HIKIKOMORI

PROLONGED SOCIAL WITHDRAWAL DISORDER DURING ADOLESCENCE: A PILOT STUDY

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Neuroscience of apathy and anhedonia: a transdiagnostic approach.

Husain et al. Nature Neuroscience, August 2018

- Loss of motivation is a common syndrome observed across neurological and psychiatric disorders
- The brain systems are dysfunctional in amotivated states
- The results implicate disruption of mechanisms underlying the way in which reward is processed to motivate behaviour.

PROLONGED SOCIAL WITHDRAWAL (KONDO ET AL., 2013)

HiKIKOMORI SAITO, 1998

PROLONGED SOCIAL WITHDRAWAL DISORDER OVEJERO ET AL., 2014

SOCIAL ISOLATION

SCHOOL REFUSAL SYNDROME LOCK, 1986

SEVERE SOCIAL WITHDRAWAL

ACUTE SOCIAL WITHDRAWAL

The Japanese term hikikomori literally mean 'to be confined'.

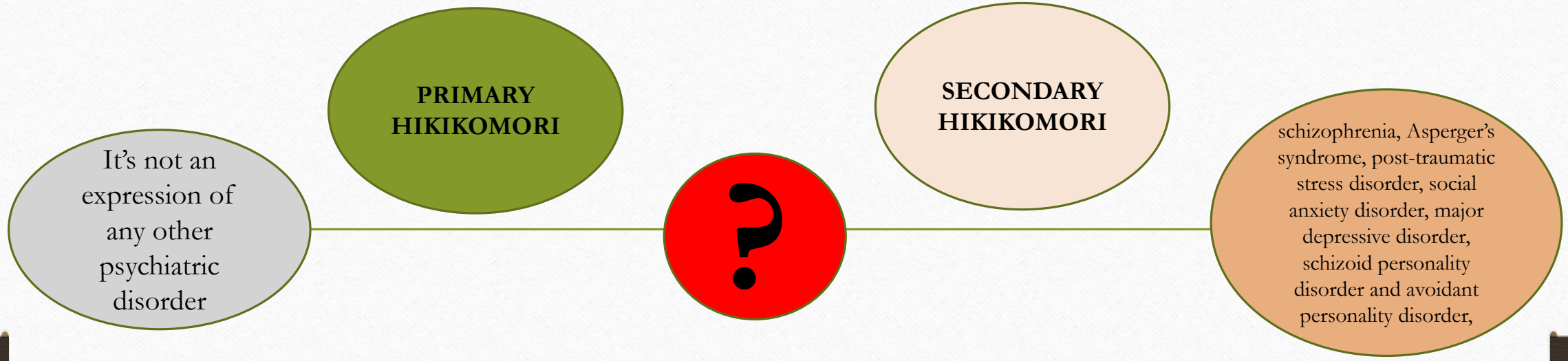
It was defined in 1998 by Saito as a free-standing syndrome with distinct symptoms, making reference to a syndrome commonly seen in Japan that is related to prolonged social withdrawal that cannot be explained by another psychiatric disorder.

The concept of hikikomori is controversial:
there aren't a clear definition and consensus on diagnostic criteria across studies!

Principal symptoms:

- Prolonged isolation at home
- Absence from work, training or school
- Minimal social contact
- Daytime inversion, sleeping all day and staying up all night
- Frequently social contact via internet (sometimes spend more than 12 h a day in front of the computer)

Hikikomori :
Symptom of another disorder? Syndrome independent of another diagnosis? Culture-bound syndrome?



The Japanese government's official guidelines published (2003) proposed the definition of hikikomori as a lifestyle centered at home with no interest in attending work or school that persists for at least 6 months and whose symptoms cannot be explained by another mental disorder, for instance, schizophrenia or mental retardation

Researchers and clinicians have not reached a consensus on what psychiatric disorders co-morbid with youth social withdrawal behavior should be included and excluded in their studies.

There seems to be an emerging consensus that a majority of hikikomori cases have comorbid psychiatric diagnoses.

NOT ONLY JAPAN

In recent years an increasing volume of anecdotal evidence suggests that the phenomenon, first identified in Japan, is becoming prevalent in many developed countries and high-income societies:

- **Oman** (Sakamoto et al., 2005),
- **Spain** (Malagon-Amor, 2014, Ovejeroet al., 2014; Garcia-Campayo 2007),
- **Italy** (De Michele et al., 2013),
- **South Korea** (Lee et al., 2013;),
- **China** (Chan and Lo, 2014; Wong et al., 2017),
- **India** (Teo et al., 2015),
- **France** (Maïa et al., 2014;Guedj- Bourdiau, 2011)
- **United States** (Teo and Kato, 2015)

Japan: 500.000 – 1.000.000 cases ; **France**: 80.000; **Italy**: 30.000 ? ; **Brasil** : ?

