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Development and Initial Validation of a Brief Multi-Professional Rating Scale for Children of Concern (*Kininaru-Kodomo*)

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Highlights

What are the main findings?

- A brief 11-item rating scale for children of concern (*kininaru-kodomo*), developed from literature and interviews with multiple professional groups, yielded four subscales (Behavioral control difficulties, Interaction difficulties, Adjustment difficulties, and Signs of maltreatment) with preliminary evidence of reliability and validity.
- The three behavioral/adaptive subscales were associated with the Strengths and Difficulties Questionnaire. In contrast, Signs of maltreatment was not, but was higher among children with reported maltreatment, parental poverty, and child-protection involvement.

What are the implications of the main findings?

- Professional concern about children may comprise at least two relatively distinct kinds of concern (the child's behavior and the caregiving environment), so a profile of subscale scores may be more informative than a single total score.
- The scale may help health, childcare, and child-protection professionals describe concerns in a common framework before a diagnosis or child-protection determination. Still, it is not a diagnostic or screening tool and requires further validation.

Abstract

Background/Objectives: Community child health professionals encounter children who raise concern before a diagnosis or child-protection record exists. Such concerns need to be shared across professional boundaries, yet few common tools capture child and caregiving concerns within one framework. We developed a brief rating scale for children of concern (*kininaru-kodomo*) and examined its psychometric properties. **Methods:** A 26-item pool came from a literature review and interviews with 47 professionals. In a mailed survey, professionals at health centers, child guidance centers, and nursery schools each rated one child and completed the Strengths and Difficulties Questionnaire (SDQ). We examined factor structure, reliability, SDQ correlations, and differences among known groups. **Results:** The final 11 items formed four subscales: Behavioral Control Difficulties, Signs of Maltreatment, Interaction Difficulties, and Adjustment Difficulties. Confirmatory factor analysis (N = 179) showed acceptable fit (CFI = 0.947, TLI = 0.927, RMSEA = 0.073, SRMR = 0.056); Cronbach's α ranged from 0.63 to 0.85. Behavioral Control Difficulties correlated with SDQ Hyperactivity/Inattention (ρ = 0.56). Signs of Maltreatment were unrelated to SDQ subscales but were higher among children with reported maltreatment (d = 1.18). **Conclusions:** The scale showed moderate-to-good internal consistency and initial evidence of construct validity across child-related and caregiving domains. It may provide a concise common framework for multidisciplinary professionals to describe children of concern and share concerns across professional boundaries.

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1. Introduction

Community child health professionals routinely encounter children who raise concerns that do not fit neatly into a single diagnostic or administrative category: signs that may indicate a neurodevelopmental disorder, behavioral or emotional difficulties, or caregiving that appears inadequate. In Japan, this everyday, pre-diagnostic form of professional concern is captured by the term *kininaru-kodomo* (literally, "a child who is of concern"), and it has been the subject of a growing body of nursing and public health literature [1,2]. A survey of 585 kindergarten and nursery school teachers found that their descriptions of "children of concern" spanned developmental and behavioral characteristics (e.g., developmental delay, communication difficulties, restlessness) as well as home and caregiving factors, including maltreatment and lack of parental cooperation, though the latter accounted for only a minority of responses [3]. Such concerns may arise before a formal diagnosis is made or a child-protection record is established, and may prompt referrals, home visits, or inter-agency coordination.

Two features of the Japanese system make the concept of *kininaru-kodomo* practically important. First, a nationwide survey in 2022 conducted by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) estimated that 8.8% of students in regular classrooms (i.e., mainstream classes in which students generally follow the standard curriculum) in public elementary and junior high schools across Japan may require special educational support because of developmental or behavioral characteristics, based on teacher assessments [4]. This estimate is not equivalent to the prevalence of diagnosed developmental disorders, but it indicates that developmental concerns may be present among children who do not necessarily have a formal diagnosis or receive special-needs support. Second, Japan provides universal health checkups for children at 18 months and 3 years of age, offering opportunities to monitor children's developmental progress and identify children who raise concern (kininaru-kodomo) during early childhood [5]. During these checkups, public health nurses may use developmental information to identify such children, some of whom may be at risk of neurodevelopmental disorders [6]. However, checkups alone do not capture every child. In a Japanese total-population study of autism, case finding relied not only on the 18-month checkup but also on child-care facilities and other professionals [7]. In addition, nursery and kindergarten staff and primary care physicians may also encounter these *kininaru-kodomo* in their daily practice. Clearly describing these children's characteristics and sharing them among professionals in community health and childcare settings may facilitate timely follow-up and support.

However, existing assessment instruments do not adequately capture professional concerns about such children. Diagnostic and screening tools for neurodevelopmental conditions, such as the Modified Checklist for Autism in Toddlers (M-CHAT), were developed to identify children who may have autism spectrum disorder (ASD) [8]. A Japanese version of the M-CHAT has also been developed and evaluated [9]. General behavior checklists, such as the Child Behavior Checklist (CBCL) and the Strengths and Difficulties Questionnaire (SDQ), assess children's behavioral and emotional characteristics through reports from parents or teachers [10,11]. Japanese versions of these instruments have also been developed and evaluated [12,13]. Although these instruments provide important information about children's developmental, behavioral, and emotional characteristics, they were not specifically

designed for rapid, multi-professional assessment of children who raise concerns in routine community practice, nor to capture concerns about the caregiving environment.

