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ORIGINAL ARTICLE

Development of a Tool for Collaboration between the Fields of Medicine and Education Based on "Inclusive Needs-Child Record"

: With Focus on Autism Spectrum Disorder (ASD) and Attention Deficit/Hyperactivity Disorder (ADHD)

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ABSTRACT

With regard to the diagnosis of developmental disorders in Japan, it has been reported that it takes a long time (3-10 months) for children to be examined to find out if they have a developmental disorder due to the limited number of medical specialists and specialized healthcare institutions. To resolve this problem, collaboration between the fields of medicine and education has been suggested, by using the "Inclusive Needs-Child Record (IN-Child Record: ICR)." ICR, however, was originally created for the teachers in the field of education, and as such, there are many items therein that are not needed by medical specialists. As such, the necessity of coming up with a new tool has arisen to facilitate the communication and collaboration between the fields of medicine and education. Therefore, this study aimed to develop a tool for effectively providing medical specialists with the information on children possessed by teachers, who spend the longest time with the children. The new tool was designed by combining ICR with DSM-5. To determine the core information that medical specialists need to know for the diagnosis of developmental disorders, a survey was conducted among 1,059 children from elementary and junior high schools in Okinawa Prefecture. From the results of the survey and of the correlation analysis between ICR and DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition), the items that should be included in the new tool were selected, with focus on autism spectrum disorder (ASD) and attention deficit/hyperactivity disorder (ADHD). Finally, the tool for collaboration between the fields of medicine and education was established, consisting of 35 items in four domains. Through the future research, the tool needs to be further developed after verifying its reliability and validity.

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I. Introduction

DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) has been medically utilized to diagnose developmental disorders (American Psychiatric Association [APA], 2013). DSM-5 refers to developmental disorders as neurodevelopmental disorders with onset during the developmental period, and includes therein adaptive functional deficits in personal or social life or at school or work (APA, 2013).

Problems have arisen of late due to the limited number of medical specialists and specialized healthcare institutions that can conduct medical diagnosis of developmental disorders in Japan (Ministry of Internal Affairs and Communications [MIC], 2017). For instance, it takes 3-10 months for children to receive their first medical examination in the majority of healthcare institutions that provide developmental disorder diagnosis services. Furthermore, as the examination based on which it is determined if a child has a developmental disorder includes an in-depth investigation of the child's infanthood and growth process, the diagnosis takes 1-2 hours per patient, which limits the number of patients that can be examined in a day (MIC, 2017).

According to the Ministry of Education, Culture, Sports, Science, and Technology (MEXT), an estimated 6.5% of the children attending school may have a developmental disorder (MEXT, 2012). MEXT has recommended the utilization of the standard checklist that enables the identification of children with an early-stage developmental disorder in schools from kindergartens to high schools (MIC, 2017). If the teachers and school administrators, who spend much time with the children, can provide medical specialists with the information on such children's behaviors, it will enable the medical specialists to understand the children and to expedite the diagnosis process. Furthermore, if there are standard scales with clear criteria, teachers can observe the children more objectively and can more easily provide the objective information about them to medical specialists, making it possible for the children who have difficulties in school life to receive the proper services in a timely fashion.

In this context, Han, Ota, and Kwon (2016) have developed the Inclusive Needs-Child Record (IN-Child Record or ICR), which is useful for understanding the characteristics of students with developmental disorder tendencies. IN-Child refers to the children who need comprehensive educational support because of their problematic behavior in the classroom caused by problems related to physical or mental health, family problems, or developmental disorders (Han, Ota, & Kwon, 2016).

The concept of IN-Child was established focusing on the educational needs of an individual child, regardless of whether the child has been diagnosed with a developmental disorder (Han, Ota, & Kwon, 2016). Therefore, ICR is a tool that enables the comprehensive understanding of the needs of children in school (Han, Ota, & Kwon, 2016) and can be regarded as the standard checklist recommended by MIC (2017). ICR

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consists of 82 items pertaining to education-related behavior (Han, Ota, & Kwon, 2016), and some of these items do not need to be provided to medical specialists. As such, the necessity of coming up with a new tool that contains the items from both ICR and DSM-5 that are needed by medical specialists for diagnosing children's developmental disorders has arisen.

