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The risk and protective factors in the development of childhood social anxiety symptoms among Chinese children

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ABSTRACT

The aim of this study was to explore the change and associated risk and protective factors of social anxiety symptoms among Chinese children. A 2-year longitudinal study was performed in a general primary and secondary school population in Anhui Province, China including 816 children in grades 3, 4, and 7. Children's social anxiety symptoms were assessed using the Social Anxiety Scales for Children (SASC) at three assessments. The overall prevalence of children's elevated social anxiety symptoms ranged from 15.2% to 16.4% across three assessments. Children's overall mean SASC scores were 5.6 (SD =3.7), 5.3 (SD =3.8), and 5.3 (SD =4.1) at three assessments, respectively, but the difference was not statistically significant. However, children's social anxiety symptom levels and change among different subgroups was not stable across 2-year follow-up. Multivariable logistic regression analysis indicated that age, severe family dysfunction, quality of life, positive coping, negative coping, depressive symptoms and self-esteem were predictive factors for childhood elevated social anxiety symptoms. The findings suggested that the overall social anxiety symptoms showed a relatively stable pattern over time. The identified risk and protective factors may provide scientific evidence for school, family, and health authorities to conduct necessary intervention.

1. Introduction

Anxiety disorders comprise one of the most prevalent categories of childhood and adolescence psychopathology (Chavira et al., 2004), which are associated with high levels of emotional distress, and result in academic and social impairments (Alkozei et al., 2014). Approximately half of the anxiety disorders diagnosed in adults have an age-of-onset before 11 years old (Kessler et al., 2005). The prevalence estimate from a pediatric primary care clinic showed that approximately 20% of children had anxiety (Chavira et al., 2004). Social anxiety disorder is one of the most common anxiety disorders in childhood, affecting up to 7% of young people (Chavira et al., 2004). Social anxiety disorder is characterized by an intense and irrational fear of embarrassment in social or performance situations, which is manifested by the avoidance of situations in which the child fears acting in a humiliating or embarrassing manner, including public speaking, dating, and/or talking to unfamiliar people (American Psychiatric Association, 2000; Alkozei et al., 2014). Although additional psychiatric disorders often co-occur among individuals with social anxiety disorders (Schneier et al., 1992; Ruscio et al., 2008), for many individuals the onset of comorbid psychiatric disorders usually had onset after social anxiety (Schneier et al., 1992). It is now believed that anxiety symptoms of childhood tend to be chronic and might lead to anxiety disorders and other serious psychopathological consequence that are persistent into later childhood and adulthood (Cartwright-Hatton et al., 2006). Studies in clinical and epidemiological samples suggested that social anxiety symptoms might contribute to increased risk of moderate to severe insomnia (Raffray et al., 2011), suicide attempts (Thibodeau et al., 2013), substance abuse (Essau et al., 2002), depression (Kessler et al., 1994), and behavioral inhibition (Paulus et al., 2015). The profound impact of social anxiety symptoms on the children's physical and mental health highlights the importance of better understanding of social anxiety symptoms development and its potential risk factors.

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There have been very limited studies exploring social anxiety symptoms development among children and adolescents. Few existing studies (Essau et al., 2002; Hale III et al., 2008; Van Oort et al., 2009; Broeren et al., 2013) have examined the developmental trajectories of social anxiety symptoms in a longitudinal design to prospectively document the course of childhood social anxiety symptoms. However, the findings about development of childhood social anxiety symptoms were inconsistent. Research conducted by Weems and Costa (2005) revealed that social anxiety symptoms increased from childhood to adolescence. However, the two other researches indicated no developmental trend in such symptoms (Hale III et al., 2008; Broeren et al., 2013). Moreover, these studies examining the course of social anxiety in children and adolescents were mostly conducted in developed countries with White samples (Weems and Costa, 2005; Hale III et al., 2008; Broeren et al., 2013) and relatively small sample size (Weems and Costa, 2005; Broeren et al., 2013). Besides, cultural variables were thought to mediate the expression of social anxiety (Hofmann et al., 2010). Brook and Schmidt (2008), in their recent literature review, concluded that socioeconomic status and different cultural values, as seen between individualistic and collectivist societies or between different ethnicities, were associated with anxiety development. One study examining the cross-cultural differences of the effects of shame supports the hypothesis that shame has a more important effect on social anxiety in Chinese culture compared to its effect on Americans (Zhong et al., 2008). It is possible that in collectivistic countries more overt social norms exist to maintain social harmony. By contrast, in individualistic countries, individual achievements and success receive the greatest reward and social admiration (Hofmann et al., 2010). To inform the care of the wider population of children, they called for large-scale longitudinal studies with diverse population samples from different geographic regions.