Existing instruments also tend to be organized around individual diagnostic categories, even though attention-deficit/hyperactivity disorder (ADHD) and ASD frequently co-occur in the same child [14,15], and some have proposed that the two conditions may partly represent different manifestations of a shared underlying vulnerability rather than fully independent disorders [16]. In primary community settings, professionals often meet a child for the first time and must form an impression in a single encounter, before any diagnostic work-up is possible; they cannot, and arguably need not, determine at that point which specific neurodevelopmental category a child's presentation belongs to. Frameworks such as ESSENCE (Early Symptomatic Syndromes Eliciting Neurodevelopmental Clinical Examinations) have addressed this by capturing early symptomatic signs across multiple neurodevelopmental domains rather than a single diagnostic category. Still, such frameworks do not extend to the caregiving environment [17,18]. Studies from other health systems also described the uncertainty that frontline professionals experienced when they suspected maltreatment in primary care [19].

Previous Japanese studies have also examined children described as *kininaru-kodomo*. Hongo et al. [20] investigated behavioral characteristics of children of concern in nursery settings and caregivers' responses to these children, drawing on literature concerning ASD and ADHD. Anme et al. [21] examined the validity and reliability of the Interaction Indicator, an instrument for assessing children's social competence. However, these approaches were developed for purposes and settings different from those of routine child health checkups. In particular, assessments conducted by nursery teachers may draw on observations accumulated over time and opportunities to interact with both children and their parents. Such assessments may therefore not be directly applicable to brief health checkups conducted by public health nurses, whose interviews at routine checkups must gather essential information efficiently, within a limited time, and without provoking parents' wariness, so that mothers and children who raise concern can be identified for continued follow-up [22].

A brief instrument that allows different types of professionals to describe both child-related and caregiving-related concerns for the same child in a common framework could facilitate a more multidimensional understanding of children of concern. In particular, assessing developmental or behavioral concerns together with caregiving concerns may be important, because either type of concern can arise without the other. To our knowledge, no brief, multi-professional instrument has been specifically developed to allow diverse frontline professionals to record both types of concern for the same child using a common metric.

Therefore, the present study aimed to develop a brief, multi-professional rating scale for children of concern and to examine its initial reliability and construct validity.

2. Materials and Methods

2.1. Item Generation and Provisional Scale

The "Multi-Professional Rating Scale for Children of Concern" (provisional version) was developed through a literature review and individual interviews with 47 professionals from healthcare, childcare, and dental settings. We have previously reported the interview findings elsewhere [1,2,23,24]. Briefly, the scale operationalizes the concept of kininaru-kodomo as described in these studies. The literature review showed that "children of concern" most often meant children with suspected developmental disabilities, but also included those with maltreatment or medical care needs, and that the meaning had changed over time [23]. Interviews with public health nurses, nursery staff, and dental professionals showed concern about suspected developmental disability and maltreatment, which were hard to distinguish because the observed behaviors (e.g., restlessness, impulsivity, difficulty

following instructions) were similar regardless of background, and about the parents themselves [1,2,24]. The provisional 26-item scale rated the child on a 5-point scale from 0 ("does not apply at all") to 4 ("applies very much"). Items covered (a) the child's developmental and behavioral characteristics, consistent with core diagnostic domains of ASD and ADHD [25], and (b) the caregiving environment (feeding and nutrition, hygiene, medical follow-up, and the caregiver's attentiveness and manner), reflecting the child-maltreatment and dental-neglect literature [2,26–29]. Respondents also rated each item's importance and the clarity of its wording.

2.2. Participants and Data Collection

The survey targeted health and childcare professionals in facilities and agencies likely to be involved with children of concern in community health practice: public health centers, municipal health centers, child guidance centers, and nursery schools. A self-administered questionnaire was mailed to facilities in seven prefectures in five major metropolitan areas of Japan, including Hokkaido, Tokyo, Kanagawa, Aichi, Osaka, Hyogo, and Fukuoka, from 8 October to 8 November 2019. Respondents were asked to return the questionnaire by a set deadline. Return postage was prepaid by the investigators through a postage-payable-by-addressee arrangement at the post office. No reminders were sent to non-respondents by mail or any other means. Two copies were sent to each of 346 municipal and public health centers and 75 child guidance centers. The addresses were obtained from lists published by the Ministry of Health, Labour and Welfare in 2019, and the facilities chose who completed each copy. One copy was sent to each of 104 nursery schools selected systematically (every 40th facility) from the prefectural lists in the database of the National Federation of Private Nursery Schools for the same prefectures. The addresses of the nursery schools were taken from the list that the federation published on its website at the time of the survey. Each respondent was asked to identify one child whom they had encountered in their professional practice and regarded as a *kininaru-kodomo* (child of concern) and to complete the questionnaire with that child in mind. As each facility selected its own respondents, the occupational composition of the sample reflects the predominant staff composition and qualifications (such as public health nurses and childcare workers) at each facility. In Japan, public health nurses are employed at public health centers, municipal health centers, and child guidance centers. Furthermore, childcare workers may also hold qualifications such as those for nursery school teachers or primary school teachers.

