## **APPENDICES**

## Appendix-1

## **Informed Consent Form**

Informed Consent form for parents of ASD children participating in an exploratory study with control group to study the "EFFICACY OF STRUCTURED *YOGA* INTERVENTION FOR CHILDREN WITH AUTISM SPECTRUM DISORDER: AN EXPLORATORY STUDY"

Name of Organization: Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA) Name of

Program Director: Dr. Subramanya Pailoor

Name of Program: Ph.D. (Yoga)

This Informed Consent Form has two parts:

Information Sheet (to share information about the research with you)

Certificate of Consent (this is where you sign if you agree to allow your child to take part) You will be given a copy of the Informed Consent Form

## **PART I: Information Sheet**

## Introduction

My name is Kumar N and doing research in the field of *Yoga*. I am doing an exploratory study with a control group to find the Efficacy of Structured *Yoga* Intervention for Children with Autism Spectrum Disorder, under the guidance of Dr. Balaram Pradhan, Assistant Professor, SVYASA *Yoga* University, and Dr. N. Janardhana, Associate Professor, Department of Psychiatric Social Work, NIMHANS. During this study there may be some item or words that you do not understand, please ask me to stop as we go through the information and I will take the time to explain it. If you have items later also you can ask them to the investigator or *Yoga* instructor.

## **Purpose of the research**

This is a study on the problems related to children with ASD whose number is increasing by every year throughout the world. The children with ASD suffering from the sleep disorder, gastrointestinal disorder, food habits and behavior problems. Very little attention has been given so far about these problems. Research studies have shown that *Yoga* as an intervention for children with ASD is found to be effective.

The objective of this study is to find efficacy of structured *Yoga* intervention to reduce to sleep disturbance, to reduce digestion problem, to improve food habits and modify behavior problems among children with ASD.

#### **Type of Research Intervention**

This study involves structured *Yoga* intervention for the children with ASD. *Yoga* intervention will be given to the children for one hour fifteen minutes and it will be for five days in a week. The total period of intervention will be sixteen weeks.

## **Participant selection**

A total of Sixty (64) children are selected from a special school in Bengaluru who are diagnosed with autism under ICD-10. Children are six years and above age and both male and female shall be included.

## **Voluntary Participation**

Your child's participation in this research is entirely voluntary. You may change your mind later and stop your child to participate in this *Yoga* intervention even if you had agreed earlier.

## Information about the research

In this research, we are testing the Efficacy of Structured *Yoga* Intervention for Children with Autism Spectrum Disorder. Similar studies done earlier have shown positive results. Now we want to test the efficacy of structured *Yoga* intervention to reduce sleep problem, digestion problem, and food habits and to reduce behavior problems. *Yoga* is an age-old practice, which is being followed in India for hundreds of years. It includes breathing exercises, loosening exercises, postures, breathing, relaxation techniques, meditation, and chanting. It is absolutely safe if it is done according to the instructions given by the therapist. Your child may experience generalized body pain cramps or a catch in the first few days, which is normal and gets all right by itself.

#### **Procedures and Protocol**

Once your child's participation in the study is confirmed, some information will be collected from you and teacher about the child. You will be asked some item to find the awareness about the autism problems. One of the parent needs to be present during the entire *Yoga* intervention. You shall be equally trained along with your child so that the same *Yoga* intervention can be continued during the school holidays. We make two groups among the children taking part in this research. The groups are selected by chance, as if by tossing a coin. One group will be given *Yoga* intervention and the other group will be continuing with the routine school training program. It is important that neither you nor we know which of the two groups your child will be included in advance. The research team will be watching your child and the other participants very carefully during the intervention. If we are concerned about any particular practice, we will identify them and make changes according to your children's ability to perform. If there is anything you are concerned about or that is bothering you about the research please talk to the investigator.

#### **B.** Description of the Process

During the research, you need to help investigator for the assessments of your child.

During the first visit, we will ask you a few items about your child's general health.

The problems and symptoms of child and medication if any will be recorded.

The present condition of the child is recorded. After that child will be allotted one of the groups either with *Yoga* or control group. If your child gets the *Yoga* group then you need to participate along with your child during the entire intervention period. Irrespective of which group your child belongs to, till the completion of the research study you are part of this

study and will come back at the end of the study for final assessment of your child.

If your child is in the control group, we would offer your child *Yoga* intervention after sixteen weeks following the completion of the study.

## **Duration**

The research takes place over 16 weeks in total. During this period, it is necessary for you to come for the assessments of your child twice. If your child gets a chance to be included in the *Yoga* group, you will have to come to the *Yoga* along with your child five days a week for sixteen weeks, that would be around 80 days in total. Each day you will be spending an hour and fifteen minutes time for the *Yoga*, where supervised sessions of *Yoga* practices will be arranged. At the end of sixteen weeks, the research will be finished. The control group gets the chance to attend *Yoga* 

## **Side Effects**

As already mentioned, *Yoga* therapy will have no side effects. It can make your child tired and it can cause some temporary soreness of the muscles of his/her body, cramps and muscle catch. It is possible that it may also cause some problems that we are not aware of. However, we will follow your child closely and keep track of any unwanted effects or any problems. We may stop one or more practices if required. There are chances that your child will be dropped out of the study if the situation demands, after discussing with the school authority. If necessary, we will discuss it with you and take suggestion before we take any step.

#### **Risks**

By participating in this research it is possible that your child will be at greater risk than others would otherwise be. There is a possibility that your child's symptoms may increase with some of the practices. While the possibility of this happening is very low, you should still be aware of the possibility. We will try to decrease the chances of this event occurring, but if something unexpected happens, we will provide your child with first aid. There are fewer chances that your child's disease will not get better because *Yoga* therapy is being provided additionally to the standard medicines. Any other accident or medical conditions during this period, which is not due to the intervention would not be covered.

## **Benefits**

If your child participates in this research, your child gets a chance of long-term follows up from the *Yoga* teacher. The *Yoga* therapy will be provided free of cost to your child. There may be a benefit to you also, and your child's participation is likely to help us find the answer to the research item.

There may not be any benefit to the society at this stage of the research, but future generations are likely to benefit.

#### Reimbursements

Your child will not get any money or gifts to take part in this research.

## **Confidentiality**

With this research, something out of the ordinary is being done in your community. It is possible that

if others in the community are aware that your child is participating, they may ask you items. We will not be sharing the identity of those participating in the research.

The information that we collect from this research project will be kept confidential. Information about your child that will be collected during the research will be put away and no-one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the people involved in the research and the research clinician.

## **Sharing the Information**

The knowledge that we get from doing this research will be shared with you through community meetings before it is made widely available to the public. Confidential information will not be shared. There will be small meetings in the community and these will be announced. After these meetings, we will publish the results in order that other interested people may learn from our research.

## Right to Refuse or Withdraw

Your child does not have to take part in this research if you do not wish to do so. You may stop your child participating in the research at any time that you wish without losing any of your rights as a parent of a child here.

#### Whom to Contact

If you have any items you may ask anyone of our team members now or later, even after the study has

started. If you wish to ask items later, you may contact the following person:

## Kumar N, Telephone No-9743578952 /e-mail- nknrao2007@gmail.com.

This proposal has been reviewed and approved by SVYASA "Institutional Ethics Committee". Institutional Ethics Committee is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the "Institutional Ethics Committee", contact The technical coordinator, IEC- SVYASA, No.19, 'Eknath Bhavan', Gavipuram Circle, Kempe Gowda Nagar, Bengaluru- 560019 Telephone number- 08026612669.

You can ask me any more items about any part of the research study if you wish to. Do you have any items?

**PART II: Certificate of Consent** 

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask

items about it and any items that I have asked have been answered to my satisfaction.

voluntarily my child's participation in this research.

Name of Participant and Parent:

**Signature of Parent of** 

**Participant: Date:** 

Statement by the researcher/person taking consent

We have accurately read out the information sheet to the potential participant's parent, and to the best

of our ability made sure that the participant's parent understands that the following will be done:

1. Baseline assessment.

2. Supervised intervention for sixteen weeks.

3. Final assessment after sixteen weeks.

We confirm that the participant's parent was given an opportunity to ask items about the study, and

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all the items asked by the participant's parent have been answered correctly and to the best of our ability. We confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

A copy of this ICF has been provided to the participant's Parent.

Name of Researcher/person taking the consent:

Signature of Researcher /person taking the consent: Date:

Participant's Parent's Signature

Signature of the Researcher

(Name and Address)

(Name and Designation)

## **Informed Assent Form**

| Informed Assent Form for children participating in an exploratory study with control group to |
|---|
| study the Efficacy of Structured Yoga Intervention for Children with Autism Spectrum Disorder |
| Name of Organization: Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA)                   |
| Name of Program Director: Dr. Subramanya Pailoor Name of Program: Ph.D. (Yoga)                |
| This Informed Assent Form has two parts:  |
| ☐ Information Sheet (gives you information about the study)                                   |
| ☐ Certificate of Assent (this is where you sign if you agree to participate)                  |
| You will be given a copy of the Informed Assent Form  |

#### **Part I: Information Sheet**

#### Introduction

My name is Kumar N and doing research in the field of *Yoga*. I am doing an exploratory study with a control group to find the Efficacy of Structured *Yoga* Intervention for Children with Autism Spectrum Disorder, under the guidance of Dr.Balram Pradhan, Assistant Professor, SVYASA *Yoga* University, and Dr. N. Janardhana, Associate Professor, Department of Psychiatric Social Work, NIMHANS. During this study there may be some item or words that you do not understand, please ask me to stop as we go through the information and I will take the time to explain it. If you have items later also you can ask them to the investigator or *Yoga* instructor.