Sufficient epidemiologic data on the Hikikomori does not exist due to the relative novelty of the syndrome!

RISK FACTORS

- **Birth order**: In Japan, the firstborns are the most affected
- The onset of withdrawal normally occurring at the **adolescence** stage between the ages of 15 and 19 years (Heinze and Thomas, 2014; Koyama et al., 2010);
- Most cases are **males(4:1)** (Malagan Amor A., 2014; Maïa et al., 2014, Kondo et al., 2013).
- **Social class**: the **medium-high** classes are described as more affected
- **Bullying experience**
- **Introverted personality**, temperamental shyness and an ambivalent or avoidant attachment style

AIMS OF OUR STUDY

Given the lack of international literature on the subject of social withdrawn in the "western" world, we want:

1) investigate the presence of hikikomori in our Country;
2) describe the socio-demographic and clinical features of individuals with Hikikomori in our Country.

Socio-demographic level

- age
- sex
- ethnicity
- birth order
- duration of the withdrawal
- socio-economic status (Hollingshead Index)
- two-parent/one-parent household

Clinical data

- cognitive level
- social competences
- emotional and behavioral problems
- psychopathology
- personality profile
- loneliness and solitude
- internet addiction
- experiences of bullying

METHOD

Participants

The sample consists of a group of subjects admitted consecutively to the ordinary and day care services of our Department of Child and Adolescent Neuropsychiatry due to early school leaving and social withdrawal for at least 3 months.

The study was carried out in the period between February the 1st 2017 and January the 1st 2018.

All subjects were informed about the purpose and modalities of conducting the study

Parents provided written informed consent for participation.

Inclusion criteria

The subjects were recruited respecting the following inclusion criteria:

- Age 13-18
- School leaving for at least 3 months
- Social withdrawal for at least 3 months
- IQ> 70

Exclusion criteria

- IQ <70
- Age <13 years or> 18 years
- Autism spectrum disorders
- Schizophrenic spectrum disorder
- Social withdrawal due to chronic physical illness or injury

The total number of patients recruited for the study is 23, of these, 2 subjects, one male and one female, after the first visit, they did not want to continue the evaluation.

Another 4 families of patients that met the inclusion criteria, contacted our team but the children refused to come to our Department.

MEASURES

Socio-demographic features

- **Personal History**: sex, age, ethnicity, months of withdrawal and particularly stressful and traumatic events during their life were investigated.
- We proposed an **interview** to assess for the presence of suspected Hikikomori, adapted from Teo and Gaw's (2010) proposed definition, that defined hikikomori as:

(1) spending most of the day and nearly every day at home;

(2) avoiding social situations, such as attending school or going to a workplace;

(3) avoiding social relationships, such as friendships or contact with family members; and significant distress or impairment due to social isolation.

The time limit for Teo et al. (2015) was at least **6** months.

Instead, we wanted to lower it to **3** in order to enhance **earlier identification** of the potential problematic consequences of youth social withdrawal.

Wong et al., 2014: "There is not much difference, comparing the number of negative life events and the poor mental health status of youths who have been socially withdrawn for more than 6 months and less than 6 months".

Clinical features
clinical interviews and following diagnostic tools:

	To ADOLESCENTS	To PARENTS
COGNITIVE LEVEL	WECHSLER INTELLIGENCE SCALE FOR CHILDREN /FOR ADULT - FOURTH EDITION – WISCH-IV WAIS-IV	
SOCIAL COMPETENCES AND THE EMOTIONAL-BEHAVIORAL PROBLEMS	YOUTH SELF REPORT 11/18- YSR	CHILD BEHAVIOR CHECKLIST 6-18- CBCL 6-18
DEPRESSION	CHILD DEPRESSION INVENTORY- CDI	
ANXIETY	MULTIDIMENSIONAL ANXIETY SCALE FOR CHILDREN- MASC	
OBSESSIONS AND COMPULSIVE RITUALS	CHILDREN'S YALE-BROWN OBSESSIVE COMPULSIVE SCALE - CY-BOCS	
PSYCHOPATHOLOGICAL DISORDERS	SCHEDULE FOR AFFECTIVE DISORDERS AND SCHIZOPHRENIA FOR SCHOOL-AGE CHILDREN-PRESENT AND LIFETIME VERSION - K-SADS-PL	SCHEDULE FOR AFFECTIVE DISORDERS AND SCHIZOPHRENIA FOR SCHOOL-AGE CHILDREN-PRESENT AND LIFETIME VERSION - K-SADS-PL
PERSONALITY	MINNESOTA MULTIPHASIC PERSONALITY INVENTORY-ADOLESCENT- MMPI-A	
	STRUCTURED CLINICAL INTERVIEW FOR DSM-5- CLINICAL VERSION - SCID-5	
LONELINESS	LOUVAIN LONELINESS SCALE FOR CHILDREN ADOLESCENT – LLCA	
INTERNET ADDICTION	INTERNET ADDICTION TEST.14-18 - IAT	
BULLYNG PERPETRATION AND VICTIMIZATION	FLORENCE BULLYING AND VICTIMIZATION SCALES – FBVSs	
SOCIO ECONOMIC STATUS		HOLLINGSHEAD INDEX

STATISTICAL ANALYSIS

Descriptive statistics are used to summarize the data.

Numerical variables are reported by mean (standard deviation) and median (ranges). For categorical variables, number of observations and frequency was reported.

For each utilized questionnaire, relative scales and subscales are described with frequency distributions according to the literature classification or using standard numerical index as median, interquartile range and range

RESULTS

Sex	n.	%
Females	11	52.4%
Males	10	47.6%

Period of Withdrawal	MEAN (SD)
6 (min.) - 32 (max)	13. 43 ± 8.21

Age	MEAN (SD)
13-18	15.2 (1.5)

Ethnicity	n.	%
Caucasian	20	95.2 %
Hispanic	1	4.8 %

Birth Order	n.	%
First-borns	6	28.5%
Second-borns / three-thirds	9	42.9%
Only Child	5	23.8%
Twin	1	4.7%

Nuclear family	n.	%
Parental Couple	14	66.6%
Single Parent family	7	33.3%

SES	n.	%
High (>26)	13	61.9%
Middle (18-26)	3	14.3%
Low (0-18)	5	23.8%

Clinic features

YSR	Subclinic	Borderline	Clinic
Competence scale			
Social	4 20%	4 20%	12 60%
Academic	16 76%	3 14%	2 9.5 %
Intern.Extern.	**S**	**B**	**C**
Total Problems			
Intern. Problems	6 28.6%	3 14.3%	12 57.1%
Extern. Problems	16 76.2%	2 9.5%	3 14.3%
Total Problems	11 52.4%	1 4.8%	9 42.9%
Syndrome Scale	**S**	**B**	**C**
Anxious/ Depressed	10 47.6%	5 23.8%	6 28.6%
Withdrawn/ Depressed	7 33.3%	2 9.5%	12 57.1%
Social Problems	15 71.4%	3 14.3%	3 14.3%
DSM-Orient.	**S**	**B**	**C**
Affective Problems	9 42.9%	6 28.6%	6 28.6%
Anxiety Problems	10 47.6%	4 19%	7 33.3%
Obsessive-Compulsive Problems	14 66.7%	1 4.8%	6 28.6 %

CBCL	Subclinic		Borderline		Clinic	
	M other	Father	M other	Father	Mother	Father
Competence scale						
Social	1 4.8%	3 23.1%	4 19.0%	2 15.4 %	16 76.2%	8 61.5%
Academic	12 92.3%	11 91.7 %	1 7.7%	0 0.0 %	0 0.0%	1 8.3%
Intern.Extern.	**S**		**B**		**C**	
Total Problems						
Intern. Problems	1 4.8%	2 15.4 %	0 0.0%	2 15.4%	20 95.2%	9 69.2%
Extern. Problems	10 47.6%	6 46.2%	5 23.8%	2 15.4 %	6 28.6%	5 38.5%
Total Problems	1 4.%	4 30.8 %	2 9.5%	1 7.7 %	18 85.7%	8 61.5%
Syndrome Scale	**S**		**B**		**C**	
Anxious/ Depressed	2 9.5%	5 38.5%	5 23.8%	1 7.7%	14 66.7%	7 53.8%
Withdrawn/ Depressed	4 19.0%	2 15.4 %	1 4.8%	3 23.1%	16 76.2%	8 61.5%
Social Problems	13 61.9%	7 53.8%	5 23.8%	5 38.5%	3 14.3%	1 7.7%
DSM-Orient.	**S**		**B**		**C**	
Affective Problems	2 9.5%	4 30.8%	3 14.3%	4 30.8%	16 76.2%	5 38.5%
Anxiety Problems	2 9.5%	4 30.8%	5 23.8%	1 7.7%	14 66.7%	8 61.5%
Obsessive-Compulsive Problems	8 38.1%	6 46.2%	7 33.3%	4 30.8%	6 28.6%	3 23.1%