The questionnaire was pretested with one public health nurse and two nursery teachers, and minor revisions were made to the wording of two items. The pretest respondents noted that items 7 and 9 ("moves about as if driven by something and cannot be stopped" and "behaves in unexpected or impulsive ways") seemed redundant. Their wording was therefore refined to clarify their distinct meanings.

Of 946 questionnaires distributed, 193 were returned (return rate, 20.4%). Fourteen respondents were excluded from the final analysis due to incomplete answers, leaving 179 for analysis. The subject-to-item ratios were 12.8:1 for the initial 14-item exploratory factor analysis (EFA) and 16.3:1 for the final 11-item scale, both exceeding the commonly recommended minimum of 10:1 [30,31]. Participation was voluntary, and returning the completed questionnaire indicated consent after participants were informed of the study purpose, voluntary nature, and anonymity. The study was approved by the Ethics Committee of the Graduate School of Life Sciences, Kumamoto University (No. 1773; 19 August 2019).

2.3. Measures

Multi-Professional Rating Scale for Children of Concern. The provisional scale described in Section 2.1 was completed by the respondent for the child they had in mind. Each

item was rated on a 5-point scale from 0 ("does not apply at all") to 4 ("applies very much"), and no item is reverse-scored. For the final 11-item scale, each subscale score is the mean of its item scores, so subscale scores range from 0 to 4, and higher scores indicate greater professional concern about the corresponding aspect of the child's behavior or caregiving environment. No total score is used as a primary outcome (a combined 11-item α is given for reference only), and no cutoff values have been established (Appendix A).

Strengths and Difficulties Questionnaire (SDQ). The SDQ comprises 25 items in five subscales of five items each (emotional symptoms, conduct problems, hyperactivity/inattention, peer problems, and prosocial behavior). Each item is rated 0 (not true), 1 (somewhat true), or 2 (certainly true), with positively worded items reverse-scored where applicable. Subscale scores thus range from 0 to 10, and the total difficulties score (the sum of the four problem subscales, excluding prosocial behavior) ranges from 0 to 40. Higher scores indicate more difficulties, except for prosocial behavior, for which higher scores indicate more strengths. The SDQ [11,13] was completed by the same professional who rated the study scale. Its Japanese version has been used to assess children's developmental and behavioral problems in research based on Japanese child health checkups [6]. In Japan, the manual for infant health checkups recommends its use not only by parents but also by childcare staff, with involvement from public health nurses [32]. The SDQ was scored according to its standard procedure; subscale scores were summed, and the total difficulties score was calculated as the sum of the four problem subscales.

Respondents also reported characteristics of the rated child and case, namely a diagnosed or suspected neurodevelopmental disorder, maltreatment, parental poverty, and parental difficulty with child-rearing (multiple responses allowed; Table 1). They also reported the agencies involved in supporting the child (multiple responses allowed). Involvement of a child guidance center or the municipal child-protection network was defined as involvement of either agency, and involvement of a developmental-support or child-development center as involvement of either the developmental disability support center or the regional child development center.

Table 1. Characteristics of the respondents and of the rated children.

Characteristic	*n*	% or Mean (SD)
Respondents (professionals), *N* = 193		
Sex		
Female	171	88.6
Male	20	10.4
Missing	2	1.0
Age, years	182	40.9 (9.8)
Workplace		
Community child-rearing support base	5	2.6
Comprehensive child-rearing support center	7	3.6
Regional child development center	1	0.5
Child guidance center	15	7.8
Nursery school	29	15.0
Kindergarten	2	1.0
Municipal health center	91	47.2
Public health center	20	10.4
Other	25	13.0

