting practices and adolescent functioning

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ABSTRACT

Understanding somatization presents a challenge to clinicians because it is often associated with other syndromes. We addressed somatization's comorbidity with other internalizing syndromes (anxiety, depression, withdrawal) using latent profile analysis. A representative sample of 3496 Israeli middle and high-school youths reported their internalizing symptoms, perceived parenting practices, psychosocial functioning, and health behaviors. Four profiles, similar across age and gender, were identified: overall-low (65.4%), moderately-high anxiety/depression/withdrawal (24.4%), high somatization (4.8%), and overall-high (5.4%). MANOVAs and follow-up ANOVAs revealed that for the most part the overall-high profile evinced the worst parenting, psychosocial functioning, and health behaviors (smoking and drinking), while the overall-low group evinced the best. For most variables the high somatization and moderately high profiles displayed midway results. However, the moderately-high profile reported higher levels of harsh parenting than the high somatization profile. The high somatization profile reported similar or higher levels of smoking, risk taking, vandalism, and rule violation than the overall-high group. High somatization, either alone or alongside anxiety, depression, and withdrawal, was associated with disruptive and risk-taking behaviors. This link might reflect problems in emotion and anger regulation and become stronger in adolescence because of dysregulation processes characterizing this period. Implications for practice are discussed.

1. Introduction

About 13–25% of all children report recurrent or continuous physical complaints, such as dizziness, headaches, abdominal pain, or fatigue (Perquin et al., 2000; Roth-Isigkeit et al., 2004). The majority of these complaints can be classified as physical functional complaints (PFC) or complaints with no straightforward medical cause (Campo, 2012; Garralda, 2010). The tendency to experience and report multiple PFCs is named somatization (De Gucht and Fischler, 2002), and is common in pediatric primary care (Campo, 2012). Somatization has a substantial negative impact on children, adolescents, and their families (e.g., restricted school attendance, interpersonal and academic difficulties) and it imposes a considerable strain on healthcare systems (Campo et al., 2002). More girls than boys show somatization and the prevalence and types of somatic complaints change with age. In early to late adolescence, there is an increase in the prevalence and number of concurrent symptoms, and an increase in fatigue (Barkmann et al., 2011).

Studies show 20–50% comorbidity between somatization and other psychiatric problems, particularly depression and anxiety, as well as an association with functional impairment and, prominently, social withdrawal (Campo, 2012; Löwe et al., 2008; Pihlakoski et al., 2006). Such comorbidity has been found to be higher among adolescents and girls (Cummings et al., 2014), and may result from bidirectional effects, where somatic symptoms increase anxiety and depression, and vice versa, but can also result from risk factors and antecedents that similarly affect somatization, anxiety and depression (Zwaigenbaum et al., 1999).

Most of the existing research on somatization has used a variable-centered approach, such as using correlations between somatization and risk factors or multiple regression analysis, and has provided significant insights into somatization (Campo, 2012). However, when a certain syndrome such as somatization shows comorbidity with others (e.g., anxiety), knowledge concerning

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sub-populations that may evince different profiles of comorbid syndromes (e.g., somatization with and without anxiety or depression) is sorely required (see for example, the attempt by Egger et al. (1999) at examining the intersection of somatic complaints and anxiety disorder). This is especially pertinent for practitioners (e.g., physicians, psychiatrists, psychologists), who need to acknowledge and treat the whole person rather than the symptoms. The present study employs a person-centered approach (Von Eye and Wiedermann, 2015) whereby individuals are grouped into profiles according to their similarity in order to identify different profiles of the comorbidity of somatization with other internalizing problems, including depression, anxiety, and withdrawal, by using latent profile analysis. In addition, we also explored whether such profiles are similar across gender and age (mid vs. late adolescence), and whether they are associated with different parenting practices and with different psychosocial functioning and health behaviors among the adolescents.

1.1. Parenting practices

The quality of the parent-child relationship may contribute to the development and manifestation of somatization. Parenting that is insensitive to the children's needs for security, closeness, competence, and autonomy (e.g., intrusive parenting), and that models inadequate ways of emotional regulation (e.g., distant and cold parenting and punitive parenting practices) may steer children to express their concerns and stress through somatic symptoms rather than verbalization (Kring and Sloan, 2010; Segerstrom and Miller, 2004). Studies have demonstrated that higher levels of parental overprotection and psychological control are related to higher numbers of physical functional complaints (Janssens et al., 2009; Rousseau et al., 2013). In addition, higher levels of harsh punishment and lower levels of warmth, which induce insecurity and anxiety and model inadequate emotional regulation (Cicchetti and Toth, 1995; Van Der Bruggen et al., 2008) were also associated with somatization (Feldman et al., 2010; Rhee et al., 2005; Rousseau et al., 2013). However, it is unclear whether these parenting practices predict somatization, or whether the association is explained by the comorbidity between somatization and other internalizing behavior problems. Targeting a wide array of parenting practices, we explored those parenting practices that are associated with different profiles of internalizing behavior problems.

