Chapter 2

Behavioral Problems in Children

Chiyoe Murata

1 Introduction

Mental health problems in childhood are often categorized into two broad categories of symptoms. The first involves externalizing behavioral problems (conduct disorder and oppositional defiant disorder); the second involves internalizing behavioral problems (emotional disorder) [1] that manifest as depression, anxiety, withdrawal, and psychosomatic diseases. Behavioral problems include repeated deviant behavior or aggression among children. Such conduct problems often lead to criminal behavior or substance abuse and place the society as a whole under substantial financial burden and distress. Thus, these conditions are serious public health concerns. Such mental health problems in children may be caused by developmental disorders such as autism spectrum disorders (ASD) and attention deficit/hyperactivity disorders (also known as ADHD), and mental disorders such as schizophrenia. Externalization and internalization may occasionally coexist, as seen in individuals who withdraw from society and subsequently engage in domestic violence.

This chapter focuses on externalizing behavioral problems in children. Behavioral problems in children are believed to be caused not only by mental and physical problems but also other issues, such as family poverty and/or breakdown, poor academic performance, and parental unemployment [2]. We examine whether chil-

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C. Murata (✉)

School of Health and Nutrition, Tokaigakuen University, Nagoya, Japan

Department of Social Science, Center for Gerontology and Social Science, National Center for Geriatrics and Gerontology, Obu, Aichi, Japan

e-mail: murata-c@tokaigakuen-u.ac.jp

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dren's behavioral problems are associated with a parent's number of years of education and income, and, if so, what sort of countermeasures can be taken.

According to a Japanese survey [3] designed to gain information for use in teacher guidance on behavioral problems in students, conducted by the Ministry of Education, Culture, Sports, Science, and Technology in 2017, a total of 63,325 acts of violence (toward teachers, between students, and toward other people, and property damage) occurred, with 28,315 incidents in elementary schools, 28,702 in middle schools, and 6308 in high schools; overall, 4.8 cases per 1000 students were reported. However, incidents in middle schools or high schools are decreasing, while those in elementary schools have been on the rise, thus suggesting that early intervention is required. Behavioral problems in children lead to poor academic performance (the reverse is also possible) and influence subsequent job opportunities [1]. Childhood is a period when the brain and physical functions are developing, and diverse lifestyle habits and sets of values are formed. Ensuring the safety of the surrounding environment is essential for a child's healthy growth and development. Abuse and developmental disorders underlie many behavioral problems in children: if the necessary assistance is provided early on, it may help to reduce subsequent difficulties among them.

2 Behavioral Problems in Children and Socioeconomic Status

Very few studies have been carried out in Japan to investigate the relationship between socioeconomic status and children's behavioral problems. The findings of one study indicated that 38% of junior high school students held in youth detention centers for delinquency come from households with low income, including those covered under welfare services [4]. As risk factors for delinquency, the author cited male gender, family poverty, parental criminal record, inappropriate child rearing (abuse as per the broad definition), poor academic performance, and developmental disorders [4]. Recently, a series of studies assessed the impact of adverse childhood experiences (ACEs) on health in later life. Older persons with two or more ACEs (parental death, parental divorce, parental mental illness, family violence, physical abuse, psychological neglect, and psychological abuse) before the age of 18 years had more difficulties in handling financial issues or interacting with peers [5]. Another study demonstrated that people with lower socioeconomic status in childhood were more likely to be depressed in their old age [6]. These studies suggest a long-latency effect of ACEs on health status in old age.

Overseas, research by Tremblay et al. [7], who traced 572 newborns in Canada up to 42 months after birth and observed them longitudinally to investigate how physical aggression develops in childhood, confirmed that if the mother had engaged in antisocial behaviors as a student, began raising children at a young age, and continued to smoke during pregnancy; both parents earned low incomes; and the parents did not get along well, the child was less likely to be able to control his or her physical aggressive impulses. An interview survey of young individuals aged

9–17 years in North Carolina also showed that depression and delinquency occurred more often in low-income families [8]. Marmot [9] reported that aggression among children is more common in families with low socioeconomic status, such as those with low incomes and poor educational history.

Moreover, even after considering personal factors such as the parents' educational history or income, numerous studies indicate that behavioral problems in children are related to a neighborhood's socioeconomic factors. For example, a study [10] targeting 734 children aged 5–7 years in Maastricht, the Netherlands, found that parents' low educational history and lower-level job positions were associated with the problem behavior scores of their children based on the Child Behavior Checklist (CBCL; a measure of evaluations to assess a child's psychological state and behavioral problems) [11]. In this particular study, the parents evaluated their children. Multilevel analyses revealed that not parental characteristics per se, but the neighborhood socioeconomic status (such as high unemployment rates and high rates of receiving public welfare benefits) had a significant influence on behavioral problems in children. A Canadian study [12] targeting 3528 children aged 4–5 years suggested that a weak sense of community in a neighborhood is more likely to cause maternal depression and family dysfunction, resulting in a greater risk of inappropriate child rearing, which is likely to lead to behavioral problems in children.