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This is a study on the problems related to children with ASD whose number is increasing by every year throughout the world. The children with ASD suffering from the sleep disorder, gastrointestinal disorder, food habits and behavior problems. Very little attention has been given so far about these problems. Research studies have shown that *Yoga* as an intervention for children with ASD is found to be effective.

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among children with ASD.

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This study involves structured *Yoga* intervention for the children with ASD. *Yoga* intervention will be given to the children with ASD for one hour fifteen minutes and it will be for five days in a week. The total period of intervention will be sixteen weeks.

## **Participant selection**

A total of 64 children is selected from a special school in Bengaluru who are diagnosed with autism under ICD-10. Children are of six years and above age and both male and female shall be included.

## **Voluntary Participation**

Your participation in this research is entirely voluntary. You may change your mind later and stop participating in this *Yoga* intervention even if you had agreed earlier.

#### Information about the research

In this research, we are testing the Efficacy of Structured *Yoga* Intervention for Children with Autism Spectrum Disorder. Similar studies did earlier have shown positive results. Now we want to test the

efficacy of structured *Yoga* intervention to reduce sleep problem, digestion problem, food habits and to reduce behavior problems. *Yoga* is an age-old practice, which is being followed in India for hundreds of years. It includes breathing exercises, loosening exercises, postures, breathing, relaxation techniques, meditation, and chanting. It is absolutely safe if it is done according to the instructions given by the therapist. Your child may experience generalized body pain cramps or a catch in the first few days, which is normal and gets all right by itself.

#### Procedures and Protocol

Once your participation in the study is confirmed, information will be collected from your parent and the teacher about you. One of the parents needs to be present during the entire *Yoga* intervention program. We make two groups among the children taking part in this research. One group will be given *Yoga* intervention and the other group will be continuing with the routine school training program. It is important that neither you nor we know which of the two groups you will be included in advance. The research team will be watching you and the other participants very carefully during the intervention. If there is anything you are concerned about or that is bothering you about the research please talk to the investigator.

#### B. Description of the Process

During the research, you need to help investigator for the assessments.

During the first visit, we will ask you a few items about general health. The problems and symptoms and medication if any will be recorded. The present condition of your health will be recorded. After this, you will be allotted one of the two groups that are either *Yoga* intervention or control group. If you get the *Yoga* intervention group then you need to participate in the entire *Yoga* intervention period which will be five days in a week for a period of sixteen weeks.

Irrespective of which group you belong to, till the completion of the research study you are part of this study and will come back at the end of the study for final assessment.

If you are in the control group, we would offer you *Yoga* intervention after sixteen weeks following the completion of the study.

#### **Duration**

The research takes place over 16 weeks in total. During this time, it is necessary for you to attend two assessments. If you get a chance to be included in the *Yoga* group, you will have to attend the *Yoga* intervention five days in a week for sixteen weeks that would be around 80 days total. Each day you will be spending an hour and fifteen minutes time for the *Yoga*, where supervised sessions of *Yoga* practices will be provided. At the end of sixteen weeks, the research will be finished. The control group gets the chance to attend *Yoga* program immediately after the final assessment.

#### **Side Effects**

As already mentioned, *Yoga* therapy will have no side effects. It can make you tired and it can cause some temporary soreness of the muscles or the body, cramps and muscle catch. It is possible that it may also cause some problems that we are not aware of. However, we will follow you closely and keep track of any unwanted effects or any problems. We may stop one or more practices if required. There are chances that you will be dropped out of the study if the situation demands, after discussing with the school authority. If necessary, we will discuss it with you and take suggestion before we take any step.

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If you participate in this research, you get a chance of long-term follow-up from the *Yoga* teacher. The *Yoga* therapy will be provided free of cost to you. There may be a benefit to you also, and your participation is likely to help us find the answer to the research item. There may not be any benefit to the society at this stage of the research, but future generations are likely to benefit.

#### Reimbursements

You will not be given any money or gifts to take part in this research.

## **Confidentiality**

With this research, something out of the ordinary is being done in your community. It is possible that if others in the community are aware that you are participating in this program, they may ask you items. We will not be sharing the identity of those participating in the research.

The information that we collect from this research project will be kept confidential. Information about you which shall be collected during the research will be put away and no-one but the researchers will be able to see it. Any information about you will have a number on it instead of your name. Only the researchers will know what your number is and we will lock that information up with a lock and key. It will not be shared with or given to anyone except the people involved in

the research and the researcher.

Sharing the Results

The knowledge that we get from doing this research will be shared with you through community meetings before it is made widely available to the public. Confidential information will not be shared. There will be small meetings in the community and these will be announced. After these meetings, we will publish the results in order that other interested people may learn from our

research.

Right to Refuse or Withdraw

You do not have to take part in this research if you wish so. You may stop participating in the research at any point of time that you wish without losing any of your rights as a participant.

**Whom to Contact** 

If you have any items you may ask anyone of our team members now or later, even after the study has started. If you wish to ask items later, you may contact the following person:

Kumar N, Telephone no-9743578952 /e-mail - nknrao2007@gmail.com.

This proposal has been reviewed and approved by SVYASA "Institutional Ethics Committee".

Institutional Ethics Committee is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find about more about the "Institutional Ethics Committee", contact The technical coordinator, IEC- SVYASA, No.19, 'Eknath Bhavan', Gavipuram Circle, Kempe Gowda Nagar, Bengaluru- 560019 Telephone number- 08026612669.

You can ask me any more items about any part of the research study if you wish to. Do you have any items?

## **PART II: Certificate of Assent**

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask items about it and any items that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this research.

Name of Participant

## **Signature of Participant:**

Date:

Statement by the researcher/person taking assent

We have accurately read out the information sheet to the potential participant, and to the best of our ability made sure that the participant understands that the following will be done:

- 1. Baseline assessment.
- 2. Supervised intervention for sixteen weeks.

3. Final assessment after sixteen weeks.

We confirm that the participant was given an opportunity to ask items about the study, and all

the items asked by the participants have been answered correctly and to the best of our ability. We

confirm that the individual has not been coerced into giving assent, and the assent has been

given freely and voluntarily.

A copy of this IAF has been provided to the participant.

Name of Researcher/person taking the assent:

Signature of Researcher /person taking the

ssent: Date:

**Signature Participant** 

Signature of the Researcher

(Name and Address)

(Name and Designation)

## Appendix-2

#### 1.8.1 (WHO) DIAGNOSTIC CRITERIA ICD-10

#### F 84.0 Childhood autism

A pervasive developmental disorder defined by the presence of abnormal and /or impaired development that is manifest before the age of 3 years, and by the characteristic type of abnormal functioning in all three areas of social interaction, communication, and restricted, repetitive behavior. The disorder occurs in boys three to four times more often than in girls.

#### Diagnostic guidelines

Usually, there is no prior period of unequivocally normal development but, if there are abnormalities become apparent before the age of 3 years. There are always qualitative impairments in reciprocal social interaction. These take the form of an inadequate appreciation of socioemotional cues, as shown by a lack of responses to other people's emotions and/or a lack of modulation of Behavior according to social context; poor use of social signals and a weak integration of social, emotional, and communicative Behaviors; and, especially, a lack of socioemotional reciprocity. Similarly, qualitative impairments in communications are universal.

These take the form of a lack of social usage of whatever language skills are present; impairment in

make-believe and social imitative play; poor synchrony and lack of reciprocity in conversational interchange; poor flexibility in language expression and a relative lack of creativity and fantasy in thought processes; lack of emotional response to other people's verbal and nonverbal overtures; impaired use of variations in cadence or emphasis to reflect communicative modulation; and a similar lack of accompanying gesture to provide emphasis or aid meaning in spoken communication.

The condition is also characterized by restricted, repetitive, and stereotyped patterns of behavior, interests, and activities. These take the form of a tendency to impose rigidity and routine on a wide range of aspects of day-to-day functioning; this usually applies to novel activities as well as to familiar habits and play patterns. In early childhood particularly, there may be a specific attachment to unusual, typically non-soft objects. The children may insist on the performance of particular routines in rituals of a non-functional character; there may be stereotyped preoccupations with interests such as dates, routes or timetables; often there are motor stereotypies; a specific interest in nonfunctional elements of objects (such as their smell or feel) is common; and there may be a resistance to changes in routine or in details of the personal environment (such as the movement of ornaments or furniture in the family home).

In addition to these specific diagnostic features, it is frequent for children with autism to show a range of other nonspecific problems such as fear/phobias, sleeping and eating disturbances, temper tantrums, and aggression. Self-injury (e.g. by wrist-biting) is fairly common, especially when there is associated severe mental retardation. Most individuals with autism lack spontaneity, initiative,

and creativity in the organization of their leisure time and have difficulty applying conceptualizations in decision-making in work (even when the tasks themselves are well within their capacity). The specific manifestation of deficits characteristic of autism change as the children grow older, but the deficits continue into and through adult life with a broadly similar pattern of problems in socialization, communication, and interest patterns. Developmental abnormalities must have been present in the first 3 years for the diagnosis to be made, but the syndrome can be diagnosed in all age groups.

