Journal of Psychosomatic Research 77 (2014) 477–483

Contents lists available at ScienceDirect

Journal of Psychosomatic Research

The relation between parenting stress and adolescents' somatisation trajectories: A growth mixture analysis ☆

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ARTICLE INFO

Article history:
Received 6 March 2014
Received in revised form 2 September 2014
Accepted 2 September 2014

Keywords:
Adolescents
Individual-level
Parenting stress
Somatisation
Trajectories

ABSTRACT

Objective: The impact of somatisation in adolescence is substantial. Knowledge on (predictors of) individual-level development of somatisation is necessary to develop tailored treatment. The current study assessed individual-level development of somatisation by means of latent mixed modelling. Parenting stress was included as a predictor of somatisation trajectory membership and within-trajectory variation.
Methods: A total of 1499 adolescents and one of their parents (mostly the mother) agreed to participate. Questionnaires were administered when the adolescents were respectively 12–13 (T1), 13–14 (T2), and 14–15 (T3) years old. Adolescents reported on their somatisation, parents on their parenting stress.
Results: Four individual somatisation trajectories were found: increased, long-term low, long-term high, and decreased. Higher early parenting stress (T1) significantly predicted less favourable trajectory membership (increased and long-term high). The relation between later parenting stress (T2 and T3) and somatisation depended on trajectory membership. For adolescents in the long-term high and decreased somatisation trajectories, lower T2 and T3 parenting stress was related to higher somatisation, while for adolescents in the long-term low and increased trajectories, higher T2 and T3 parenting stress was related to higher somatisation.
Conclusions: The results support a general recommendation to prevent the onset of high levels of parenting stress. In addition, for families in which high levels of parenting stress already exist, clinicians should be aware of natural fluctuations in parenting stress, its associated features (e.g., aspects of overall care, like looking for professional help) and of the consequences this might have for the adolescent.

Introduction

Adolescents' somatisation

About 15 to 25% of all adolescents report recurrent or continuous physical complaints, such as dizziness, headache, or fatigue [1–3]. For the majority of these complaints, no straightforward medical cause can be found, a condition which is frequently referred to as physical functional complaints (PFC; disturbances in physical functioning as opposed to disturbances in body structure). The tendency to experience and report multiple PFC is named somatisation [4]. The impact of PFC and somatisation on the wellbeing and functioning of adolescents is substantial. Not only the complaints themselves but also the often associated restricted school attendance, hobbies and participation in social activities with peers, contribute to this impact [5,6]. Knowledge on the development of PFC and somatisation is necessary in order to develop tailored treatment. Earlier studies revealed that psychological and/or social factors play a major role in the development and progression of PFC/somatisation. However, knowledge on specific contributing features and processes is still in short supply [7]. One of the domains that remain understudied is that of family factors, in particular parenting aspects [8]. This study investigates the link between adolescents' somatisation and parenting stress.

Somatisation and parenting stress

Parenting stress is generally conceived as occurring when a parent appraises parenting load higher than the ability to cope with it. Higher parenting stress is related to higher parenting stress-appraisal (i.e., the

☆ This study was conducted at the Flemish Policy Research Centre for Welfare, Health and Family.

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http://dx.doi.org/10.1016/j.jpsychores.2014.09.002
0022-3999/

tendency to appraise parenting situations as stressful), and to the use of less adaptive coping mechanisms [9,10]. An association between parenting stress and somatisation can be expected based on the social learning principle of modelling, stating that a person's behaviours are shaped through observation of significant others [11]. Adolescents with parents showing high parenting stress, might be likely to observe (some of) their parents' less adaptive stress-appraisal and coping mechanisms. As a result, the adolescents might be more likely to use this less adaptive style in their approach of all kinds of potential stressors, a condition which has been found to be highly related to somatisation [12,13]. Few empirical studies have investigated the relation between parenting stress and somatisation. Significant cross-sectional relations were found between parenting stress and adolescents' chronic pain. Eccleston et al. [14] revealed a positive relationship between parenting stress and chronicity of pain in adolescents (11–17 years). Cohen et al. [15] found that parents of the most disabled chronic pain patients (10–18 years old) suffered from significantly higher amounts of parenting stress. Rousseau et al. [16] revealed a significant mean-level longitudinal prediction of higher somatisation by lower parenting stress.

