Introduction

INTRODUCTION

Assessment of children's emotional and behavioural problems is required to determine their functioning and whether they need help. Unfortunately, a thermometer that can be plugged into a child to assess emotional and behavioural problems does not exist yet. Therefore, observational methods, interviews, and questionnaires have been used for a long time to obtain a picture of a child's psychiatric problems. Almost a century ago, Wickman (1928) devised a checklist of 50 descriptions of children's problems as observed by teachers. The checklist was used to determine the incidence of emotional and behavioural problems among children in schools. Moreover, Wickman (1928) also used the checklist to obtain a ranking of problems rated by clinicians and he compared the ranking with the information obtained from teachers, which makes the study the first that incorporated multiple informants. Other researchers (see Rutter, 1967) used revised versions of this checklist to obtain ratings of children's problems. One of the first studies that conducted a population survey using parent administered checklists was conducted by Long (1941). The fact that these early studies used adult informants for reporting on children's problems illustrates that children's self-reports were long disregarded because they were seen as invalid measurements of their own problems. Before 1960, mostly single informants, often limited to clinicians and teachers, were. Achenbach and Edelbrock (1978), however, suggested that multiple informants are needed for assessing children emotional and behavioural problems. The meta-analysis of Achenbach, McConaughy, and Howell (1987) was the seminal study showing that differences among informants not necessarily indicate unreliability, but suggest that each informant provides a unique view of a child's problems.

Agreement between informants

The meta-analysis of Achenbach et al. (1987) included 119 studies published using rating scales for scoring child problem behaviours between 1960 and 1986. The mean correlation between the scores of two similar informants such as parents was .60, between two adult informants such as parents and teachers .28, and between children and other informants .22. The correlations were higher for children under 12 than for older children and were higher for externalizing problems than for internalizing problems. Since the study of Achenbach et al. (1987), many more studies using ratings from multiple informants were published. De Los Reyes et al. (2015) conducted a new meta-analysis summarizing 341 studies published between 1989 and 2014. The findings of De Los Reyes et al. (2015) were on par with the findings of Achenbach et al. (1987). Correlations between pairs of parents were about .53, between parents and teachers .25, between parents and children .28, and between teachers and children .25. Like in Achenbach et al. (1987), the correlations for externalizing problems were higher than for internalizing problems.

In addition to these general meta-analyses that incorporated diverse instruments for determining children's psychiatric problems, Huang (2017) conducted a meta-analysis on informant agreement that only included instruments belonging to the Achenbach System of Empirically Based Assessment (ASEBA). Regarding total problem scores, the mean correlation was .29 between parents and teachers, .37 between parents and children, and .24 between teachers and children. Further, findings from studies using data on the Child Behavior Checklist (CBCL), Teacher's Report Form (TRF), and Youth Self-Report (YSR) examining informant agreement between parents and teachers in 21 societies (Rescorla et al., 2014) and between parents and children in 25 societies (Rescorla et al., 2013) revealed that informant agreement varied over societies but that this variation was not clearly associated with characteristics pertaining to the societies. However, the correlations of these studies and of the study of Huang (2017) are in line the with the correlations as reported in the meta-analyses by Achenbach et al. (1987) and De Los Reyes et al. (2015). Further, findings on specific problems, for example from a meta-analysis on informant agreement among children with autism (Stratis & Lecavalier, 2015), were also consistent with previous meta-analyses.

Informant discrepancies

Several studies focussed on the information captured by discrepancies between multiple informant ratings to predict child outcomes. De Los Reyes (2011) reviewed, although not exhaustively, studies examining informant discrepancies of several types of ratings including psychopathology predicting various outcomes over follow-up periods ranging from a few months to about four years. In general, findings from the studies of De Los Reyes (2011) suggested that both directional discrepancies (e.g., parent reports are higher than self-reports) and absolute discrepancies (e.g., either parent reports or self-reports are higher) between informant ratings predicted poor outcomes. Specifically, examples from De Los Reyes (2011) are that discrepancies on mother-child relationships predicted internalizing and externalizing problems and that higher maternal versus child report of parental monitoring predicted the child's delinquent behaviour, whereas higher child versus maternal report did not. Other examples from De Los Reyes (2011) regarding treatment suggested that higher agreement among informant reports of problem behaviour predicted treatment gains and that children characterized by diagnostic agreement between clinicians and parents obtained more reduction in parent-reported internalizing problems during treatment than children whose parents were discordant with clinicians. Most studies address short time intervals between assessments of informant discrepancies and outcomes and information from longitudinal studies examining longer follow-up periods are lacking. Further, various methods have been applied to investigate informant discrepancies (see Martel, Markon, & Smith, 2017), but often studies did not incorporate discrepancies additional to the separate ratings of informants.