Though the exact cause does not know it (Wiggs & Stores, 2010) is said that a single or multiple genes triggering this problem at the early age of the childhood. The other reason may be the presence of toxins in environment, medicines or vaccines and food which causes this problem. It is a neurobiological disorder that leads to multiple deficits like social Behavior, communication skills, attention deficit and hyperactivity, chronic short-term memory deficit and changing expression with development (Lewis M., Kim S.J, 2009) sitting tolerance, lack of limitation skill, body awareness eye to eye gaze, depth perception and Behavior etc. (Lake, Perry, & Lunsky, 2014)

## Appendix-3



# स्वामी विवेकानन्द योग-अनुसन्धान-संस्थानम्

## Swami Vivekananda Yoga Anusandhāna Samsthānam

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Eknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019 Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.edu.in Website: www.svyasa.edu.in

RES/IEC-SVYASA/56/2015

July 21, 2015

To, Dr. Balaram Pradhan Assistant Professor S-VYASA University, Bangalore.

#### Reference:

"Efficacy of Structured Yoga Intervention for Children with ASD an Exploratory Study". - Committee Approval of the above mentioned study.

Dear Dr. Balaram Pradhan,

We have received from you the following study related documents vide your letter dated March 18, 2015

| 1 | Project Proposal      |
|---|-----------------------|
| 2 | Informed consent form |

Ethics committee meeting was held on April 25, 2015 at 1:00 PM to 5:00 PM at Eknath Bhavan, Bangalore. Above documents were examined and discussed in the meeting. After due consideration, the committee has decided to approve conducting the aforementioned study.

APPROVED

Subjaman

INSTITUTIONAL ETHICS COMMITTEE SVYASA, BANGALORE



# स्वामी विवेकानन्द योग-अनुसन्धान-संस्थानम्

# Swami Vivekananda Yoga Anusandhāna Samsthānam

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Eknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019 Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.edu.in Website: www.svyasa.edu.in

This is to confirm that neither Dr. Balaram Pradhan nor any staff participating in this study were involved in the voting procedures and decision making.

The Institutional Review Board / Independent Ethics Committee (IEC) are expected to be informed about the progress of the study / any changes in the protocol and patient information / informed consent. The investigators are also expected to submit a copy of the final report to IEC for records.

This approval is valid up to the completion of the study at the site.

Please submit to the IEC, the status report of the study as per the SOPs.

The IEC is organized & operates according to the requirements of ICH-GCP, Indian Council of Medical Research Guidelines & Schedule Y.

Best Wishes,

Lubiamany

Dr. Subramanya P, Member Secretary,

Institutional Ethics Committee,

S-VYASA, Bangalore.

# **Appendix-4** [Interview schedule]

Table-1 SLEEP ITEMS

| NI C.1           |  | em    | s fo   | r Pa | aren     | its |
|------------------|--|-------|--------|------|----------|-----|
| Name of th       | e Child:<br>SECTION - I: SLEEP   |       |        |      |          |     |
|                  |  |       |        |      |          |     |
| S.N.             | STATEMENT  | Agree | Rarely |      | Disagree | •   |
|                  |  | 1     | 2      | 3    | 4        | 5   |
| SLEEP<br>ITEM-1  | Your child sleeps more than eight hours at a stretch in the night.                   |       |        |      |          |     |
| SLEEP<br>ITEM-2  | Your child does not sleep in the daytime.  |       |        |      |          |     |
| SLEEP<br>ITEM-3  | Your child's behavior will not change if do not sleep well in the night.             |       |        |      |          |     |
| SLEEP<br>ITEM-4  | When others in the family go to bed, normally your child sleeps without much effort. |       |        |      |          |     |
| SLEEP<br>ITEM-5  | When others in the family are awake, your child goes to sleep as usual.              |       |        |      |          |     |
| SLEEP<br>ITEM-6  | You do not struggle much to make your child to sleep.                                |       |        |      |          |     |
| SLEEP<br>ITEM-7  | Your child does not wake up from sleep due to any activities in the house by others  |       |        |      |          | Ī   |
| SLEEP<br>ITEM-8  | Your child does not watch TV more than three hours in a day or at a stretch.         |       |        |      |          |     |
| SLEEP<br>ITEM-9  | You do not give medicine to make your child sleep.                                   |       |        |      |          | Ì   |
| SLEEP<br>ITEM-10 | Your child does not snore during sleep.  |       |        |      |          |     |
| SLEEP<br>ITEM-11 | Your child breaths from the mouth during sleep.                                      |       |        |      |          |     |
| SLEEP<br>ITEM-12 | Your child wakes up early in the morning normally without effort.                    |       |        |      |          |     |

| SLEEP<br>ITEM-13 | Your child wakes up and walks around when others are sleeping in the night.  |  |  |  |
|------------------|--|--|--|--|
| SLEEP<br>ITEM-14 | Your child's behavior will not be disturbed if you wake him/her up forcibly. |  |  |  |
| SLEEP<br>ITEM-15 | Your child does not suffer from bed wetting problem.                         |  |  |  |

## TABLE-2

## GASTROINTESTINAL ITEMS

| Nome   |   | Iten  | ns fo  | or P       | arer     | ıts               |
|--------|---|-------|--------|------------|----------|-------------------|
| Name o | f the Child: SECTION-II: FOOD AND DIGESTION   |       |        |            |          |                   |
| S.N.   | STATEMENT   | Agree | Rarely | Some Times | Disagree | Strongly disagree |
|        |   | 1     | 2      | 3          | 4        | 5                 |
| G I-1  | Your child does not over eat food.  |       |        |            |          |                   |
| G I-2  | You do not force your child to eat food every time.                                 |       |        |            |          |                   |
| G I-3  | Your child asks or indicates the need for food when hungry.                         |       |        |            |          |                   |
| G I-4  | Your child eats all types of food (fruits, nuts, vegetables, cereals etc).          |       |        |            |          |                   |
| G I-5  | Your child does not ask for a particular type food every time.                      |       |        |            |          |                   |
| G I-6  | Your child chews food properly and swallows.  |       |        |            |          |                   |
| G I-7  | Your child does not eat food more than three times in a day.                        |       |        |            |          |                   |
| G I-8  | Your child does not demand more and more food every time during the meal.           |       |        |            |          |                   |
| G I-9  | Your child does not like to eat fast food/hotel or ready-made food.                 |       |        |            |          |                   |
| G I-10 | Your child does not have digestion or bowel movement problems.                      |       |        |            |          |                   |
| G I-11 | Your child does not have bloating or flatulence problems.                           |       |        |            |          |                   |
| G I-12 | Your child does not go to the toilet more than twice in a day for a bowel movement. |       |        |            |          |                   |
| G I-13 | Your child does not have urine or fecal incontinence problems.                      |       |        |            |          |                   |

| G I-14 | You do not give medicine to your child for any digestion related problems. |  |  |  |
|--------|--|--|--|--|
| G I-15 | Your child does not vomit sometimes if over eat food.                      |  |  |  |
| G I-16 | Is your child not overweight for his age?                                  |  |  |  |

## TABLE-3

## **BEHAVIOR ITEMS**

|        |  | Ite   | ems    | for        | Pare     | ents              |
|--------|--|-------|--------|------------|----------|-------------------|
| Name o | f the Child:<br>SECTION - III: BEHAVIOR  |       |        |            |          |                   |
| S.N.   | STATEMENT  |       |        |            |          | 96                |
|        |  | Agree | Rarely | Some Times | Disagree | Strongly disagree |
|        |  | 1     | 2      | 3          | 4        | 5                 |
| B I-1  | Your child sits at a place for more than 30 minutes without any activity.        |       |        |            |          |                   |
| B I-2  | Your child's eye contact is normal and does not stare from an unusual angle.     |       |        |            |          |                   |
| B I-3  | Your child's attention span is normal as other children.                         |       |        |            |          |                   |
| B I-4  | Your child does not run/walk around in the house without reason.                 |       |        |            |          |                   |
| B I-5  | Your child adjusts to any changes made in the house without reaction.            |       |        |            |          |                   |
| B I-6  | Your child receives guests with a smile.   |       |        |            |          |                   |
| B I-7  | Your child communicates with guests normally like others in the house.           |       |        |            |          |                   |
| B I-8  | Your child shows curiosity about surroundings/objects and asks items.            |       |        |            |          |                   |
| B I-9  | Your child does not cry or laugh without reason.                                 |       |        |            |          |                   |
| B I-10 | Your child expresses happiness and sorrow according to the situation (emotion).  |       |        |            |          |                   |
| B I-11 | Your child responds and turns to you when called by name.                        |       |        |            |          |                   |
| B I-12 | Your child plays with toys appropriately according to age.                       |       |        |            |          |                   |
| B I-13 | Your child picks objects if asked by you.  |       |        |            |          |                   |
| B I-14 | Your child does not smell or lick objects or things when picked.                 |       |        |            |          |                   |
| B I-15 | Your child has normal speech and does not produce unusual or meaningless sounds. |       |        |            |          |                   |

| B I-16 | Your child uses appropriate words during communication.   |  |  |
|--------|---|--|--|
| B I-17 | Your child does not show anxiety at any situation or depression.  |  |  |
| B I-18 | Your child does not behave aggressively at any time during the day.   |  |  |
| B I-19 | Your child does not injure self by indulging in head banging, biting or hitting.  |  |  |
| B I-20 | Your child does not injure others by pushing, pinching, biting or by hitting.   |  |  |
| B I-21 | Your child does not have difficulty in processing and integrating sensory information or stimuli like seeing, hearing, smell, tasting, and movements. |  |  |
| B I-22 | Your child does not involve in self-stimulatory behaviors viz., finger flapping or head movement.   |  |  |
| B I-23 | Your child does not swing mood suddenly due to some reason.   |  |  |
| B I-24 | Your child plays and mingles with other children.   |  |  |
| B I-25 | Your child is not afraid of or adversely reacts to loud sounds.   |  |  |
| B I-26 | Your child does not have savant ability (extraordinary skill in a specific area).   |  |  |
| B I-27 | Your child does not lack in cognitive ability.  |  |  |
| B I-28 | Your child will imitate most of your actions.   |  |  |
| B I-29 | Your child's hearing is normal as others.   |  |  |
| B I-30 | Your child does not repeat the words instead respond with appropriate words.  |  |  |
|        |   |  |  |