Test	Subjects	Percentage %
CDI		
Scoring > 19 (clinic)	10	47.6%
Scoring < 19 (normal)	11	52.4%
CY-BOCS		
0-7 (subclinical)	16	76.2%
8-15 (mild)	2	9.5%
16-23 (moderate)	2	9.5%
24-31 (severe)	1	4.8%
32-40 (extreme)	0	0.0%

MASC	T>60 (clinical)	T<60 (normal)
Tot. physical symptom	8 38.1%	13 61.9%
Perfectionism	3 14.3%	18 85.7%
Anxious Coping	4 19.05%	17 80.95%
Tot. Harm Avoidance	3 14.3%	18 85.7%
Humiliation/Rejection	6 28.6%	18 85.7%
Performance Fears	8 38.1%	13 61.9%
Tot. Social Anxiety	8 38.10%	13 61.90%
Separation Panic	12 57.14%	9 42.86%
Anxiety Disorder Index	8 38.10%	13 61.90%
MASC TOT	8 38.10%	13 61.90%

MMPI	T > 60 (clinical)	T < 60 (normal)
Hypochondriasis	4 25%	12 75%
Depression	10 62.5%	6 37.5%
Hysteria	6 28%	15 71.4%
Psychopathic Deviate	5 31.2%	11 68.8%
Masculinity-Femininity	2 12.5%	14 87.5%
Paranoia	4 25%	12 75%
Psychasathenia	5 31.2%	11 68.8%
Schizophrenia	4 25%	12 75%
Hypomania	2 12.5%	14 87.5%
Social Introversion	8 50%	8 50%

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LLCA (range 12-48)	Min	Me	Max	Mean (SD)
Loneliness in relationships with parents	13	23	39	24.10(7.37)
Loneliness in relationships with peers	15	24	45	28.95(11.56)
Aversion to loneliness	16	26	46	27.05(7.96)
Affinity for loneliness	17	34	44	32.86(8.40)
FBVSs (range 1-5)				
Bullying victimization	1.00	1.23	3.31	1.57(0.71)
Bullying perpetration	1.00	1.00	2.08	1.18(0.30)

WISCH IV - WAISS	Min	Me	Max	Mean (SD)
Total QI	88	113	128	110.29(12.71)

IAT

SCORING	Number of subjects	Percentage
0-39 Avarage online users	2	57.1%
39-69 Occasional or frequent problems because of the internet usage	5	23.8%
69-100 Significant problems due to the internet usage	4	19.0%

SCID-5	subjects	percentage
Avoiding personality disorder	4	19 %
Narcissistic disorder	5	23.8%
schizotypal personality disorder	2	9.5%

K-SADS

Principal Diagnosis	Subjects	Percentage	Comorbid
Depressive Disorder	9/21	42.8%	7 Social phobia 2 Separation anxiety disorder
Social phobia	7/21	33.3%	2 Separation anxiety disorder 1 DOC
Not meet the criteria for any disorder.	5	23.8%	

DISCUSSION

-Ethnicity: 20 caucasian and 1 hispanic.

The patients' culture of origin does not influence the presentation and maintenance of prolonged social isolation.

We propose that the prolonged social withdrawal is based on the individual characteristics of our patients and not on culture.

-Age range: 13-18 years old (M=15.2 SD= 1.5).

Literature: socially withdrawn youths have been usually found to be teenagers, onset of withdrawal normally occurring at the adolescence(15 - 19 years) (Heinze and Thomas, 2014; Koyama et al., 2010).

-**Sex**: 11 females (52.4%) and 10 males (47.6%),

Differently from the Literature: most cases of males (Malagan Amor A., 2014; Maïa et al., 2014, Kondo et al., 2013; Suwa and Suzuki, 2013).

- Birth Order: > second-borns / three-thirds (42.9%).

In Japan, the firstborns are the most affected because primogeniture is of great importance in the family structure (De Michele et al., 2013).

-SES: > 26 (high) in 13 subjects (61.9%).

Literature: the medium-high classes are described as more affected (De Michele et al., 2013).