1.2. Adolescents' psychosocial functioning and health behaviors

Apart from the established association between somatization, anxiety, and depression, somatization has also been associated, albeit not consistently, with disruptive behavior syndromes (e.g., oppositional defiant disorder and conduct disorder), victimization, and substance abuse such as alcohol misuse. Such an association was found in childhood (see review in Campo (2012), but especially in late adolescence and adulthood and within high-risk samples. For example, somatization and alcohol use co-occurred among adults who had experienced childhood sexual abuse (Zink et al., 2009), and an association was also found between somatic symptoms and antisocial personality disorder in women (Zoccolillo and Cloninger, 1986). Furthermore, an impulsive and antisocial lifestyle has also been associated with symptoms of somatization among college students (Wilson et al., 1999).

Among youths (10–16 years old), parents' reports of somatization were associated with externalizing problems (Meesters et al., 2003). Likewise, in a large non-clinical sample of 11–17-year-old students, somatization was associated with conduct problems (e.g., fighting with others or bullying them; Vila et al., 2009). Additionally, in a population-based large study of children (nine to 16 years old) somatization was associated with disruptive behavior disorders such as oppositional defiant disorder, but only for boys (Egger et al., 1999). The latter authors suggested that somatization might be affected by different psychobiological processes and might manifest in distinct psychosocial functioning profiles in boys and girls. Finally, somatization and violent ideation were recurrent symptoms among children suffering from victimization and bullying (Uusitalo-Malmivaara, 2013).

The present study specifically targeted the adolescent psychosocial functioning that is related to disruptive or acting-out behaviors, domains which have thus far received less scholarly attention in relation to somatization than have anxiety and depression. The domains assessed in the present study included risk taking, rule violation, reactance, and vandalism, as well as bullying, victimization, and health behaviors (smoking and drinking). Following others (e.g., Lilienfeld, 1992), we assumed that for at least some adolescents with a high level of somatization, their distress might also be displayed in acting out and in substance abuse health behaviors (smoking and drinking). Such an association might be especially salient in adolescence in light of the distinct psychobiological processes characterizing this developmental period, which include a relatively high inclination to seek rewards and the still immature capacities for self-control (Steinberg, 2007). The use of a large and representative sample and latent profile analysis, which are unique to the present study and allow the identification of distinct groups with high somatization, might help in uncovering such a subgroup – if it exists.

1.3. Aims of the present study

The aims of the present study were: (1) to explore the existence of different profiles of somatization with comorbid internalizing syndromes (anxiety, depression, and withdrawal) by using latent profile analysis with a large and representative sample of adolescents; (2) to examine whether such profiles are similar across gender and age (mid vs. late adolescence); and (3) to investigate how perceived parenting practices and adolescent psychosocial functioning (in particular functioning that is related to disruptive or acting-out behaviors) and health behaviors (e.g., smoking, drinking) relate uniquely to such profiles, taking developmental period (mid or late adolescence) and gender into account.

2. Method

2.1. Sample and participants

The sample included 3496 adolescents (53.9% girls), comprising 2084 8th graders (52.6% girls) and 1412 11th graders (55.9% girls). They were randomly selected from a comprehensive list of Israeli middle and high schools representing the various socio-economic strata within the Israeli education system. The schools were sampled via a stratified sampling method according to socio-economic statuses (SES), resulting in 22 middle schools and 25 high schools. The schools represented three major SESs based on official Ministry of Education indicators: low (17.7%), medium (46.4%), and high (35.9%), with roughly equal numbers of boys and girls from the two grades in each of the statuses. Two of the schools which were asked to participate refused to cooperate and schools equivalent to them with respect to the sampling parameters were randomly chosen to replace them. 85.9% of the students came from two-parent families, 10.1% had divorced parents, 1.2% reported their parents as living apart, and 2.5% came from a family in which one of the parents was deceased. The mean number of children per family was $M=3.2$ ($SD=1.3$), with a range of 1–11 children per family. About 6% of the parents had an elementary school education, 6% a partial high school education, 21%