Gaps in previous research

Several questions remain to be answered concerning the relation between somatisation and parenting stress. First, there is a general lack of studies on the link between somatisation and parenting stress. Second, the studies that did investigate the relationship were mainly cross-sectional. Third, longitudinal studies considered only average longitudinal trends, while past research suggests that the development of somatisation cannot be captured by average trends. Dunn et al. [17] investigated individual patterns of pain development. For three years, every three months, data were collected from a cohort of 11-year-olds on four different kinds of pain. For each kind of pain, comparable trajectory-types were found. A first type was characterised by consistent low pain frequency. Four other trajectory-types were marked by low onset followed by rather decrease (type two), early increase (type three), late increase (type four) or increase followed by decrease (type five). A last type of trajectory was characterised by consistent high pain (type six). Children with type three or type six trajectories showed the highest levels of distress and somatisation, and the lowest levels of life satisfaction, reflecting the higher vulnerability of children in these groups. A persistent pain trajectory for at least one type of pain was seen in 12% of all children, predominantly females.

Mulvaney et al. [18] investigated individual-level development of functional abdominal pain. Children of 6 to 18 years old with functional abdominal pain were followed for five years at three measurement points. Three types of somatisation trajectories were identified: a long-term risk group (high somatisation scores at all three measurement points), a short-term risk group (high somatisation scores at the first measurement point but decrease at the following ones) and a low-risk group (relatively low initial somatisation scores and decline at the following measurement points). The long-term risk group had the highest baseline means on anxiety, depression, self-worth, and life stress measures. Boys were more likely to be part of the low-risk group.

Stanford et al. [19] studied individual-level development of headache, stomach ache and backache. A cohort of 10- to 11-year-olds was followed for eight years with a measurement point every two years. Girls and anxious/depressive adolescents showed higher start- and end-points and steeper slopes on their latent growth curves for the three types of pain.

Current study

The current study investigates individual-level somatisation trajectories and how they are related to parenting stress. Based on the above research,[1] we expect to see at least three somatisation trajectories: low-somatisation, long-term somatisation, and short-term somatisation. Based on the research of Rousseau et al. [16] it is expected that both worse discrete deviation (e.g., long-term risk group membership) and continuous deviation (e.g., higher intercepts and slopes in all groups) are predicted by higher parenting stress.

Considering that adolescents' gender and emotional symptoms are strongly related to both somatisation and parenting related aspects, these variables will be included as control variables [7,20,21].

Methods

Design

This paper includes data from the JOnG!-adolescents study, a longitudinal research programme on development, parenting, behaviour and health in Flemish adolescents [22]. Participants were recruited using a conditional random sampling plan. In a first phase (2008), eight Flemish regions were chosen based on socio-economic, urbanisational and provincial diversity. In a second phase (2009), all families living in one of the selected regions, with a child born in 1996, were by post informed about the study and invited to participate. Adolescents and one of their parents (preferably the mother) who agreed to participate completed an informed consent form and subsequently filled out separately a questionnaire. The study included three waves of data collection: the first wave (T1) took place in 2009, the second wave (T2) in 2010, and the third wave (T3) in 2011.

Participants

For this cohort, out of 9861 informed families, 1445 parents (14.7%) and 1443 (14.6%) adolescents sent back a questionnaire at T1. For T2 this was respectively 936 (64.8% of T1 respondents) and 889 (61.6% of T1 respondents), for T3, 796 (55.09% of T1 respondents) and 772 (53.50% of T1 respondents). Additional research showed that the socio-economic profile of the T1 responders group matched that of the target population (Flemish families with a child born in 1996) [23]. In order to ensure reliable trajectory information, families with more than one missing somatisation score were excluded. The final sample comprised 1026 families. The proportion of participating mothers was 94.5% (T1), 90.5% (T2) and 94.3% (T3). The adolescents' mean age was 12.78 years at T1 (*SD* .31), 14.07 at T2 (*SD* .28) and 15.53 at T3 (*SD* .28). Families with more than one missing somatisation score differed significantly from the others on various demographic variables, except for the child's gender and mothers' paid work (Table 1).

Measures

Somatisation was assessed by means of the Somatic Complaint List (SCL) [25], filled out by the adolescent. The SCL contained 11 types of physical complaints (e.g., dizziness, tiredness). For every complaint, the adolescent indicated how often he/she suffered from it during the last four weeks, using a 5-point response scale ranging from 1 (almost never) to 5 (quite often). A somatisation-score was obtained by averaging all item-scores. For this study, Cronbach's alphas were .82 (T1), .84 (T2), and .85 (T3).

Three subscales of the Nijmegen Questionnaire regarding Child-rearing Situations (NQCS; [26]) were administered by the parent to assess *parenting stress*: experiencing problems in parenting (e.g., If someone else spends a day with …, they will notice how difficult the parenting of … is), ability to cope with parenting problems (e.g., Of course

[1] Although PFC and somatisation are two different constructs, they are related [17]. Because of the limited amount of research on somatisation, research on PFC is used to guide hypotheses.