3 Background of Inequalities

Behavioral problems in children tend to be found in families with lower socioeconomic status because of social causation and social selection. Social causation implies that various stressors, such as economic anxiety associated with lower socioeconomic status, lead to depression in parents and inappropriate child rearing, and tend to cause behavioral problems in children. Social selection refers to the hypothesis that children's inclination to violent behavior, owing to the family genetic vulnerability (i.e., antisocial characteristics, including violent tendencies inherited from parents), results in behavioral problems in children that may lead to lower socioeconomic status for the family or for themselves later in life [8].

Thus far, many studies have reported findings that support the social causation theory. A study in New Zealand [13] that included 1093 high school students from poor families in the urban area found that during the 2-year observation period, depression, drug dependence, and delinquency occurred more frequently in the students who were brought up in inappropriate environments that involved abuse and neglect. In particular, delinquency was frequently observed in male high school students. Tremblay [14] reviewed studies performed in Europe, the USA, and Canada, and reported that aggressive behaviors develop within 1–2 years after birth and reach a peak at 3–4 years. Children then seem to learn to control their aggressive impulses through subsequent nurturing. Tremblay [14] concluded that persons raised in an environment where violence was accepted might grow to express aggressive impulse through violence.

The Twin Study of Child and Adolescent Development [15] was a retrospective cohort study performed to examine the association of hereditary effects and environmental impacts on problem behaviors among 1133 pairs of Swedish twins aged 16–17 years. This study reported the association between self-reported delinquency experience, parents' socioeconomic status, and local socioeconomic factors (e.g., unemployment rate). The results revealed that compared to hereditary effects, environmental impacts on child delinquency such as exposure to shoplifting, breaking and entering, drug use, theft, arson, and robbery were higher in the areas where the crime rate and the unemployment rate were higher, and there were few persons with superior education [15]. In other words, children living in socioeconomically advantaged areas are less likely to become delinquent even if they had a genetic predisposition.

In Japan, the results of the survey [16] on ACEs performed in three juvenile training schools were published in the Youth Advisor Program 2007 by the Cabinet Office. The percentages of youth who grew up experiencing physical abuse (19.5–25%), domestic violence (14.1–20.5%), and those who were exposed to people who abused drugs and/or alcohol (20.5–22.2%), were obviously higher in the juvenile training schools than in general high schools (1–2%). According to a study on juvenile views on violence and juvenile delinquency conducted by the Ministry of Internal Affairs and Communications in 1999 [17], the childhood experience of violence by parents in male individuals who engaged in delinquent behavior was as high as 42.3%, while their junior and senior high school counterparts reported levels of 17.4–22.7%. Similarly, in female individuals who engaged in delinquent behavior, this proportion was higher (45.6%) than that in general junior and senior high school students (11.8–13.3%).

In the field of genetics, behavioral problems are believed to be caused by not only genetic factors but also by interaction with the environment in which the individual is raised [18, 19]. For example, children with low-activity monoamine oxidase A (MAOA) gene are likely to engage in violence after growing up. However, when they are abused during childhood, their risk of delinquency is much higher [18]. Frequent behavioral problems often occur because of the combination of genetic vulnerability and exposure to environmental triggers.

In this sense, prenatal, neonatal, and infancy phases are important. In a longitudinal study, 665 children of pregnant women who underwent medical examination in a university hospital were followed from 1986. The children with prenatal alcohol exposure were more likely to score within the clinical range for behavioral problems in the CBCL at 6 years of age [20]. Postnatal depression occurs within around 1 month after giving birth. In a review of 109 research articles, the authors estimated that the rate of mothers' depression during pregnancy and the first postpartum year was between 6.5% and 12.9% [21]. Some of the studies indicated that prenatal depression was associated with mothers' economic anxiety and unstable employment. The prevalence was also as high as 17% in mothers with 3-month-old infants in Japan [22]. Moreover, the mental development of children whose mothers had developed depression was significantly poorer than that of children whose mothers had not developed depression [23]. These findings show that children who exhibit

behavioral problems do not necessarily come from lower socioeconomic status. In interviews with children aged 9–17 years in North Carolina, in the USA, delinquency was frequently found in children from poorer families. However, further analysis revealed that behavioral problems were not associated with poverty itself, but lack of love, physical punishment, inappropriate child rearing such as neglect, family history of psychiatric disorders, and repeated relocation. It was also found that the children's odds of developing behavioral problems such as delinquency would be 1.5–1.7 times higher as the number of risk factors increased [24].