-**Duration of Withdrawal**: 6-32. Subjects responded to criteria that are actually used to define hikikomori (Teo and Gaw, 2010)

COGNITIVE LEVEL: intelligent subjects, with a "medium-high" cognitive level; no learning problems (WISCH-IV and academic problems scale YSR/CBCL).

DEPRESSION: mixed results.

YSR/CBCL: Both adolescents and their parents report "internalizing problems" , in particular, symptoms of "withdrawn /depression". However, in "DSM-oriented scale", subjects get sub-clinical scores in the "affective problems" area, while parents reach clinical scores.

CDI: About half of the subjects gets clinical results, the other half gests subclinical scores;

K-SADS: 43% of patients showed depressive clinical symptoms;

MMP-A: 62,5% showed depressive clinical symptoms

Are depressive symptoms the withdrawal cause or are the consequence?

At first withdrawal gives relief because it means avoiding the others' judgement, but its persistence brings out depressive feelings about the fear of not being able of coming out of this deadlock situation.

Solitude is intentionally researched or is it suffered and perceived as loneliness?

The LLCA test results, investigating "Aversion to loneliness" and "Affinity for loneliness", show a positive attitude towards solitude connected to seeking time to be alone.

ANXIETY:

Most of subjects doesn't mention this condition as investigated in YSR subscales, MASC and K-SADS .

Their parents instead mainly remark anxiety symptoms (CBCL).

OBSESSIVE- COMPULSIVE SYMPTOMS: subjects don't get clinical scores (K-SADSCY-BOCS)

PERSONALITY: Avoiding, narcissistic and paranoid traits are present, but only few subjects in the SCID-5 get clinical criteria for the diagnosis of avoiding or narcissistic personality disorder.

Literature: "The narcissistic personality organization type can cause social withdrawal. With only a little failure in life events, this may turn into a physical withdrawal for a long time. And in this type of pathology their aggression takes a passive form that hardens their social withdrawal situation. Moreover, the social withdrawal itself serves to reinforce the pathological narcissism" (Seishin Shinkeigaku Zasshi, 2012).

"Although many of these subjects do not fall within the diagnostic criteria for psychiatric symptoms (neither Axis I nor II), they may still present traits of paranoid personality and social introversion" (García-Campayo et al., 2007)

SOCIAL PROBLEMS: Subjects admitted few or none real social interactions (YRS and CBCL "Social" subscales), but they don't mention social problems as investigated in YSR and CBCL "Social Problems" subscale.

INTERNET ADDICTION: patients got normal scores (IAT).

Literature: only 10 -20% of Hikikomori subjects had an internet addiction (Stip et al., 2016).

Do they not completely lose their ability to socialize although they are staying at home for a long time?

Can the use of the internet play a role?

"Many hikikomori actually use the Internet adaptively for social interactions, as it enables them to identify with others in similar situations and so keep themselves somewhat connected to the outside world" (Chan and Lo, 2014; Teo, 2015)).

"Internet may actually be beneficial for a hikikomori's quality of life by giving him a way to meet people with common interests and similar problems" (Stip et al., 2016; Taylor, 2006).

"Internet works in a defensive way for withdrawal, avoiding isolation to turn into psychosis, protecting against relational distress as a shelter from the real world, that our patients feel they cannot deal with" (Stip et al., 2016)

Internet appears not to be the cause of the withdrawal as at first it seemed to be, but on the other hand, it may risk to reinforce the isolation, procrastinating the moment they have to face reality

BULLYING: although the boys reported traumatic events related to the school world, not clinical scores identifying real bullying acts (verbal, physical and indirect).

Tajan, 2015: the development of hikikomori is maybe promote by a combination of genetic factors and life experiences including rejection by peers.

Negative experiences in this area are documented and reported, but they appear to be a consequence of a withdrawal predisposition, more than the reason of it.

CONCLUSION

- Hikikomori is such a **heterogeneous condition.** It's difficult to reach diagnostic conclusions that can categorize their characteristics.
- The current nosology in the Diagnostic and Statistical Manual of Mental Disorders **may not adequately capture the concept of hikikomori** and not all cases are accompanied by another mental disorder, or if an illness is observed, the comorbid diagnosis does not sufficiently explain the prolonged withdrawal and social confinement
- The major barriers to study this phenomenon is the **heterogeneity** of youth social withdrawal since youths can withdraw in different ways with different reasons. This has caused concern that researchers may not be referring to the same phenomenon (the young"**hard core**" never leaves their room and does not speak to family members, while **"soft"** ones leave and talk occasionally with the others; Heinze and Thomas, 2014).

OBRIGADO!