Therefore, this study aimed to develop a new tool that enables collaboration between the fields of medicine and education based on ICR and DSM-5, for the facilitation of the medical diagnosis of and the provision of continuous educational support for children with developmental disorders.

II. Methods

1. Assessment Tool

For this study, ICR developed by Han, Ota, and Kwon (2016) was used. ICR is a tool for assessing the needs of children classified under "IN-Child" for their comprehensive education, and for planning how to continuously provide them with the support that they need (Han, Ota, & Kwon, 2016). ICR consists of two domains: "Cause" and "Result" (Han, Ota, & Kwon, 2016). The cause domain includes the "Physical" and "Mental" subdomains. The "Physical" subdomain consists of "Body condition" and "Posture, movement, and motion" while the "Mental" domain consists of "Inattention" "Hyperactivity/impulsivity", "Adherence", and "Self-esteem" (Han, Ota, & Kwon, 2016). The "Result" domain, on the other hand, includes the "Daily living" and "Learning" subdomains. The "Daily living" subdomain consists of "Social functioning" and "Communication" while the "Learning" subdomain consists of "Listening", "Speaking", "Reading", "Writing", "Calculating", and "Reasoning" (Han, Ota, & Kwon, 2016).

In total, ICR consists of 82 items (Han, Ota, & Kwon, 2016). The scores are given based on a 5-point scale, where 1=strongly agree; 2=agree; 3=neutral; 4=disagree; and 5=strongly disagree (Han, Ota, & Kwon, 2016). The scores are added by subdomain; as the score of the subdomain is lower, the needs of the subdomain are stronger (Han, Ota, & Kwon, 2016). To determine if the child is an IN-Child, the cutoff value was set as shown in Table 1 (Han, Yano, Kohara, et al., 2017). ICR is a tool whose reliability and validity have been tested in the precedent study (Han, Yano, Kohara, et al., 2017).

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Table 1. Cutoff value of ICR

Domains	Cutoff value/ Domain score
Total score	307/410
Body Condition	41/50
Posture, Movement, and Motion	41/50
Inattention	18/35
Hyperactivity/Impulsivity	21/30
Adherence	21/30
Self-esteem	17/25
Social Functioning	18/25
Communication	17/25
Listening	16/25
Speaking	17/25
Reading	17/25
Writing	16/25
Calculating	13/25
Reasoning	8/15

Cutoff value＝Average score－2SD
Source: Author-modified, Han, Yano, Kohara, et al., 2017.

2. Correspondence between ICR and the Medical Diagnostic Criteria

DSM-5 was used for the medical diagnostic criteria. By analyzing the correspondence between DSM-5 and ICR, the missing items in ICR were added to the new tool.

This study targeted autism spectrum disorder (ASD) and attention deficit/hyperactivity disorder (ADHD) among the neurodevelopmental disorders of DSM-5 for the creation of a new tool. It has been reported that in schools, there are many children with a specific learning disorder (SLD) as well as with ASD and ADHD (MEXT, 2012). As there are no clear diagnosis criteria in DSM-5, however, for which reason the missing data were included in the new tool (APA, 2013), SLD was excluded from the target disorders of the new tool.

DSM-5 provides criteria for diagnosing ASD, such as the social communication and repetitive patterns of behavior, interests, and activities (APA, 2013), which are analyzed as corresponding to the “Adherence” and “Communication” domains of ICR.

3. Data Analysis Based on the Survey through ICR

3.1 Subjects and procedure

A survey was conducted among the children attending elementary and middle schools in Okinawa Prefecture. Before the survey, a letter signed by the principal explaining the purpose and anonymity of the survey was sent to the parents; the parents were also notified that they would not be disadvantaged by their non-participation in the survey, and that the anonymization of the survey ensured that the children’s data could not be revealed. Finally, the survey was conducted among the children whose parents agreed to their participation in this study. It was conducted by the homeroom teachers between February and March 2017, using ICR, with 624 students from one elementary school and 504 students from one middle school participating.