Many researches have already been conducted to identify associated factors for children's anxiety symptoms. Previous studies have shown that socio-demographic, family environment and psychosocial factors including family socioeconomic characteristics (Melchior et al., 2010; Vine et al., 2012), left-behind status (Yao et al., 2010), family function (Peleg-Popko and Dar, 2001), quality of life (Stevanovic, 2013), coping style (Wright et al., 2010; Lewis et al., 2012), depression (King et al., 1991; Kessler et al., 1994), and self-esteem (Maldonado et al., 2013) were associated with children's anxiety symptoms. However, evidence for the relationships between children's anxiety symptoms and these factors has been predominantly conducted using cross-sectional study design. Furthermore, these studies constantly investigated the others types of children's anxiety rather than focusing on children's social anxiety symptoms. However, the course of different subtypes of anxiety disorders in childhood and adolescence tended to vary (Essau et al., 2002). Therefore, more studies are needed to longitudinally explore the complex interplay between these socio-demographic, family environment and psychosocial factors thought to underlie childhood social anxiety symptoms development, specifically, whether the same factors dictate continuation over time. A better understanding of the course of social anxiety symptoms and its related factors will have important policy and practical implications for improving psychological states of those anxious children effectively, as well as for early intervention. Furthermore, better understanding of degree to which the course of social anxiety symptoms is uniform or different among different subgroups by demographic characteristics, may help inform which children are at the highest risk of developing significant social anxiety symptoms.

The present study was conducted in a population-based longitudinal study among a cohort of Chinese children, covering about 3 years with three assessments. The aims of this study were (a) to estimate the 2-year trajectories of change in childhood social anxiety symptoms, by examine both changes in social anxiety symptoms among the study cohort as a whole and among different subgroups separated by gender, left-behind status, and grade; (b) to examine how many children who met the criteria of elevated social anxiety symptoms at the baseline assessment also met the criteria indicating elevated social anxiety symptoms at the follow-up assessments; (c) to longitudinally explore the factors associated with social anxiety symptoms in order to determine the relationships between socio-demographic, family environment and psychosocial factors and social anxiety symptoms during childhood, and (d) to provide health authorities and families scientific evidence for relevant education and intervention.

2. Materials and methods

2.1. Participants

A prospective longitudinal study design with three assessments was used. The data collection involved a baseline survey and two follow-up assessments, with 12 months apart for each follow-up. Data collection for the longitudinal sample began in December 2009 and continued every year until late 2011. The study protocol received approval by the Ethics Committee of Anhui Medical University, Hefei, China. All participants were informed of the purpose of the research, and written informed consents were given from included schools and parents/students' guardians prior to their inclusion to the study. At baseline, a sample consisted of 2917 children in grades three to nine from three secondary schools and five primary schools in Changfeng county of Anhui Province were recruited to complete the initial assessment. The study design and sample information for baseline survey could be found from another publication (Zhao et al., 2014). In the longitudinal study, children in grades 3, 4 and 7 (at baseline) from all the selected schools were invited to participate in the follow-up survey. We excluded children in grades 5, 6, 8, and 9 (at baseline) in follow-up survey because they might enter the different schools (from "primary school" to "secondary school" or from "secondary school" to "high school") in next two years. For the longitudinal study, a total of 1047 children responded to the baseline assessment (T1), 914 participated in the second assessment (T2), and 816 participated in the third assessment (T3) (Fig. 1). Overall, 22.1% of the subjects were lost to follow-up.

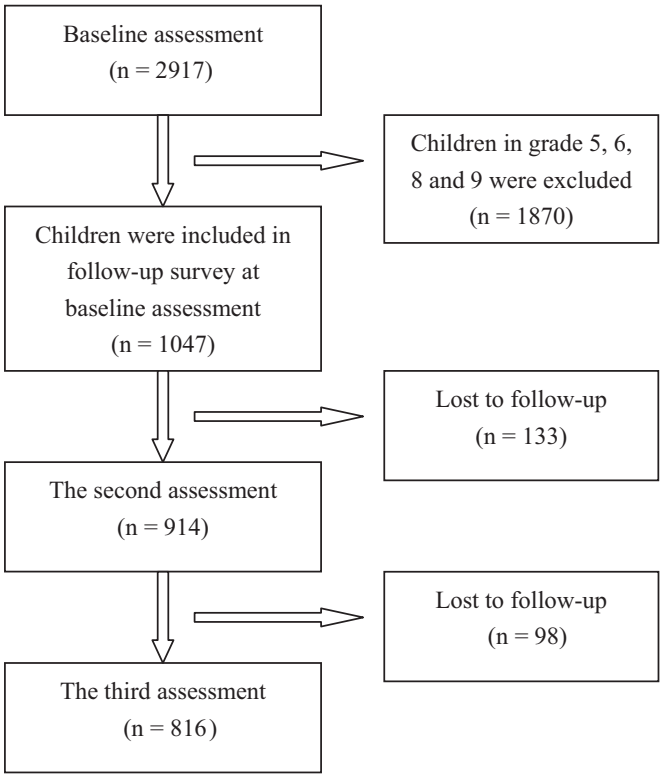

Fig. 1. Sampling structure and attrition pattern of the study.