## **Appendix-5**

#### LIST OF PUBLICATIONS FROM THIS DOCTORAL THESIS

#### 1. Review Article:

"SLEEP DISORDER, GASTROINTESTINAL PROBLEMS AND BEHAVIOR PROBLEMS SEEN IN AUTISM SPECTRUM DISORDER CHILDREN AND YOGA AS THERAPY: A DESCRIPTIVE REVIEW".

Published by Journal of Clinical and Diagnostic Research (JCDR) indexed by Pub Med, in the month of November 2016.

## 2.Original Article:

"EFFICACY OF STRUCTURED *YOGA* INTERVENTION FOR SLEEP, GASTROINTESTINAL AND BEHAVIOR PROBLEMS OF ASD CHILDREN: AN EXPLORATORY STUDY"

Published by Journal of Clinical and Diagnostic Research (JCDR) indexed by PubMed in the month of March 2017.

3.FEASIBILITY OF PARENT-BASED *YOGA* INTERVENTION FOR GROUP OF AUTISM SPECTRUM DISORDER CHILDREN: IN SPECIAL SCHOOLS: A PILOT STUDY Published by International Journal of Research in *Ayurveda* and Pharmacy.(indexed by Scopus - Elsevier and listed by UGC No.17498) in the month of May 2017.

## LIST OF TABLES

## 5.0 METHODS

| Sl.<br>No | Practice English Name                                      | Practice Sanskrit Name    | Rounds | Time in Sec | Set<br>No |
|-----------|--|---------------------------|--------|-------------|-----------|
| 1         | BREATHING PRACTICES  |                           |        | 2 M         |           |
| A         | Tiger breathing  | Vyāghra Swāsah            | 5      | 30          | 1         |
| В         | Rabit breathing  | Shashanka Swāsah          | 5      | 30          | 2         |
| С         | Cobra breathing  | Bhujangāsana Swāsah       | 5      | 30          | 1         |
| D         | Breathing in Bridge Posture                                | Sethubandha Swāsah        | 5      | 30          | 2         |
| 2         | Preparatory/Dynamic Practices                              | Sithilikarana Vyāyāma     |        | 8 M         | 9.32      |
| A         | Jogging(Front-Back-Side)                                   |                           | 10     | 120         | 1-2       |
| В         | Forced exhalation from mouth                               | Mukha South               | 5      | 30          | 1-2       |
| С         | Hands in and out breathing                                 | Prasarita hasta swāsah    | 5      | 30          | 2         |
| D         | Spinal Twisting  | Kati Sakti Vikāsaka       | 5      | 30          | 1         |
| Е         | Ankle stretch breathing                                    |                           | 5      | 30          | 2         |
| F         | Front/Back bending   | Kati Sakti Vikāsaka       | 5      | 30          | 1         |
| G         | Side bending(left-right)                                   |                           | 5      | 30          | 2         |
| Н         | Waist rotation(Clock & Anticlockwise)                      |                           | 5      | 30          | 1-2       |
| I         | Shoulder rotation(Single-Double/Clockwise - Anticlockwise) | Skandha Chakra            | 5      | 60          | 1-2       |
| J         | Neck Exercise(Front-Back/Left-Right / rotation             | Grihva Sanchālana         | 5      | 60          | 1         |
| K         | Relax IRT  |                           |        | 30          | 1-2       |
| 3         | PAWANA MUKTĀSANAS  |                           |        | 7 M         | 9.40      |
| A         | Leg raising  | Padottānasana             | 5      | 60          | 1         |
| В         | Leg rotation   | Pada Vrittāsana           | 5      | 60          | 2         |
| С         | Cycling  | Chakrikāsana              | 5      | 60          | 1-2       |
| D         | Folded leg Lumbar Stretch                                  | Jattara Parivartānasana 1 | 5      | 60          | 1         |
| Е         | Crossed leg Lumbar Stretch                                 | Jattara Parivartānasana 2 | 5      | 60          | 2         |

| F | Rocking-Rolling in Wind<br>Release posture  | Pavana Muktāsana        | 5            | 60    | 1-2  |
|---|---|-------------------------|--------------|-------|------|
| G | Boat Pose   | Nāvasana                | 5            | 30    | 1    |
|   | Relax   |                         |              | 30    | 1-2  |
| 4 | Sun Salutation 6 sets with chanting of mantra for each set 3 fast 10 step type 1 slow 12 step | Surya Namaskāra         | 6 x<br>4Sets | 60    | 9.47 |
|   | Relax (IRT)   |                         |              | 30Sec |      |
| 5 | ÄSANA (STANDING<br>POSTURES )   |                         |              | 8.5M  | 9.53 |
| A | Tree Posture  | Vriksāsana              |              | 60    | 1    |
|   | Eagle Posture   | Garudāsana              |              | 60    | 2    |
| В | Lateral Arc Pose  | Ardha Kati Cakrāsana    |              | 60    | 1-2  |
| С | Dorsal stretch / Foot Posture   | Pādangustāsana          |              | 30    | 1-2  |
| D | Back bending stretch  | Ardha Cakrāsana         |              | 30    | 1-2  |
| Е | Extended Triangle posture   | Uthita Trikonāna        |              | 60    | 1-2  |
| F | Relax   |                         |              | 30    | 1-2  |
| G | Extended Side Angle Posture   | Uthita Pārshva Konāsana |              | 60    | 1-2  |
| Н | Powerful Warrior Posture  | Veerabhadrāsana-1       |              | 60    | 1    |
|   | Powerful Warrior Posture  | Veerabhadrāsana-II      |              | 60    | 2    |
| I | Side Intense Stretch Pose   | Parsvotanāsana          |              | 60    | 1    |
| J | Spread Foot Intense Stretch Pose  | Prasārita Padottanāsana |              | 30    | 2    |
|   | Relax   |                         |              | 30    | 1-2  |

| 6 | SITTING POSTURES                   |                                     | 11.5 M  | 10.13  |
|---|------------------------------------|-------------------------------------|---------|--------|
| A | Downward Facing Dog Pose           | Adhomukha Swānāsana                 | 30      | 1-2    |
| В | Upward Facing Dog Pose             | Urdhva Mukha Swānāsana              | 30      | 1-2    |
| С | Head to Knee Pose                  | JanuSirsāsana                       | 60      | 1      |
| D | Marichaya Sage Pose                | Marichayāsana                       | 60      | 1-2    |
| Е | Head to Knee Pose                  | Pashcimottānāsana                   | 60      | 2      |
| F | Half Matsyendrasana (Sage)<br>Pose | Ardha Matsyandrāsana /<br>Vakrāsana | 60      | 1-2    |
| G | Camel Posture                      | Ustrāsana                           | 30      | 1-2    |
|   | Relaxation                         |                                     | 30      |        |
| Н | Seated Angle Pose                  | Upavista Konāsana                   | 30      | 1      |
| Ι | Lotus Posture                      | Padmāsana                           | 90      | 1      |
| J | Warrior Pose                       | Veerasana                           | 90      | 2      |
| K | Cow Face Posture                   | Gomukhāsana                         | 60      | 1      |
| L | Full butterfly                     | PoornaTithaliāsana                  | 30      | 2      |
|   | Relaxation                         |                                     | 30      |        |
| 7 | PRONE POSTURES                     |                                     | 1.5 Min | 10 .13 |
| A | Cobra Posture                      | Bhujanāgsana                        | 30      | 1-2    |
| В | Locust Grass Hopper Pose           | Salabhāsana                         | 30      | 1-2    |
| С | Bow Posture                        | Dhanurāsana                         | 30      | 1-2    |
| 8 | SUPINE POSTURES                    |                                     | 5 Min   | 10.18  |
| A | Bridge Construct Pose              | Sethubandhāsana                     | 30      | 1-2    |
| В | Boat Pose                          | Nāvāsana                            | 30      | 1-2    |

| С  | Wheel Pose  | Chakrāsana                      | 30      |       |
|----|---|---------------------------------|---------|-------|
| D  | Shoulder Pose   | Sarvāngāsana                    | 60      | 1-2   |
| Е  | Plough Pose   | Halāasana                       | 60      | 1-2   |
| F  | Ear Pressure Pose   | Karnapidāsana                   | 30      | 1-2   |
| G  | Half Fish Pose  | Ardha Matsyāsana                | 30      | 1-2   |
|    | Relax   |                                 | 30      | 1-2   |
| 9  | Pranayama   |                                 | 8 Min   | 10.23 |
|    |   | Nadānusandhāna 9 rounds<br>each | 180     | 1-2   |
|    |   | Suryanādi Pranāyama             | 60      | 1     |
|    |   | Chandranādi Prānāyama           | 60      | 2     |
|    |   | Nadishudhi Prānāyama            | 60      | 1-2   |
|    |   | Bhrāmari Prānāyama              | 60      |       |
| 10 | DRT(Deep Relaxation<br>Technique)                                     | Shavāsana                       | 8.5 Min | 10.31 |
| 11 | Chanting of Slokas and Mantras<br>from VYASA Pushpanjali<br>(Bhajans) |                                 | 9 Min   | 10.40 |