Studies have repeatedly found that frequent behavioral problems found in children from a family with low socioeconomic status were the result of gene–environment interaction and that social circumstances surrounding children were important. The life course approach focuses on the impact of the environment in childhood on health, and therefore suggests interventions in early life [14]. This approach is based on the knowledge from epigenetics, which examines whether gene expression varies according to the influence of the environment. A study in this field showed that a rat pup that was brought up by the mother rat with behaviors, including licking and grooming (LG behavior) showed good response to stress (resilient against stress), whereas the rat pup raised without such experience was less resilient [14]. Considering the environment as exposures that the parent gives the child, the child-rearing attitude may influence children's behavior. Suomi [25] reported a series of interesting experiments with primates. Even in the world of primates, there are shy and unsociable monkeys (high-reactor monkeys). They comprise 15–20% of all monkeys. When a monkey with such high-reactor genetic vulnerability is brought up by its own mother monkey with similar characteristics, it becomes a shy and unsociable monkey. However, when such a monkey is brought up by a “super-mum monkey” (a monkey version of high LG rat in the above-mentioned study), it becomes a sociable monkey without behavior problems and its development is actually faster than that of normal monkeys. These experimental findings [14, 25, 26] indicate that appropriate support may prevent problem behavior in humans even if genetic vulnerability is observed.

4 Countermeasures to Behavioral Problems in Children

What can we do to address such issues? There are various novel approaches to support children at risk of behavioral problems. According to a review [27] of 67 studies, including randomized controlled trials in the USA, interventions addressing violent behavior, including delinquency, which consisted of social training such as conflict resolution, were equally effective for not only delinquency in children but also high-risk children (those from families with a low socioeconomic status or with low academic ability). The Positive Opportunities Obvious Change with Hounds (www.pooch.org) is a correction program using animals, which was initiated in 1993 in a juvenile corrective institution in Oregon, in the USA. The project aimed to look for new owners for dogs while the residents in the institution (aged 14–25 years)

formed a team with specialists looking after abandoned dogs. Most of the residents in such institutions grow up in families with difficulties such as low income, alcoholism, and different forms of abuse. However, contact with animals and a sense of responsibility for care had a good influence on them. As of 2003, the number of the participants in this project reached 100, and most of them were rehabilitated to their normal life [28]. There is also the case of a psychotherapeutic institution, Green Chimneys (<http://www.greenchimneys.org/>), for children of the suburbs of New York. In this institution, children's mental health problems such as violent inclinations are treated through care for wild animals [29].

Measures to avoid educational disadvantage are also necessary. The Brookline Early Education Project was an educational program undertaken between the 1960s and 1970s in New York for children at 3 months before birth until entering kindergarten. In this program, in addition to home visits by specialists, parent group activities and activities outside school including reading and recreation were performed. Researchers conducted a follow-up study with 120 participants 25 years after the education program. When compared with individuals who did not receive the intervention, the program participants had achieved higher educational levels and enjoyed higher incomes. Their health conditions were also better [30]. As a part of the Chicago Longitudinal Study [31] in 25 districts in Chicago, 989 children aged 3–4 years and 6–9 years from disadvantaged families participated in an early education program. They showed a higher academic ability 15 years later. The crime rate among them was also lower than that among the children who did not receive such intervention. Detailed cost–benefit analysis using outcome data by the age of 26 years reported benefits such as savings for child welfare and related education cost and tax revenues from increased earnings. Furthermore, a lower crime rate among the program participants (compared to nonparticipants) was reported [32].

As an intervention that included parents, a social experiment called “Moving to Opportunity” [8] was performed in a disadvantaged area with Native American Indians (Indian Reservation), in northern North Carolina, in the USA. In this project, 1420 children aged 9–13 years were followed for 8 years after the opening of casinos that resulted in increased employment opportunities for their parents. The findings revealed that the creation of new jobs for parents contributed to the improvement of behavioral problems among children. According to another research paper [22], unstable employment (e.g., part-time work) and anxiety over financial concerns were associated with depression of mothers in the child's infancy. Childcare support based on policies, including improvement of the employment system seems to be important. One such example is Nobody's Perfect, a program that provides consultation for parents and self-reliance support such as job assistance for single parents [33]. This program was initiated in Canada in the early 1980s. Coordinated by the Public Health Agency of Canada, it is delivered across the country through provincial and territorial organizations. Currently, this program has expanded to places beyond Canada and was initiated in Japan in 2004 by Nobody's Perfect Japan (<http://ccc-npnc.org/npnc/>) [34].

5 Summary

Behavioral problems such as violence are commonly observed in children from families with a lower socioeconomic status. However, such problems are not inherited. Delinquency and violence are found even in families in higher socioeconomic positions. It appears that the child-rearing environment, local social environment, and support by surrounding people are indispensable for the development of children. A series of studies have shown that appropriate educational interventions and support for parents can reduce the occurrence of problems even if they had susceptibility to stress and a risk of abuse [8, 31]. Problems may be reduced through early detection of risk in children and supportive interventions for both children and their parents.

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