AIMS

The first aim of the thesis was to examine informant discrepancies of emotional and behavioural problems across age. In chapter 2, we used cross-sectional data and in chapter 3 longitudinal data to address this aim. The second aim was to investigate associations of informant discrepancies of emotional and behavioural problems with adverse outcomes. We used simple and advanced methods including regression with difference scores and structural equation modelling to address this aim in chapters 3 to 7.

Settings

We used data from three studies to examine informant discrepancies.

Dutch National sample

The target population consisted of all 4- to 18-year-olds who were of Dutch nationality and living in the Netherlands on January 1, 1993. The population was stratified according to four country regions and four degrees of urbanization. A two-stage sampling procedure was followed, with a random selection of municipalities (n=89) in the first, followed by a random selection of individuals equally divided across gender and age in the second stage. Trained lay interviewers with survey experience visited or phoned the parents to make an appointment, preferably with the mother. Of the 2,709 subjects for whom informants were reached, 2,227 (82.2%) parent interviews were completed. A more detailed description of the sample selection and methodology is reported elsewhere (Verhulst, Van der Ende, Ferdinand, & Kasius, 1997). In this study, only children 11 years (mean 14.4) and older were included. In the 1,122 children, reports from 1122 parents, 818 teachers, and 1,114 self-reports were obtained.

Zuid-Holland Study

The Zuid-Holland longitudinal study started in 1983 (Verhulst, Akkerhuis, & Althaus, 1985). The study addresses behavioural and emotional problems in children and currently comprises seven data waves (Reef, Diamantopoulou, Van Meurs, Verhulst, & Van der Ende, 2009). In 1983, a random sample of 2,600 children stratified according to gender and birth year (i.e., children aged 4-16 years) was drawn from municipal registers in the Dutch province of Zuid-Holland. Of the 2,447 parents reached, 2,076 (i.e., 84.8%) provided usable data. The 2.076 children in the initial sample comprised were on average 9.9 years, were mostly Caucasian (96.6%), and 34.1% of them were living in families of low socio-economic status. The sample was approached every two years from 1983 to 1991 (T1 to T5), again in 1997 (T6), and in 2007 (T7). The total time interval of the assessments from 1983 to 2007 spans 24 years.

Generation R

This study was embedded in the Generation R Study, a population-based prospective cohort investigating growth, development and health from foetal life onward. The design and data collection procedures have previously been described in detail (Jaddoe et al., 2012). All children were born between April 2002 and January 2006 in Rotterdam, The Netherlands. Typically, enrolment took place in early pregnancy. Participants with consent for the study-phase from age 4 to 16 were eligible for the present study. Consent for this particular study phase was obtained from caregivers of 8,305 children that had all been followed since birth. Of the 8,305 children eligible for follow-up examinations, 6,690 children aged 5-7 years old ($M = 6.1$, $SD = 0.04$) visited together with their caregiver the Erasmus Medical Center-Sophia Children's Hospital. During this visit child self-report of emotional and behavioural problems was obtained using the Berkeley Puppet Interview (BPI; Ringoot et al., 2013). The BPI is a semi-structured interview in which the interviewer uses two hand dog puppets to elicit responses from young children regarding their problems.

Outline

In chapter 2, a cross-sectional study was conducted to investigate sex, age, and socioeconomic status (SES) differences between ratings of parent, teachers, and youths. Differences between informants across age found in this cross-sectional study can be compared with findings from the longitudinal study in chapter 4, which examined within-individual informant differences over time. The next four chapters provide the results of studies examining the associations between informant discrepancies and adverse outcomes. In chapter 4 we investigated whether discrepancies between parent and self-reports of emotional and behavioural problems of 15- to 18-year-olds predicted over a period of four years disturbances including referral to a psychiatric service, self-harm, suicide ideation, judicial problems, and problems in school. The predictive value of differences between parent and self-reports of emotional and behavioural problems of young children of 5-7 years with child, parent, and environment characteristics are examined in chapter 5. The goal of chapter 6 is to test whether emotional and behavioural problems predict academic functioning or vice versa. We further examined if these relations were different for parent and teacher reports. In chapter 7 we used repeated assessments of parent, teacher, and self-reported emotional and behavioural problems in adolescence to investigate associations of informant differences and changes in informant differences with disorders in adulthood. The discussion in chapter 8 addresses the implications of our findings for studies investigating normative development and prevalence of emotional and behavioural problems, methodological considerations regarding analysing and combining informant reports, clinical implications and future research.

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