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3.2 Analysis

3.2.1 Definition of children with ASD and ADHD tendencies

ASD and ADHD tendencies need to be defined to analyze the data of the children who showed similar characteristics through ICR. Even though ICR is not a tool for medical purposes, it has common domains with DSM-5. In this study, the children whose scores for the "Adherence" and "Communication" domains of ICR were below the cutoff values were categorized as children with ASD tendencies, and the children whose scores for the "Inattention" and "Hyperactivity/ impulsivity" domains of ICR were below the cutoff values were categorized as children with ADHD tendencies.

3.2.2 Correlation analysis

Correlation analysis was conducted to collect the data of the children with ASD and ADHD tendencies through ICR; the correlations among the items in the "Adherence" and "Communication" subdomains of ICR were analyzed using the data of the children with ASD tendencies, and the correlations among the items in the "Inattention" and "Hyperactivity/ impulsivity" subdomains of ICR were analyzed using the data of the children with ADHD tendencies.

3.2.3 Test of reliability

The reliability of the data collected through the survey, using ICR, was tested. To test the reliability, the internal consistency was measured with Cronbach's α. As the Cronbach's α value was close to 1, it is considered more reliable; the scale with a value higher than 0.700 is considered reliable (Cronbach, 1951).

3.2.4 Statistical analysis

Statistical analysis was conducted through SPSS (IBM SPSS Statistics ver.23). The significance level was $p<0.05$.

III. Results

1. Correspondence Analysis between ICR and DSM-5

Consistency analysis was conducted among the items of ICR and DSM-5. The analysis results related to ASD and ADHD are shown in Table 2 and 3, respectively. The diagnostic criteria of ASD are covered by DSM-5, and the social communication domains are covered by the items of ICR. Among the social functioning items of ICR, Q47, Q48, and Q49 corresponded with the criteria of DSM-5. No items in ICR, however, corresponded with the items of "Stereotyped or repetitive motor movements, use of objects, or speech" and "Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment "in the "Repetitive movement" domain of DSM-5.

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No item in ICR corresponded with the items of "Often has trouble holding his/her attention on tasks or play activities" and "Often loses things necessary for tasks and activities" in the "Inattention"domain of DSM-5, which are related to the diagnosis of ADHD. In addition, no item in ICR corresponded with the items of "Often unable to play or take part in leisure activities quietly","Is often "on the go," acting as if "driven by a motor"" and "Often talks excessively" in the "Hyperactivity/impulsivity" domain in DSM-5.

Table 2. Correspondence between DSM-5 and ICR (ASD)

DSM-5		ICR
A. Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following, currently or by history	(1) Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.	Q48 "Sometimes tells something unrelated to the conversation for no purpose" Q50 "Does not try to interact with others during the class" Q51 "Sometimes says something to others out of context"
	(2) Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.	Q52 "Sometimes talks in an awkward or peculiar way, without intonation and a sense of timing; talk is not appropriate" Q54 "Sometimes cannot choose the appropriate way of communicating"
	(3) Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to absence of interest in peers.	Q47 "Cannot cooperate with his/her friends when playing" Q49 "Plays alone even if his/her friends are nearby" Q53 "Cannot understand sarcasm or irony"
B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history	(1) Stereotyped or repetitive motor movements, use of objects, or speech	
	(2) Insistence on sameness, inflexible adherence to routines, or ritualized patterns or verbal nonverbal behavior	Q34 "Is obsessed with specific objects" Q38 "Has a peculiar daily routine and hates changes" Q39 "Sometimes cannot perform simple daily activities as he/she is obsessed by specific actions and ideas"
	(3) Highly restricted, fixated interests that are abnormal in intensity or focus	Q35 "While extremely good at doing something, is extremely bad at other things" Q36 "Shows knowledge of a specific field but does not understand its meaning due to rote memorization" Q37 "Is not interested in what other children are usually interested in, and has his/her own world of knowledge of specific subjects"
	(4) Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment	