Table 1. *Cont.*

Characteristic	*n*	% or Mean (SD)
Professional qualification (multiple responses possible)		
Public health nurse	120	62.2
Psychologist	12	6.2
Midwife	8	4.1
Nursery teacher	40	20.7
Kindergarten teacher	20	10.4
Elementary school teacher	8	4.1
Social welfare officer	10	5.2
Child welfare worker	8	4.1
Nurse	59	30.6
Other	18	9.3
Years of experience at current workplace	189	8.5 (8.2)
Total years of experience in the profession	179	14.8 (9.4)
Rated children (one case per respondent), $N = 193$		
Sex		
Boys	115	59.6
Girls	66	34.2
Missing	12	6.2
Age at the time rated, years		
0–2 years	54	28.0
3–5 years	79	40.9
6–11 years	19	9.8
12–17 years	9	4.7
Missing	32	16.6
Mean (SD); median; range [$n = 161$]		4.3 (3.3); 4; 0–17
Background of the child/family (multiple responses possible)		
Low birth weight	14	7.3
Premature birth	6	3.1
Physical illness	8	4.1
Intellectual disability	25	13.0
Strabismus	2	1.0
Neurodevelopmental disorder (with or without diagnosis)	81	42.0
Hearing impairment	3	1.6
Stuttering	1	0.5
Medical care needs	7	3.6
Parental child-rearing difficulty	92	47.7
Parental fatigue	59	30.6
Parental mental illness	49	25.4
Parental poverty	28	14.5
Parental isolation	33	17.1
Complicated parental marital/partner relationship	36	18.7
Many siblings	15	7.8
Frequent relocation	11	5.7
Foreign national parent/caregiver	7	3.6
Maltreatment (inappropriate care)	39	20.2
Other	37	19.2
Overlap with neurodevelopmental disorder		
Parental child-rearing difficulty	41	21.2
Parental poverty	10	5.2
Maltreatment	13	6.7

2.4. Data Analysis

Item analysis followed a previous scale-development study [33]. An item was retained if (a) at least 90% of valid responses rated it as important (a score of 2 or 3 on a 0–3 importance scale); (b) fewer than 5% of respondents left it unanswered or rated its wording as unclear; (c) in a good–poor analysis, mean item scores differed significantly (independent-samples *t*-test) between the top and bottom quartiles of respondents ranked by total scale score; and (d) for any pair of items with a high inter-item correlation ($r \geq 0.70$), the item judged, on review of content, less clinically distinct was dropped. Exploratory factor analysis (EFA) of the 14 items retained by item analysis was conducted using the principal factor method with Promax rotation. The number of factors to retain was determined by examining the scree plot and applying the Kaiser criterion (initial eigenvalues > 1) [34]. The final number of factors also took the interpretability of the factors into account. Items with a factor loading below 0.35 were removed. The EFA was then repeated with the remaining 13 items.

Based on the four-factor structure suggested by the EFA of the 13 items, confirmatory factor analysis (CFA) with maximum likelihood estimation was used to compare models with different item compositions (13, 12, and 11 items) among the 179 participants with complete data on all 13 items; the final model was selected on the basis of model fit and content coverage (Section 3.4; Table S1). Model fit was evaluated using the chi-square statistic, comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA; with its 90% confidence interval), and standardized root mean square residual (SRMR), and was considered acceptable when the CFI and TLI were ≥0.90 [35] and the RMSEA and SRMR were ≤0.08 [36,37]. The 11 items of the final model were then re-examined by EFA in the same sample to describe the pattern matrix, communalities, and factor correlations.

Internal consistency was assessed using Cronbach's α. Construct validity was examined in two ways. First, associations between the new scale and the SDQ were examined using Spearman rank correlations. Second, known-groups validity was examined by comparing scale scores between children with and without selected reported case characteristics or collaborating-agency involvement, using the Mann–Whitney *U* test. Cliff's δ, a nonparametric effect size, and Cohen's *d* (for comparability with other studies) were calculated. The *p*-values were adjusted separately for the 24 correlations with the SDQ and the 24 known-groups comparisons, which were exploratory, using the Benjamini–Hochberg procedure to control the false discovery rate (*q*). Subscale scores were calculated as the mean of the item scores (range 0–4) for respondents with complete data on that subscale's items; correlations and group comparisons used all available data for each pair of variables (n is shown in the table notes). In addition, subscale scores and SDQ total difficulties were compared between female and male respondents, and SDQ scores were compared between children with and without reported maltreatment, using the same methods; the *p*-values were adjusted separately for the five respondent-sex comparisons and the six SDQ comparisons. All analyses were performed using IBM SPSS Statistics (version 28) and IBM SPSS Amos (version 26) (IBM Corp., Armonk, NY, USA).

3. Results

3.1. Participants

Of 193 returned questionnaires, 179 (92.7%) had complete data on all 11 final scale items and were included in the primary analyses (EFA and CFA). Reliability, SDQ correlations, and group comparisons used all available data for each variable or pair of variables (n is given in the table notes). Most respondents were women (88.6%) and public health nurses (62.2%) with a mean age of 40.9 years (SD 9.8) (Table 1).

3.2. Case Characteristics

A diagnosed or suspected neurodevelopmental disorder was reported for 81 children (42.0%), and 13 children (6.7%) had both a neurodevelopmental disorder and maltreatment (Table 1).

3.3. Item Reduction and Exploratory Factor Analysis

Of the 26 items, 14 were retained by item analysis, and one more was removed in the first EFA (loading below 0.35). The 13-item EFA supported a four-factor solution. After two further items were removed in the CFA (Section 3.4), the final 11 items were re-examined by EFA (N = 179; descriptive only, as the same sample was used). Only the first two initial eigenvalues exceeded 1 (3.64, 2.56, 0.97, and 0.96 for the first four factors). Still, the four-factor solution was retained because its factors were interpretable and the four-factor CFA model showed acceptable fit in the same sample. The four factors accounted for 59.7% of the variance. The three behavioral/adaptive factors were moderately intercorrelated, whereas Signs of maltreatment was weakly correlated with the others; primary loadings ranged from 0.56 to 0.89 and communalities from 0.41 to 0.74 (mean 0.60; Table 2).