**RAW DATA** 

|        | SLEEP ITEM PRE & POST-RAW DATA FOR <i>YOGA</i> GROUP  Sl. No   SLEEP ITEM_1   SLEEP ITEM_2   SLEEP ITEM_3   SLEEP ITEM_4   SLEEP ITEM_5 |       |         |       |         |       |          |       |          |      |  |  |
|--------|---|-------|---------|-------|---------|-------|----------|-------|----------|------|--|--|
| Sl. No | SLEEP I   | ΓΕM_1 | SLEEP I | ГЕМ_2 | SLEEP I | ГЕМ_3 | SLEEP I' | ΓΕΜ_4 | SLEEP IT | EM_5 |  |  |
|        | pre   | post  | pre     | post  | pre     | post  | pre      | post  | pre      | post |  |  |
| YG1    | 3   | 1     | 4       | 2     | 5       | 3     | 4        | 1     | 4        | 2    |  |  |
| YG2    | 4   | 1     | 3       | 3     | 5       | 2     | 5        | 1     | 5        | 1    |  |  |
| YG3    | 1   | 1     | 5`      | 2     | 4       | 2     | 1        | 1     | 1        | 1    |  |  |
| YG4    | 1   | 1     | 2       | 1     | 4       | 2     | 1        | 1     | 4        | 2    |  |  |
| YG5    | 1   | 1     | 1       | 1     | 4       | 1     | 5        | 1     | 4        | 2    |  |  |
| YG6    | 4   | 1     | 2       | 2     | 5       | 2     | 5        | 1     | 5        | 1    |  |  |
| YG7    | 4   | 1     | 3       | 1     | 5       | 1     | 4        | 2     | 5        | 1    |  |  |
| YG8    | 4   | 1     | 3       | 1     | 5       | 2     | 5        | 1     | 4        | 1    |  |  |
| YG9    | 1   | 1     | 1       | 1     | 3       | 2     | 4        | 1     | 5        | 2    |  |  |
| YG10   | 2   | 1     | 5       | 1     | 5       | 1     | 1        | 1     | 2        | 2    |  |  |
| YG11   | 4   | 1     | 4       | 1     | 5       | 1     | 5        | 1     | 5        | 1    |  |  |
| YG12   | 4   | 1     | 4       | 2     | 5       | 2     | 5        | 1     | 4        | 1    |  |  |
| YG13   | 4   | 1     | 3       | 1     | 5       | 1     | 4        | 2     | 4        | 1    |  |  |
| YG14   | 4   | 1     | 4       | 2     | 5       | 1     | 5        | 1     | 5        | 2    |  |  |
| YG15   | 3   | 1     | 3       | 2     | 4       | 1     | 4        | 1     | 4        | 1    |  |  |
| YG16   | 4   | 1     | 5       | 1     | 5       | 3     | 3        | 2     | 4        | 1    |  |  |
| YG17   | 4   | 1     | 3       | 1     | 5       | 3     | 5        | 2     | 3        | 2    |  |  |

| YG18 | 4 | 1 | 3 | 1 | 5 | 2 | 5 | 2 | 5 | 1 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG19 | 4 | 1 | 4 | 1 | 5 | 2 | 5 | 2 | 4 | 1 |
| YG20 | 3 | 1 | 3 | 1 | 5 | 2 | 4 | 2 | 5 | 2 |
| YG21 | 4 | 1 | 4 | 2 | 5 | 2 | 5 | 3 | 4 | 2 |
| YG22 | 4 | 1 | 4 | 1 | 5 | 2 | 4 | 2 | 4 | 1 |
| YG23 | 4 | 1 | 5 | 1 | 5 | 2 | 4 | 2 | 4 | 1 |
| YG24 | 4 | 1 | 3 | 1 | 5 | 2 | 4 | 2 | 2 | 1 |
| YG25 | 3 | 1 | 4 | 1 | 5 | 2 | 5 | 2 | 4 | 1 |
| YG26 | 3 | 1 | 4 | 2 | 5 | 1 | 4 | 1 | 2 | 1 |
| YG27 | 4 | 1 | 4 | 2 | 5 | 1 | 5 | 1 | 4 | 1 |
| YG28 | 5 | 1 | 4 | 1 | 5 | 2 | 4 | 2 | 4 | 2 |
| YG29 | 4 | 2 | 5 | 1 | 5 | 1 | 4 | 2 | 4 | 1 |
| YG30 | 2 | 1 | 4 | 1 | 5 | 1 | 4 | 1 | 4 | 1 |
| YG31 | 4 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 |
| YG32 | 4 | 1 | 5 | 2 | 4 | 1 | 4 | 1 | 4 | 1 |

|        | SLEEP ITEM PRE AND POST-RAW DATA FOR YOGA GROUP Sl. No SLEEP ITEM_6 SLEEP ITEM_7 SLEEP ITEM_8 SLEEP ITEM_9 SLEEP ITEM_10 |      |     |      |     |      |     |      |     |      |  |  |  |  |  |
|--------|--|------|-----|------|-----|------|-----|------|-----|------|--|--|--|--|--|
| Sl. No | SLEEP  |      |     |      |     |      |     |      |     |      |  |  |  |  |  |
| TIG1   | pre  | post | pre | post | pre | post | pre | post | pre | post |  |  |  |  |  |
| YG1    | 5  | 1    | 5   | 1    | 3   | 1    | 1   | 1    | 3   | 2    |  |  |  |  |  |
| YG2    | 5  | 2    | 4   | 1    | 1   | 1    | 1   | 1    | 3   | 2    |  |  |  |  |  |
| YG3    | 4  | 1    | 4   | 2    | 1   | 2    | 5   | 2    | 1   | 1    |  |  |  |  |  |
| YG4    | 1  | 1    | 4   | 1    | 1   | 1    | 1   | 1    | 2   | 1    |  |  |  |  |  |
| YG5    | 4  | 1    | 1   | 1    | 4   | 1    | 4   | 2    | 1   | 2    |  |  |  |  |  |
| YG6    | 4  | 1    | 4   | 2    | 2   | 2    | 2   | 1    | 3   | 1    |  |  |  |  |  |
| YG7    | 5  | 1    | 4   | 1    | 3   | 1    | 5   | 2    | 4   | 2    |  |  |  |  |  |
| YG8    | 4  | 1    | 3   | 1    | 2   | 1    | 5   | 2    | 4   | 1    |  |  |  |  |  |
| YG9    | 2  | 1    | 1   | 1    | 5   | 1    | 1   | 2    | 2   | 2    |  |  |  |  |  |
| YG10   | 3  | 1    | 3   | 2    | 3   | 2    | 5   | 2    | 5   | 2    |  |  |  |  |  |
| YG11   | 5  | 2    | 4   | 1    | 2   | 1    | 4   | 1    | 4   | 2    |  |  |  |  |  |
| YG12   | 4  | 1    | 3   | 2    | 1   | 2    | 4   | 1    | 3   | 1    |  |  |  |  |  |
| YG13   | 4  | 1    | 5   | 1    | 2   | 1    | 1   | 1    | 3   | 1    |  |  |  |  |  |
| YG14   | 4  | 1    | 4   | 1    | 2   | 1    | 4   | 1    | 3   | 2    |  |  |  |  |  |
| YG15   | 3  | 1    | 3   | 1    | 1   | 1    | 2   | 1    | 3   | 1    |  |  |  |  |  |
| YG16   | 3  | 1    | 5   | 1    | 1   | 1    | 4   | 1    | 5   | 2    |  |  |  |  |  |
| YG17   | 4  | 1    | 4   | 1    | 1   | 1    | 3   | 1    | 5   | 1    |  |  |  |  |  |
| YG18   | 5  | 1    | 3   | 2    | 1   | 2    | 4   | 1    | 4   | 1    |  |  |  |  |  |
| YG19   | 3  | 1    | 3   | 2    | 1   | 2    | 2   | 1    | 2   | 2    |  |  |  |  |  |
| YG20   | 5  | 1    | 5   | 2    | 5   | 2    | 5   | 1    | 4   | 2    |  |  |  |  |  |
| YG21   | 4  | 1    | 4   | 1    | 1   | 1    | 4   | 1    | 5   | 2    |  |  |  |  |  |
| YG22   | 5  | 1    | 3   | 2    | 1   | 2    | 5   | 1    | 4   | 1    |  |  |  |  |  |
| YG23   | 5  | 1    | 3   | 2    | 1   | 2    | 2   | 1    | 4   | 2    |  |  |  |  |  |
| YG24   | 4  | 2    | 2   | 1    | 1   | 1    | 1   | 1    | 4   | 2    |  |  |  |  |  |
| YG25   | 4  | 1    | 4   | 1    | 2   | 1    | 2   | 1    | 4   | 2    |  |  |  |  |  |
| YG26   | 5  | 1    | 5   | 1    | 4   | 1    | 5   | 1    | 4   | 2    |  |  |  |  |  |
| YG27   | 2  | 2    | 4   | 1    | 1   | 1    | 2   | 1    | 4   | 2    |  |  |  |  |  |
| YG28   | 4  | 1    | 4   | 1    | 2   | 1    | 4   | 1    | 4   | 2    |  |  |  |  |  |