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Table 3. Correspondence between DSM-5 and ICR (ADHD)

DSM-5			ICR
A. People with ADHD show a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development	(1) Inattention: Six or more symptoms of inattention for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of inattention have been present for at least 6 months, and they are inappropriate for developmental level	(a) Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities	Q23 "Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities."
		(b) Often has trouble holding attention on tasks or play activities	
		(c) Often does not seem to listen when spoken to directly	Q24 "Often does not seem to listen when spoken to directly"
		(d) Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace	Q27 "Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace"
		(e) Often has trouble organizing tasks and activities	Q26 "Often has trouble organizing tasks and activities"
		(f) Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time	Q25 "Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time"
		(g) Often loses things necessary for tasks and activities	
		(h) Is often easily distracted	Q21 "Is often easily distracted"
		(i) Is often forgetful in daily activities	Q22 "Is often forgetful in daily activities"
	(2) Hyperactivity and Impulsivity: Six or more symptoms of hyperactivity-impulsivity for children up to age 16, or five or more for adolescents 17 and older and adults; symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level	(a) Often fidgets with or taps hands or feet, or squirms in seat	Q28 "Often fidgets or taps his/her hands or feet, or squirms in his/her seat"
		(b) Often leaves seat in situations when remaining seated is expected	Q29 "Often leaves his/her seat in situations when remaining seated is expected"
		(c) Often runs about or climbs in situations where it is not appropriate	Q30 "Often runs about or climbs in situations where it is not appropriate"
		(d) Often unable to play or take part in leisure activities quietly	
		(e) Is often "on the go" acting as if "driven by a motor"	
		(f) Often talks excessively	
		(g) Often blurts out an answer before a question has been completed	Q32 "Often blurts out an answer before the question has been completed"
		(h) Often has trouble waiting his/her turn	Q31 "Often has trouble waiting for his/her turn"
		(i) Often interrupts or intrudes on others	Q33 "Often interrupts or intrudes on others' businesses"

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2. Data Analysis Based on the Survey Results through ICR

Among the collected data of 1,131 children from one elementary school and one junior high school, the data of 1,059 children were analyzed. The sociodemographic data of the children are shown in Table 4.

Table 4. Characteristics of the study subjects

Total (n=1,059)		
Elementary school (n=594)		
Sex	Male	290 (48.8)
	Female	304 (51.2)
Grade	1	103 (17.3)
	2	98 (16.5)
	3	103 (17.3)
	4	89 (15.0)
	5	100 (16.8)
	6	101 (17.0)
Junior high school (n=465)		
Sex	Male	235 (50.5)
	Female	230 (49.5)
Grade	1	231 (49.7)
	2	234 (50.3)

2.1 ICR scores and reliability coefficient

The ICR scores are shown in Table 5. The internal consistency test results through Cronbach's α are shown in Table 5.

Table 5. ICR score and Cronbach's α

Domains (full score)	Mean	SD	Cronbach's α
Body condition (50)	48.57	3.51	.846
Posture, movement, and motion (50)	48.66	3.81	.898
Inattention (35)	31.05	6.52	.942
Hyperactivity/impulsivity (30)	28.50	3.63	.895
Adherence (30)	28.47	3.54	.896
Self-esteem (25)	23.50	2.94	.853
Social functioning (25)	23.78	2.65	.786
Communication (25)	23.62	3.00	.849
Listening (25)	23.17	3.56	.916
Speaking (25)	23.56	3.20	.920
Reading (25)	23.54	3.26	.938
Writing (25)	23.29	3.62	.923
Calculating (25)	22.61	4.50	.962
Reasoning (15)	13.67	2.60	.962

2.2 Data analysis related to ASD

According to the cutoff values, the data of the children whose scores for "Adherence" were below 21 and whose scores for "Communication" were below 17 were extracted. Such children numbered 34 in all (3.21%). In the results, the data of 26 (76.5%) out of the 34 children were analyzed. Their average age was 11.44±2.13.