Table 2. Exploratory factor analysis of the final 11 items: pattern matrix (N = 179) and internal consistency.

Item	F1	F2	F3	F4	h^2
F1 Behavioral control difficulties (3 items), α = 0.85					
7. Moves about as if driven by something and cannot be stopped	**0.89**	−0.02	−0.04	−0.03	0.74
9. Behaves in unexpected or impulsive ways	**0.82**	0.01	0.02	−0.05	0.65
6. Is restless	**0.62**	0.01	0.17	0.10	0.60
F2 Signs of maltreatment (4 items), α = 0.80					
19. Is made to skip meals or is served unbalanced meals at home	−0.09	**0.81**	0.09	−0.08	0.65
21. Has not received, or is delayed in receiving, medical consultations or vaccinations	−0.06	**0.72**	0.08	0.07	0.50
23. Is not paid attention to by parents or caregivers	0.07	**0.67**	0.00	−0.08	0.47
22. Is sometimes treated roughly by parents or caregivers	0.12	**0.63**	−0.25	0.11	0.51
F3 Interaction difficulties (2 items), α = 0.72					
8. Cannot hold a two-way, reciprocal conversation	−0.01	−0.02	**0.82**	−0.03	0.64
10. Has difficulty taking in instructions or going along with the flow of support	0.28	0.03	**0.60**	0.07	0.66
F4 Adjustment difficulties (2 items), α = 0.63					
2. Has difficulty participating in a group	−0.13	0.00	0.14	**0.85**	0.73
1. Cannot control own emotions well	0.24	−0.01	−0.18	**0.56**	0.41
Sum of squared loadings (% of variance)	3.28 (29.8%)	2.10 (19.1%)	0.64 (5.8%)	0.55 (5.0%)	
Factor correlations					
F1 Behavioral control difficulties	—				
F2 Signs of maltreatment	0.05	—			
F3 Interaction difficulties	0.50	−0.20	—		
F4 Adjustment difficulties	0.53	−0.05	0.49	—	
All 11 items combined (reference only), α = 0.73					

Note: N = 179 (listwise). Loadings ≥ 0.40 are in bold; h^2 = communality. F1 = Behavioral control difficulties; F2 = Signs of maltreatment; F3 = Interaction difficulties; F4 = Adjustment difficulties. α = Cronbach's α, calculated for respondents with complete data on all items of each subscale (n = 183, 181, 184, and 183 for F1–F4; n = 179 for all 11 items).

3.4. Confirmatory Factor Analysis and Final Scale

Starting from the 13-item model in which all four factors were allowed to correlate, the correlations of Signs of maltreatment with Behavioral control difficulties and with Adjustment difficulties were close to zero ($r = 0.02$ and 0.06) and were fixed at zero. Items with the lowest standardized loadings were then removed sequentially (items 14 and 13), provided that the content of each factor and of the scale as a whole remained adequately covered by the remaining items. Item 13 (eye contact) described a sign closely tied to autism, unlike the more general wording of the other items, and item 14 (emotional state) was ambiguous and difficult to judge in young children; their content was also partly captured by other items. Model fit improved with each removal (Table S1). The final 11-item model showed acceptable fit (RMSEA = 0.073, 90% CI 0.049–0.097), with the fit indices and standardized loadings shown in Figure 1. The final scale thus comprised 11 items in four subscales (Table 2; Appendix A).