| YG29 | 4 | 1 | 5 | 1 | 1 | 1 | 2 | 1 | 4 | 1 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG30 | 4 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| YG31 | 5 | 1 | 4 | 2 | 1 | 2 | 2 | 1 | 5 | 1 |
| YG32 | 5 | 1 | 4 | 2 | 5 | 2 | 5 | 2 | 4 | 2 |

|        | SLEEP ITEM PRE AND POST-RAW DATA FOR <i>YOGA</i> GROUP  SI. No SLEEP SLEEP SLEEP SLEEP |  |     |      |     |      |     |      |     |      |  |  |  |
|--------|--|--|-----|------|-----|------|-----|------|-----|------|--|--|--|
| Sl. No |  | SLEEP     SLEEP     SLEEP     SLEEP     SLEEP       ITEM_11     ITEM_12     ITEM_13     ITEM_14     ITEM_19       pre     post     pre     post     pre     post     pre |     |      |     |      |     |      |     |      |  |  |  |
|        | pre  | post   | pre | post | pre | post | pre | post | pre | post |  |  |  |
| YG1    | 2  | 2  | 5   | 1    | 5   | 1    | 5   | 2    | 4   | 1    |  |  |  |
| YG2    | 4  | 1  | 5   | 1    | 2   | 2    | 5   | 2    | 1   | 1    |  |  |  |
| YG3    | 1  | 1  | 1   | 1    | 1   | 2    | 1   | 1    | 4   | 1    |  |  |  |
| YG4    | 4  | 1  | 1   | 1    | 4   | 4    | 1   | 1    | 1   | 1    |  |  |  |
| YG5    | 4  | 2  | 5   | 1    | 3   | 2    | 4   | 1    | 1   | 1    |  |  |  |
| YG6    | 3  | 1  | 4   | 1    | 4   | 2    | 5   | 1    | 1   | 1    |  |  |  |
| YG7    | 3  | 1  | 5   | 1    | 4   | 2    | 5   | 3    | 4   | 1    |  |  |  |
| YG8    | 4  | 1  | 5   | 1    | 3   | 1    | 5   | 2    | 2   | 1    |  |  |  |
| YG9    | 4  | 2  | 3   | 1    | 4   | 1    | 1   | 1    | 1   | 1    |  |  |  |
| YG10   | 5  | 2  | 1   | 1    | 5   | 2    | 5   | 2    | 5   | 1    |  |  |  |
| YG11   | 4  | 2  | 5   | 1    | 4   | 1    | 5   | 1    | 2   | 1    |  |  |  |
| YG12   | 3  | 1  | 5   | 1    | 3   | 2    | 5   | 2    | 4   | 1    |  |  |  |
| YG13   | 3  | 1  | 4   | 1    | 4   | 1    | 5   | 2    | 1   | 1    |  |  |  |
| YG14   | 3  | 2  | 4   | 1    | 5   | 1    | 5   | 1    | 2   | 1    |  |  |  |
| YG15   | 4  | 1  | 5   | 2    | 3   | 1    | 5   | 2    | 5   | 2    |  |  |  |
| YG16   | 5  | 3  | 5   | 1    | 3   | 3    | 5   | 1    | 1   | 1    |  |  |  |
| YG17   | 5  | 1  | 4   | 1    | 2   | 4    | 5   | 1    | 2   | 1    |  |  |  |
| YG18   | 3  | 1  | 5   | 1    | 3   | 2    | 5   | 1    | 5   | 1    |  |  |  |
| YG19   | 2  | 2  | 4   | 1    | 2   | 1    | 5   | 2    | 4   | 1    |  |  |  |
| YG20   | 4  | 2  | 5   | 1    | 4   | 1    | 5   | 1    | 5   | 1    |  |  |  |
| YG21   | 5  | 2  | 4   | 1    | 4   | 1    | 5   | 2    | 4   | 1    |  |  |  |
| YG22   | 4  | 1  | 5   | 2    | 5   | 1    | 5   | 1    | 5   | 1    |  |  |  |
| YG23   | 4  | 1  | 5   | 1    | 5   | 1    | 5   | 1    | 1   | 1    |  |  |  |
| YG24   | 4  | 2  | 5   | 1    | 5   | 2    | 5   | 1    | 3   | 1    |  |  |  |

| YG25 | 4 | 2 | 5 | 2 | 5 | 2 | 5 | 1 | 2 | 1 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG26 | 4 | 2 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 |
| YG27 | 4 | 2 | 5 | 1 | 5 | 1 | 5 | 2 | 5 | 1 |
| YG28 | 4 | 2 | 5 | 1 | 5 | 2 | 5 | 1 | 5 | 2 |
| YG29 | 4 | 1 | 5 | 2 | 4 | 1 | 5 | 2 | 2 | 1 |
| YG30 | 2 | 1 | 2 | 1 | 5 | 1 | 5 | 2 | 2 | 1 |
| YG31 | 5 | 2 | 4 | 1 | 5 | 1 | 5 | 2 | 2 | 1 |
| YG32 | 4 | 2 | 4 | 1 | 4 | 2 | 5 | 1 | 4 | 1 |

|        | G I ITEM PRE AND POST-RAW DATA FOR YOGA GROUP           Sl. No         G I_1         G I_2         G I_3         G I_4         G I_5 |      |     |      |     |      |     |      |     |      |  |  |  |  |
|--------|--|------|-----|------|-----|------|-----|------|-----|------|--|--|--|--|
| Sl. No | G  | I_1  | G   | I_2  | G   | I_3  | G   | I_4  | G   | I_5  |  |  |  |  |
|        | Pre  | Post | Pre | Post | Pre | Post | Pre | Post | Pre | Post |  |  |  |  |
| YG1    | 4  | 2    | 3   | 1    | 5   | 1    | 5   | 2    | 5   | 3    |  |  |  |  |
| YG2    | 3  | 2    | 2   | 3    | 1   | 1    | 5   | 1    | 5   | 2    |  |  |  |  |
| YG3    | 1  | 1    | 1   | 1    | 1   | 1    | 4   | 1    | 4   | 2    |  |  |  |  |
| YG4    | 2  | 2    | 1   | 1    | 1   | 1    | 1   | 1    | 1   | 1    |  |  |  |  |
| YG5    | 2  | 2    | 3   | 1    | 2   | 1    | 4   | 1    | 5   | 2    |  |  |  |  |
| YG6    | 2  | 2    | 1   | 1    | 1   | 1    | 1   | 1    | 2   | 2    |  |  |  |  |
| YG7    | 4  | 2    | 4   | 1    | 3   | 1    | 5   | 1    | 5   | 2    |  |  |  |  |
| YG8    | 4  | 2    | 5   | 1    | 3   | 1    | 5   | 1    | 5   | 2    |  |  |  |  |
| YG9    | 2  | 2    | 1   | 1    | 1   | 1    | 4   | 1    | 5   | 2    |  |  |  |  |
| YG10   | 3  | 2    | 3   | 1    | 1   | 1    | 4   | 1    | 3   | 2    |  |  |  |  |
| YG11   | 4  | 2    | 4   | 1    | 2   | 1    | 5   | 1    | 4   | 2    |  |  |  |  |
| YG12   | 4  | 2    | 4   | 2    | 3   | 1    | 5   | 1    | 4   | 1    |  |  |  |  |
| YG13   | 4  | 2    | 4   | 1    | 3   | 1    | 5   | 1    | 5   | 2    |  |  |  |  |
| YG14   | 2  | 2    | 4   | 2    | 4   | 1    | 5   | 1    | 5   | 2    |  |  |  |  |
| YG15   | 2  | 1    | 1   | 1    | 1   | 1    | 3   | 1    | 4   | 2    |  |  |  |  |
| YG16   | 5  | 4    | 2   | 2    | 1   | 2    | 4   | 1    | 5   | 1    |  |  |  |  |
| YG17   | 5  | 2    | 2   | 1    | 1   | 1    | 4   | 2    | 5   | 2    |  |  |  |  |
| YG18   | 4  | 2    | 1   | 1    | 3   | 1    | 5   | 2    | 5   | 2    |  |  |  |  |
| YG19   | 4  | 1    | 4   | 1    | 4   | 2    | 5   | 2    | 5   | 2    |  |  |  |  |