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2.3 Data analysis related to ADHD

According to the cutoff values, the data of the children whose scores for "Inattention"were below 18 and whose scores for "Hyperactivity/impulsivity" were below 21 were extracted. Such children numbered 38 in all. In the results, the data of 32 (84.2%) out of the 38 children (3.58%) were analyzed. Their average age was 11.24±2.22.

2.4 Correlation analysis

The results of the correlation analysis of the ICR items related to ASD tendencies are shown in Table 6. It was found that Q35, Q38, Q39, Q41, and Q51 are correlated with the "Adherence" and "Communication"domains of ICR, as the ASD-related items.

Table 6. Correlation analysis of ICR in children with ASD tendencies

Domains	Q35	Q38	Q39	Q41	Q51
Adherence	.392*	.530**	.642**	.459**	.348*
Communication	.374*	.447**	.369**	.350*	.504**

The results of the correlation analysis of the ICR items related to ADHD tendencies are shown in Table 7. It was found that Q21, Q27, Q33, Q47, and Q51 are correlated with the "Inattention"and "Hyperactivity/impulsivity"domains of ICR, as the ADHD-related items.

Table 7. Correlation analysis of ICR in children with ADHD tendencies

Domains	Q21	Q27	Q33	Q47
Inattention	.388*	.458**	.359*	.416**
Hyperactivity/impulsivity	.398*	.396*	.640**	.383*

IV. Discussion

As aforementioned, this study aimed to develop a tool that would enable collaboration between the fields of medicine and education based on ICR, for the facilitation of medical diagnosis and the provision of continuous educational support for children with developmental disorders.

In this study, the correspondence between ICR and DSM-5 was analyzed for ASD and ADHD. There exist items in ICR that correspond with "Stereotyped or repetitive motor movements, use of objects, or speech" and "Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment", which are the criteria for ASD in DSM-5. "Repetitive motor movement, use of object, or speech" are the representative characteristics of ASD (APA, 2013). Sensory difficulty is one of the characteristics that children with ASD show most frequently (Schaaf & Case-Smith,

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2014). Furthermore, as children with hypoesthesia and/or hyperesthesia refuse to touch other persons and objects, they become poor at verbally reporting their perceptions through their sense of touch, which obstructs their communication (Chikai & Miyake, 2014). Therefore, children with hypoesthesia and/or hyperesthesia need to be distinguished from those without these conditions, and it was for this reason that the items related to repetitive movement and the senses were included in the new tool.

Three items in the social functioning domain correspond to the social communication ability of ASD patients in DSM-5. Including these items, ICR covers many of the ASD criteria in DSM-5, but the number of items for assessing the social communication ability of children with ASD tendencies needs to increase to enable the conditions of such children to be understood better. It is effective to intervene in the treatment of children with ASD who have difficulty communicating by detecting it in its early stage (Lai, Lombardo, & Baron-Cohen, 2014). From this perspective, the social communication ability of children with ASD needs to be dealt with more specifically and comprehensively at the same time. Therefore, the three items related to the social communication ability of ASD patients and that correspond to the social functioning domain in ICR were included in the new tool.

Likewise, for the ADHD criteria, the items in DSM-5 that are not in ICR were also added, such as "Often has trouble holding his/her attention on tasks or play activities" and "Often loses things necessary for tasks and activities" in the "Inattention" domain and "Often unable to play or take part in leisure activities quietly", "Is often "on the go," acting as if "driven by a motor"", and "Often talks excessively" in the "Hyperactivity/impulsivity" domain.

Through the aforementioned process, the items for the new tool were collected based on ICR. As for ASD, six items were added to the "Adherence" and "Communication" domains in ICR, which made the items in those domains total 17. Likewise, for ADHD, five items were added to the "Inattention" and "Hyperactivity/impulsivity" domains, which made the items in those domains total 19. The final version of the new tool is shown in Appendix.