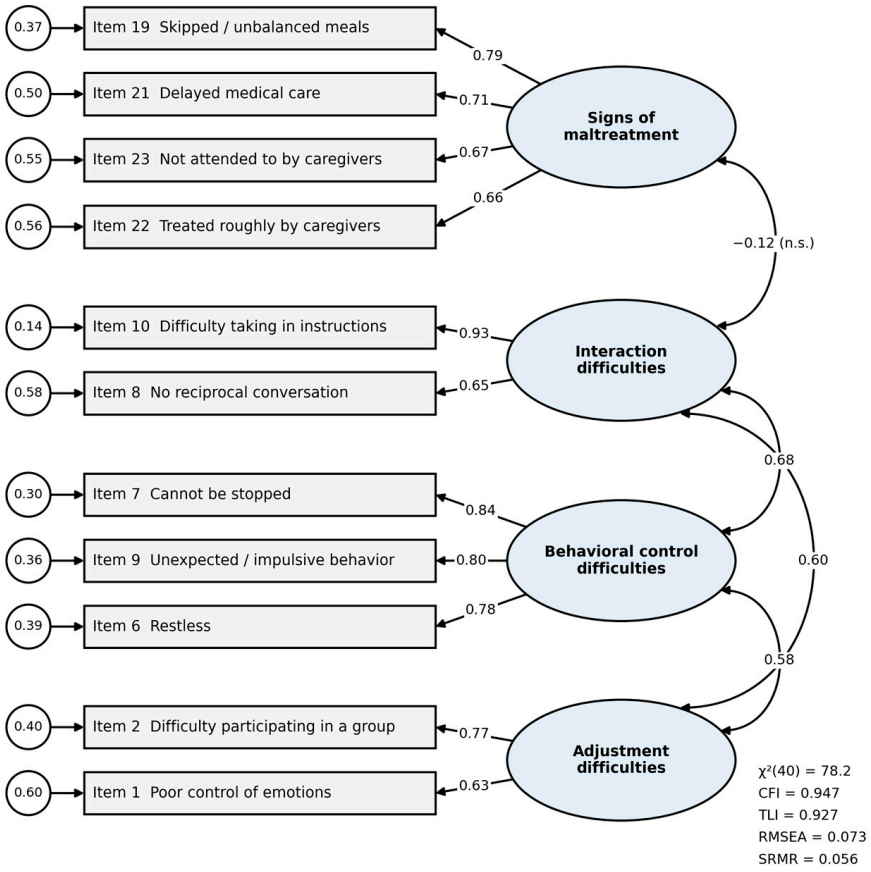


Figure 1. Standardized solution of the final four-factor, 11-item confirmatory factor analysis model ($N = 179$). n.s., not significant. Item wording is abbreviated (see Table 2).

3.5. Reliability and Validity

Cronbach's α was higher for the Behavioral control difficulties and Signs of maltreatment subscales than for the two-item Interaction difficulties and Adjustment difficulties subscales (Table 2).

Behavioral control difficulties correlated most strongly with SDQ hyperactivity/inattention. Interaction difficulties correlated with hyperactivity/inattention, peer problems, and, inversely, prosocial behavior, and Adjustment difficulties correlated with conduct problems but not with emotional symptoms. Signs of maltreatment were not associated

with any SDQ subscale (Table 3). SDQ scores also did not differ between children with and without reported maltreatment (all q ≥ 0.49; Table S2).

Table 3. Spearman rank correlations between the subscale scores and the Strengths and Difficulties Questionnaire (SDQ) subscales.

Subscale	Total Difficulties	Hyper-Activity/ Inattention	Conduct Problems	Emotional Symptoms	Peer Problems	Prosocial Behavior
Behavioral control difficulties	0.43 ** [0.29, 0.55]	0.56 ** [0.44, 0.66]	0.44 ** [0.30, 0.55]	−0.11 [−0.26, 0.05]	0.09 [−0.07, 0.24]	−0.20 * [−0.35, −0.05]
Signs of maltreatment	0.06 [−0.10, 0.22]	−0.06 [−0.21, 0.09]	0.10 [−0.06, 0.25]	0.07 [−0.09, 0.22]	−0.01 [−0.17, 0.15]	0.00 [−0.15, 0.16]
Interaction difficulties	0.27 ** [0.12, 0.41]	0.45 ** [0.32, 0.57]	0.09 [−0.07, 0.24]	−0.12 [−0.27, 0.04]	0.28 ** [0.13, 0.42]	−0.36 ** [−0.48, −0.21]
Adjustment difficulties	0.45 ** [0.31, 0.56]	0.28 ** [0.13, 0.42]	0.43 ** [0.30, 0.55]	0.10 [−0.05, 0.25]	0.20 * [0.05, 0.35]	−0.13 [−0.28, 0.02]

Note: Spearman's ρ (95% CI by Fisher's z approximation; not adjusted for multiple comparisons). * $q < 0.05$, ** $q < 0.01$ (Benjamini–Hochberg-adjusted p-values for the 24 correlations). n = 174–183 per cell.

Signs of maltreatment scores were significantly higher among children with reported maltreatment, parental poverty, parental difficulty with child-rearing, and involvement of child guidance centers or municipal child-protection networks, but not among children with a reported neurodevelopmental disorder. Behavioral control difficulties and Interaction difficulties scores were significantly higher among children with a reported neurodevelopmental disorder. In contrast, Interaction difficulties scores were significantly lower among children with reported maltreatment and child-protection involvement (Table 4). This pattern was consistent with the content of the subscales and is consistent with their known-groups validity. Subscale scores did not differ between female and male respondents (all q ≥ 0.50; Table S3).

Table 4. Known-groups comparisons of subscale scores: effect sizes for children with versus without selected reported characteristics or collaborating-agency involvement.