| YG20 | 3 | 1 | 3 | 1 | 5 | 2 | 4 | 2 | 5 | 2 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG21 | 2 | 1 | 1 | 1 | 4 | 1 | 5 | 1 | 5 | 2 |
| YG22 | 4 | 1 | 1 | 1 | 2 | 1 | 5 | 2 | 5 | 2 |
| YG23 | 4 | 1 | 4 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| YG24 | 4 | 1 | 3 | 1 | 2 | 1 | 5 | 2 | 5 | 2 |
| YG25 | 2 | 1 | 2 | 1 | 2 | 2 | 5 | 2 | 5 | 2 |
| YG26 | 4 | 1 | 4 | 1 | 2 | 2 | 5 | 2 | 5 | 2 |
| YG27 | 4 | 1 | 4 | 2 | 4 | 1 | 2 | 2 | 5 | 2 |
| YG28 | 4 | 1 | 2 | 1 | 4 | 2 | 5 | 2 | 5 | 2 |
| YG29 | 4 | 1 | 4 | 1 | 2 | 1 | 4 | 1 | 4 | 1 |
| YG30 | 2 | 1 | 2 | 2 | 4 | 1 | 4 | 2 | 4 | 1 |
| YG31 | 2 | 1 | 2 | 1 | 4 | 2 | 5 | 2 | 5 | 2 |
| YG32 | 5 | 1 | 4 | 1 | 2 | 2 | 5 | 2 | 5 | 2 |

|        | G I ITEM PRE AND POST-RAW DATA FOR YOGA GROUP |        |        |        |     |        |     |        |     |           |  |
|--------|---|--------|--------|--------|-----|--------|-----|--------|-----|-----------|--|
| Sl. No |   | კ<br>ნ | (<br>I | G<br>7 |     | G<br>8 |     | G<br>9 |     | G<br>I 10 |  |
|        | Pre   | Post   | Pre    | Post   | Pre | Post   | Pre | Post   | Pre | Pos       |  |
| YG1    | 5   | 2      | 3      | 1      | 2   | 1      | 5   | 4      | 4   | 1         |  |
| YG2    | 5   | 2      | 4      | 1      | 3   | 2      | 5   | 4      | 3   | 1         |  |
| YG3    | 1   | 1      | 4      | 2      | 1   | 1      | 4   | 3      | 1   | 1         |  |
| YG4    | 1   | 1      | 2      | 2      | 4   | 2      | 4   | 3      | 1   | 1         |  |
| YG5    | 1   | 2      | 4      | 1      | 1   | 2      | 4   | 5      | 2   | 1         |  |
| YG6    | 2   | 2      | 1      | 2      | 2   | 3      | 5   | 1      | 4   | 1         |  |
| YG7    | 5   | 2      | 4      | 3      | 3   | 3      | 5   | 5      | 4   | 1         |  |
| YG8    | 5   | 1      | 4      | 1      | 2   | 2      | 5   | 3      | 4   | 1         |  |
| YG9    | 1   | 1      | 4      | 1      | 3   | 2      | 5   | 1      | 1   | 1         |  |
| YG10   | 3   | 2      | 1      | 1      | 2   | 2      | 3   | 3      | 3   | 1         |  |
| YG11   | 5   | 1      | 3      | 3      | 3   | 2      | 5   | 4      | 4   | 1         |  |
| YG12   | 5   | 1      | 4      | 2      | 1   | 3      | 5   | 4      | 4   | 1         |  |
| YG13   | 5   | 2      | 4      | 1      | 4   | 2      | 5   | 5      | 3   | 1         |  |
| YG14   | 5   | 2      | 4      | 3      | 3   | 3      | 5   | 3      | 4   | 1         |  |
| YG15   | 5   | 2      | 3      | 1      | 4   | 1      | 5   | 5      | 4   | 1         |  |

| TIGAL | _ | _ | 4 |   | _ |   | _ | _ |   |   |
|-------|---|---|---|---|---|---|---|---|---|---|
| YG16  | 5 | 2 | 4 | 1 | 5 | 1 | 5 | 5 | 4 | 1 |
| YG17  | 5 | 2 | 4 | 1 | 4 | 1 | 5 | 5 | 4 | 1 |
| YG18  | 5 | 2 | 3 | 1 | 4 | 1 | 5 | 5 | 5 | 1 |
| YG19  | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 3 | 4 | 1 |
| YG20  | 5 | 1 | 3 | 1 | 3 | 1 | 4 | 5 | 4 | 1 |
| YG21  | 5 | 2 | 3 | 2 | 2 | 1 | 5 | 4 | 4 | 2 |
| YG22  | 5 | 2 | 4 | 1 | 2 | 1 | 5 | 4 | 4 | 1 |
| YG23  | 5 | 2 | 5 | 1 | 4 | 1 | 5 | 3 | 4 | 1 |
| YG24  | 4 | 2 | 4 | 1 | 4 | 1 | 5 | 4 | 4 | 1 |
| YG25  | 5 | 2 | 4 | 1 | 2 | 1 | 5 | 4 | 4 | 2 |
| YG26  | 5 | 2 | 5 | 1 | 5 | 1 | 5 | 2 | 4 | 1 |
| YG27  | 5 | 2 | 1 | 1 | 1 | 1 | 5 | 2 | 4 | 1 |
| YG28  | 5 | 2 | 4 | 1 | 4 | 1 | 5 | 2 | 4 | 1 |
| YG29  | 5 | 1 | 4 | 2 | 2 | 2 | 5 | 3 | 4 | 2 |
| YG30  | 5 | 1 | 3 | 1 | 1 | 1 | 5 | 2 | 2 | 1 |
| YG31  | 5 | 1 | 4 | 1 | 1 | 2 | 4 | 1 | 5 | 1 |
| YG32  | 5 | 2 | 4 | 1 | 2 | 1 | 4 | 2 | 4 | 1 |

|        |     | GI   | ITEM P | RE AN | D POST | -RAW | DATA I | FOR YO | <i>GA</i> GR | OUP  |     |      |
|--------|-----|------|--------|-------|--------|------|--------|--------|--------------|------|-----|------|
| Sl. No | G   | I_11 | G I    | I_12  | G      | I_13 | G I    | I_14   | G I          | I_15 | G   | I_16 |
|        | Pre | Post | Pre    | Post  | Pre    | Post | Pre    | Post   | Pre          | Post | Pre | Post |
| YG1    | 3   | 1    | 4      | 2     | 1      | 1    | 3      | 1      | 4            | 1    | 1   | 1    |
| YG2    | 3   | 1    | 4      | 1     | 3      | 1    | 2      | 1      | 3            | 2    | 1   | 1    |
| YG3    | 1   | 1    | 1      | 1     | 4      | 2    | 1      | 1      | 4            | 2    | 1   | 1    |
| YG4    | 1   | 1    | 2      | 1     | 1      | 1    | 1      | 1      | 1            | 1    | 5   | 2    |
| YG5    | 1   | 1    | 1      | 1     | 4      | 2    | 1      | 1      | 1            | 1    | 5   | 4    |
| YG6    | 4   | 1    | 3      | 1     | 5      | 1    | 3      | 1      | 3            | 2    | 1   | 1    |
| YG7    | 3   | 1    | 3      | 1     | 4      | 2    | 4      | 1      | 3            | 1    | 5   | 2    |
| YG8    | 4   | 1    | 3      | 1     | 2      | 1    | 4      | 1      | 4            | 1    | 1   | 1    |
| YG9    | 1   | 1    | 1      | 1     | 1      | 1    | 1      | 1      | 1            | 1    | 5   | 2    |
| YG10   | 3   | 1    | 4      | 1     | 4      | 2    | 3      | 1      | 3            | 1    | 4   | 3    |