Through this study, a new tool was made, but its reliability and validity have yet to be verified. The verification of the reliability and validity of the new tool by professionals from the fields of medicine and education has been left as the future research task. Furthermore, the data that need to be collected through the tool that was used to test the contents' validity and reliability and the construct validity also need to be verified.

The new tool that was created through this study will be the common tool between the fields of medicine and education as well as the only means to provide medical specialists with the information on children who need to undergo medical examination, and is also expected to be a useful tool for both the medical diagnosis of developmental disorders and the provision of educational support for children with difficulties due to their developmental disorders.

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Appendix

Sheet 1

Domains		Items	(ICR)	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Adherence	Q1*	Is obsessed with specific objects	(Q34)	1	2	3	4	5
	Q2*	While extremely good at doing something, is extremely bad at other things	(Q35)	1	2	3	4	5
	Q3*	Shows knowledge of a specific field but does not understand its meaning due to rote memorization	(Q36)	1	2	3	4	5
	Q4*	Is not interested in what other children are usually interested in, and has his/her own world of knowledge of specific subjects	(Q37)	1	2	3	4	5
	Q5*	Has a peculiar daily routine and hates changes	(Q38)	1	2	3	4	5
Score /40	Q6*	Sometimes cannot perform simple daily activities as he/she is obsessed by specific actions and ideas	(Q39)	1	2	3	4	5
	Q7	Stereotyped or repetitive motor movements, use of objects, or speech		1	2	3	4	5
	Q8	Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment		1	2	3	4	5
Communication	Q9*	Does not try to interact with a familiar adult with him/her	(Q41)	1	2	3	4	5
	Q10*	Cannot cooperate with his/her friends when playing	(Q47)	1	2	3	4	5
	Q11*	Sometimes tells something unrelated to the conversation for no purpose	(Q48)	1	2	3	4	5
	Q12*	Plays alone even if his/her friends are nearby	(Q49)	1	2	3	4	5
	Q13*	Does not try to interact with others during the class	(Q50)	1	2	3	4	5
	Q14*	Sometimes says something to others out of context	(Q51)	1	2	3	4	5
Score /45	Q15*	Sometimes talks in an awkward or peculiar way, without intonation and a sense of timing; talk is not appropriate	(Q52)	1	2	3	4	5
	Q16*	Cannot understand the sarcasm, irony	(Q53)	1	2	3	4	5
	Q17*	Sometimes cannot choose the appropriate way of communicating	(Q54)	1	2	3	4	5

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Sheet 2

Domains		Items	(ICR)	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Inattention	Q18*	Is often easily distracted	(Q21)	1	2	3	4	5
	Q19*	Is often forgetful in daily activities	(Q22)	1	2	3	4	5
	Q20*	Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities	(Q23)	1	2	3	4	5
	Q21*	Often does not seem to listen when spoken to directly	(Q24)	1	2	3	4	5
	Q22*	Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time	(Q25)	1	2	3	4	5
	Q23*	Often has trouble organizing tasks and activities	(Q26)	1	2	3	4	5
Score /50	Q24*	Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace	(Q27)	1	2	3	4	5
	Q25	Often has trouble holding attention on tasks or play activities		1	2	3	4	5
	Q26	Often loses things necessary for tasks and activities		1	2	3	4	5
Hyperactivity/Impulsivity	Q27*	Often fidgets with or taps hands or feet, or squirms in seat	(Q28)	1	2	3	4	5
	Q28*	Often leaves seat in situations when remaining seated is expected	(Q29)	1	2	3	4	5
	Q29*	Often runs about or climbs in situations where it is not appropriate	(Q30)	1	2	3	4	5
	Q30*	Often has trouble waiting his/her turn	(Q31)	1	2	3	4	5
	Q31*	Often blurts out an answer before a question has been completed	(Q32)	1	2	3	4	5
	Q32*	Often interrupts or intrudes on others	(Q33)	1	2	3	4	5
Score /45	Q33*	Often unable to play or take part in leisure activities quietly		1	2	3	4	5
	Q34	Is often “on the go” acting as if “driven by a motor		1	2	3	4	5
	Q35	Often talks excessively		1	2	3	4	5

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