Grouping Variable	n (With/Without)	Behavioral Control Difficulties	Signs of Maltreatment	Interaction Difficulties	Adjustment Difficulties
Case characteristics					
Neurodevelopmental disorder reported	80–81/101–103	0.44 ** (0.26)	−0.20 (−0.09)	0.55 ** (0.27)	0.29 (0.13)
Maltreatment reported	39/142–145	−0.14 (−0.13)	1.18 ** (0.60)	−0.60 ** (−0.36)	−0.03 (−0.05)
Parental poverty reported	27–28/154–156	−0.12 (−0.12)	1.22 ** (0.62)	−0.28 (−0.19)	−0.15 (−0.12)
Parental child-rearing difficulty reported	90–92/91–92	0.18 (0.07)	0.61 ** (0.37)	0.10 (0.03)	0.31 (0.15)
Collaborating agency					
Collaboration with a child guidance center or municipal child -protection network	64–65/117–119	−0.31 (−0.19)	0.88 ** (0.47)	−0.58 ** (−0.32)	−0.20 (−0.11)
Collaboration with a developmental-support or child-development center	59–62/121–122	0.29 (0.13)	−0.38 * (−0.21)	0.44 * (0.24)	0.10 (0.01)

Note: Values are Cohen's d (Cliff's δ in parentheses); both are positive when the group with the characteristic scores higher. * $q < 0.05$, ** $q < 0.01$ (Benjamini–Hochberg-adjusted p-values for the 24 comparisons: six grouping variables × four subscales; two-sided Mann–Whitney U tests). n = number of children with/without the characteristic; because of missing responses, n differs slightly across subscales (range shown). All characteristics were reported by the same professional who rated the scale.

4. Discussion

4.1. Principal Findings

This study developed an 11-item, four-subscale rating scale for children of concern (*kininaru-kodomo*) based on input from multiple professional groups, and the results provided initial evidence for its reliability and validity. Taken together, the findings suggest that professional concern may encompass at least two relatively distinct kinds of concern: those about the child's behavioral or adaptive functioning and those about the caregiving environment.

4.2. Two Kinds of Professional Concern

Three subscales—Behavioral control difficulties, Interaction difficulties, and Adjustment difficulties—cover behavioral and adaptive characteristics that cut across diagnostic categories, including features described in the diagnostic criteria of both ASD and ADHD. Adjustment difficulties refer to difficulties in regulating emotions and participating in group activities and do not denote a diagnosis of adjustment disorder. Their moderate-to-high intercorrelations (Figure 1) are compatible with the view that ADHD- and ASD-related characteristics may be related facets of a broader behavioral/adaptive domain rather than fully separate, diagnosis-specific constructs [16], although the present data cannot distinguish them; the scale thus adopts a cross-diagnostic perspective in line with frameworks such as ESSENCE [17], rather than assigning items to a single diagnostic category. These subscales were associated with the SDQ [11,13,38], and two of them (Behavioral control difficulties and Interaction difficulties) were higher among children reported to have a neurodevelopmental disorder. Interaction difficulties scores, however, were lower, not higher, among children with reported maltreatment and child-protection involvement; the reason is unclear and warrants further investigation.

Unlike the other three subscales, Signs of maltreatment was not associated with the SDQ, as expected, because the SDQ assesses the child's own difficulties and strengths rather than the caregiving environment. This does not mean that the SDQ cannot identify children exposed to maltreatment, which this study did not examine. The subscale was, however, higher among children with reported maltreatment, parental poverty, parental difficulty with child-rearing, and child-protection involvement (Table 4), which supports its validity as a measure of caregiving-related concern. This subscale mainly reflects neglect-type signs. The two kinds of concern may nevertheless coexist in the same child [39,40]; a small study of 24 children, for example, reported that children with both developmental disabilities and a history of maltreatment showed gaze and sensory characteristics that differed from those of children with developmental disabilities alone [39]. Overlap between a reported neurodevelopmental disorder and reported maltreatment was also seen in the present sample (Table 1).

4.3. Implications for Practice

Because concerns about the child and about the caregiving environment may arise together or separately, a shared framework may help professionals from different settings describe and communicate which aspects are contributing to concern, rather than assigning the child to a single category. However, because no cutoff values, sensitivity, specificity, or predictive validity were established, the scale should not yet be regarded as a diagnostic or screening instrument; at this stage, it is better understood as a structured description of professional concern than as a tool for diagnostic or child-protection decisions. Developmental considerations are also important for interpreting the subscales. Most rated children were of preschool age, an age at which restlessness, impulsivity, and difficulty participating in groups are common in typical development. Because respondents were asked to rate a child they already regarded as of concern, scores should be understood as the professional's

judgment of the child's behavior relative to what is expected at that child's age, and the same score may carry a different meaning depending on age. The Signs of maltreatment subscale should not be interpreted as establishing the presence or severity of maltreatment.

4.4. Limitations and Future Research

This study has several limitations. First, the EFA and CFA were conducted in the same sample, and the final EFA was repeated after item removal based on the CFA results. Hence, the two analyses are not independent. Therefore, the factor structure was not independently validated or replicated. The fit was acceptable rather than good, and because only two initial eigenvalues exceeded 1, the distinctions among the three behavioral/adaptive subscales are less firmly supported than the distinction between behavioral/adaptive and caregiving concerns. Second, the response rate was low (20.4%), and no attempts were made to remind participants; respondents came from selected prefectures and professional settings, and the data were collected in 2019; selection and non-response bias cannot be excluded, and generalizability to current practice may be limited. Third, two subscales (Interaction difficulties and Adjustment difficulties) had only two items and modest internal consistency (Cronbach's $\alpha = 0.72$ and 0.63, respectively), so their reliability estimates should be interpreted cautiously. Fourth, the scale, the SDQ, and the case characteristics were all reported by the same professional, which may have introduced common-method bias [41]. Fifth, professionals completed the SDQ, although it was designed for parents, teachers, or the children themselves, so its associations with the new scale may differ from those found with its intended respondents. Sixth, the developed scale in this study cannot distinguish environmental factors from developmental factors, although a child's development is shaped by interactions between these factors from the perspective of ecological systems theory [42]. Seventh, most respondents were women and nurses or educators; we cannot exclude the possibility that ratings may differ by respondent sex, profession, or experience. Eighth, maltreatment was captured only as the professional's report, without verification against child-protection records, limiting the evidence for the Signs of maltreatment subscale.

Future research should therefore examine the factor structure in independent and larger samples, including its reproducibility across professional groups and child age groups. It should evaluate test–retest and inter-rater reliability, which were not examined here, and should gather further evidence of construct validity, for example by comparison with independently documented child-protection or family-support information. Longitudinal studies may clarify whether profiles of professional concern are associated with subsequent developmental, behavioral, family, or service-use outcomes. Such studies should also include parents' perspectives and examine whether respondent sex and professional experience influence the ratings.

5. Conclusions

This study developed an 11-item, four-subscale rating scale for children of concern (*kininaru-kodomo*) in Japan and provided initial evidence for its internal consistency and construct validity. The findings suggest that professional concern encompasses both behavioral/adaptive characteristics and caregiving-related concerns, and the scale may help professionals describe these concerns in a common framework. Further validation in independent samples is required before it is considered for screening or other decision-making.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/children13111600/s1, Table S1: Fit indices of the four-factor confirmatory models during item reduction (13, 12, and 11 items; N = 179). Table S2: SDQ scores of children with and without reported maltreatment; Table S3: Comparison of subscale scores and SDQ total difficulties between female and male respondents.

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Informed Consent Statement: The questionnaire was anonymous, and completion and return of the questionnaire were regarded as consent to participate.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to ethical restrictions.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Multi-Professional Rating Scale for Children of Concern (*Kininaru-Kodomo*) (「気になる子ども」評価尺度).

Table A1. The Multi-Professional Rating Scale for Children of Concern (Japanese version).

No.	Item (Japanese)	Not at All True (全く当てはまらない)	Not Very True (やや当てはまらない)	Neutral (どちらでもない)	True (当てはまる)	Very True (とても当てはまる)
	***Behavioral control difficulties*/行動制御の困難**					
1	Moves about as if driven by something and cannot be stopped (何かに突き動かされるように動き制止がきかない)	0	1	2	3	4
2	Behaves in unexpected or impulsive ways (思いもよらない行動や衝動的な行動をする)	0	1	2	3	4
3	Is restless (落ち着きがない)	0	1	2	3	4
	***Signs of maltreatment*/不適切養育の徴候**					
4	Is made to skip meals or is served unbalanced meals at home (家庭で欠食させられていたり、偏った食事を出されている)	0	1	2	3	4
5	Has not received, or is delayed in receiving, medical consultations or vaccinations (受診や予防接種をしていなかったり、遅れたりする)	0	1	2	3	4
6	Is not paid attention to by parents or caregivers (親や養育者から関心を持たれていない)	0	1	2	3	4
7	Is sometimes treated roughly by parents or caregivers (親や養育者から乱暴な態度を取られることがある)	0	1	2	3	4

Table A1. *Cont.*

No.	Item (Japanese)	Not at All True (全く当てはまらない)	Not Very True (やや当てはまらない)	Neutral (どちらでもない)	True (当てはまる)	Very True (とても当てはまる)
	***Interaction difficulties*/相互作用の困難**					
8	Cannot hold a two-way, reciprocal conversation (双方向のやり取りのある会話にならない)	0	1	2	3	4
9	Has difficulty taking in instructions or going along with the flow of support (指示が入りにくかったり、支援の流れに乗りにくい)	0	1	2	3	4
	***Adjustment difficulties*/自己調節の困難**					
10	Has difficulty participating in a group (集団への参加が難しい)	0	1	2	3	4
11	Cannot control own emotions well (自分の感情をうまくコントロールできない)	0	1	2	3	4

Note: Items 1–11 correspond to the original item numbers 7, 9, 6; 19, 21, 23, 22; 8, 10; and 2, 1 of the 26-item provisional questionnaire, which are used in Table 2 and in the text.

Scoring and use. Raters are professionals who rate one child they regard as a child of concern (see Section 2.2). Subscale scores are calculated as the mean of the item scores of each subscale (range 0–4); higher scores indicate greater professional concern, and no item is reverse-scored. The scale describes professional concern; it is not a diagnostic or screening instrument, and no cutoff values have been established. The full questionnaire, including the instructions, is available from the corresponding author on request.

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