|      |   |   |    | 1 | 1 | 1 | 1 | 1 |   |    | 1  | 1 |
|------|---|---|----|---|---|---|---|---|---|----|----|---|
| YG11 | 4 | 1 | 4  | 1 | 2 | 1 | 4 | 1 | 4 | 1  | 4  | 1 |
| YG12 | 4 | 1 | 4  | 2 | 2 | 2 | 4 | 1 | 4 | 2  | 4  | 1 |
| YG13 | 3 | 1 | 3  | 1 | 1 | 1 | 2 | 1 | 2 | 2  | 4  | 2 |
| YG14 | 4 | 1 | 5  | 1 | 3 | 1 | 4 | 2 | 4 | 2  | 4  | 1 |
| YG15 | 3 | 1 | 11 | 1 | 4 | 1 | 3 | 1 | 3 | 11 | 11 | 1 |
| YG16 | 3 | 1 | 4  | 1 | 4 | 1 | 4 | 1 | 3 | 2  | 5  | 4 |
| YG17 | 4 | 1 | 4  | 1 | 1 | 1 | 3 | 1 | 3 | 1  | 3  | 1 |
| YG18 | 4 | 1 | 4  | 1 | 5 | 1 | 4 | 1 | 3 | 1  | 4  | 2 |
| YG19 | 4 | 1 | 4  | 2 | 2 | 1 | 3 | 2 | 2 | 1  | 4  | 1 |
| YG20 | 4 | 1 | 3  | 2 | 4 | 2 | 3 | 1 | 4 | 1  | 5  | 1 |
| YG21 | 4 | 2 | 4  | 1 | 4 | 1 | 5 | 1 | 3 | 1  | 1  | 1 |
| YG22 | 4 | 1 | 4  | 1 | 4 | 1 | 4 | 1 | 2 | 1  | 4  | 1 |
| YG23 | 4 | 1 | 1  | 1 | 1 | 1 | 2 | 1 | 2 | 1  | 4  | 2 |
| YG24 | 4 | 1 | 2  | 1 | 2 | 1 | 2 | 1 | 1 | 1  | 1  | 1 |
| YG25 | 4 | 2 | 4  | 1 | 5 | 2 | 4 | 2 | 3 | 1  | 1  | 1 |
| YG26 | 4 | 1 | 4  | 1 | 4 | 2 | 2 | 2 | 4 | 1  | 1  | 1 |
| YG27 | 4 | 1 | 4  | 1 | 2 | 1 | 2 | 1 | 2 | 1  | 1  | 1 |
| YG28 | 4 | 1 | 4  | 1 | 4 | 1 | 4 | 1 | 4 | 1  | 5  | 2 |
| YG29 | 4 | 2 | 4  | 1 | 4 | 1 | 4 | 1 | 2 | 1  | 5  | 2 |
| YG30 | 4 | 2 | 4  | 2 | 4 | 1 | 4 | 1 | 2 | 1  | 1  | 1 |
| YG31 | 5 | 1 | 5  | 2 | 5 | 1 | 5 | 1 | 4 | 1  | 1  | 1 |
| YG32 | 4 | 1 | 4  | 1 | 2 | 1 | 5 | 1 | 4 | 1  | 5  | 2 |

| BI     | EHAVIO | R ITEM P | RE ANI | POST-R | AW DAT | A FOR Y | OGA GR | OUP  |     |      |
|--------|--------|----------|--------|--------|--------|---------|--------|------|-----|------|
| Sl. No |        | I_1      |        | I_2    | B I    |         | F      |      | В   | [_5  |
|        | Pre    | Post     | Pre    | Post   | Pre    | Post    | Pre    | Post | Pre | Post |
| YG1    | 5      | 2        | 5      | 2      | 5      | 2       | 1      | 1    | 4   | 1    |
| YG2    | 5      | 2        | 5      | 2      | 5      | 2       | 4      | 1    | 4   | 1    |
| YG3    | 5      | 2        | 2      | 1      | 5      | 2       | 5      | 2    | 2   | 1    |
| YG4    | 2      | 1        | 1      | 1      | 2      | 2       | 5      | 2    | 2   | 1    |
| YG5    | 5      | 1        | 5      | 2      | 5      | 2       | 4      | 1    | 4   | 2    |
| YG6    | 5      | 2        | 3      | 1      | 5      | 2       | 4      | 1    | 3   | 1    |

| YG7  | 5 | 1 | 5 | 1 | 4 | 2 | 4 | 2 | 3 | 1 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG8  | 5 | 2 | 4 | 1 | 5 | 1 | 4 | 1 | 5 | 2 |
| YG9  | 5 | 1 | 1 | 1 | 4 | 2 | 1 | 1 | 4 | 1 |
| YG10 | 5 | 1 | 5 | 2 | 5 | 2 | 4 | 1 | 5 | 1 |
| YG11 | 4 | 1 | 5 | 1 | 5 | 2 | 4 | 1 | 5 | 2 |
| YG12 | 5 | 2 | 5 | 1 | 4 | 1 | 4 | 1 | 5 | 2 |
| YG13 | 4 | 1 | 4 | 1 | 4 | 2 | 3 | 2 | 5 | 1 |
| YG14 | 5 | 2 | 5 | 1 | 4 | 1 | 3 | 1 | 4 | 1 |
| YG15 | 5 | 1 | 4 | 1 | 4 | 2 | 4 | 1 | 5 | 2 |
| YG16 | 5 | 2 | 5 | 2 | 5 | 2 | 4 | 1 | 5 | 1 |
| YG17 | 5 | 1 | 5 | 1 | 5 | 2 | 3 | 2 | 4 | 3 |
| YG18 | 5 | 1 | 3 | 1 | 4 | 2 | 4 | 1 | 5 | 2 |
| YG19 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 2 | 3 | 3 |
| YG20 | 4 | 2 | 5 | 2 | 5 | 2 | 4 | 1 | 4 | 2 |
| YG21 | 4 | 3 | 4 | 1 | 4 | 2 | 5 | 1 | 5 | 2 |
| YG22 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 4 | 2 |
| YG23 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 3 | 4 | 1 |
| YG24 | 5 | 3 | 5 | 4 | 5 | 3 | 5 | 3 | 4 | 1 |
| YG25 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 1 | 5 | 1 |
| YG26 | 5 | 4 | 5 | 1 | 4 | 3 | 5 | 3 | 5 | 3 |
| YG27 | 5 | 2 | 4 | 1 | 5 | 2 | 5 | 2 | 1 | 1 |
| YG28 | 5 | 2 | 5 | 1 | 5 | 2 | 4 | 2 | 4 | 1 |
| YG29 | 4 | 1 | 4 | 2 | 4 | 2 | 4 | 1 | 5 | 1 |
| YG30 | 4 | 3 | 4 | 1 | 4 | 2 | 2 | 1 | 1 | 1 |

| YG31 | 5 | 3 | 5 | 3 | 5 | 3 | 5 | 1 | 4 | 1 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG32 | 4 | 1 | 5 | 3 | 5 | 3 | 2 | 1 | 2 | 1 |

| В      | EHAVI( | OR ITEM | PRE A | ND POS | Γ-RAW | DATA F | OR YO | GA GROU | JP  |        |
|--------|--------|---------|-------|--------|-------|--------|-------|---------|-----|--------|
| Sl. No | В      | I_6     | В     | I_7    | В     | I_8    | В     | I_9     |     | B I_10 |
|        | Pre    | Post    | Pre   | Post   | Pre   | Post   | Pre   | Post    | Pre | Post   |
| YG1    | 4      | 3       | 4     | 2      | 2     | 1      | 3     | 1       | 5   | 3      |
| YG2    | 3      | 3       | 4     | 3      | 5     | 2      | 3     | 2       | 4   | 2      |
| YG3    | 1      | 4       | 4     | 4      | 5     | 2      | 5     | 1       | 1   | 3      |
| YG4    | 1      | 1       | 4     | 2      | 4     | 1      | 1     | 2       | 1   | 2      |
| YG5    | 3      | 3       | 5     | 3      | 2     | 1      | 4     | 1       | 1   | 3      |
| YG6    | 4      | 1       | 4     | 1      | 5     | 2      | 3     | 2       | 5   | 2      |
| YG7    | 4      | 1       | 5     | 1      | 3     | 2      | 4     | 1       | 5   | 3      |
| YG8    | 5      | 2       | 5     | 2      | 4     | 3      | 2     | 1       | 4   | 1      |
| YG9    | 5      | 1       | 4     | 2      | 4     | 3      | 3     | 1       | 1   | 2      |
| YG10   | 4      | 2       | 4     | 2      | 5     | 2      | 4     | 1       | 4   | 3      |
| YG11   | 3      | 2       | 5     | 3      | 5     | 4      | 4     | 1       | 5   | 1      |
| YG12   | 5      | 2       | 4     | 2      | 4     | 3      | 2     | 1       | 4   | 1      |
| YG13   | 4      | 1       | 4     | 3      | 5     | 3      | 3     | 2       | 4   | 2      |
| YG14   | 5      | 2       | 4     | 2      | 4     | 1      | 3     | 2       | 4   | 3      |
| YG15   | 2      | 2       | 2     | 3      | 4     | 3      | 1     | 1       | 4   | 1      |
| YG16   | 4      | 3       | 4     | 4      | 4     | 4      | 3     | 1       | 5   | 3      |
| YG17   | 5      | 3       | 5     | 3      | 4     | 3      | 3     | 2       | 4   | 1      |
| YG18   | 5      | 2       | 4     | 4      | 5     | 3      | 5     | 1       | 4   | 1      |

| YG19 | 5 | 2 | 5 | 4 | 5 | 4 | 5 | 1 | 5 | 3 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG20 | 3 | 2 | 4 | 3 | 4 | 3 | 3 | 1 | 4 | 1 |
| YG21 | 4 | 2 | 4 | 2 | 4 | 2 | 5 | 1 | 5 | 1 |
| YG22 | 5 | 2 | 5 | 4 | 5 | 2 | 5 | 1 | 4 | 2 |
| YG23 | 5 | 2 | 5 | 2 | 4 | 3 | 5 | 3 | 4 | 1 |
| YG24 | 4 | 1 | 4 | 2 | 4 | 2 | 3 | 2 | 3 | 1 |
| YG25 | 5 | 2 | 5 | 2 | 4 | 1 | 5 | 1 | 4 | 1 |
| YG26 | 5 | 1 | 2 | 2 | 4 | 3 | 5 | 3 | 5 | 3 |
| YG27 | 4 | 2 | 4 | 3 | 4 | 1 | 4 | 1 | 2 | 2 |
| YG28 | 4 | 1 | 5 | 2 | 2 | 1 | 4 | 1 | 4 | 2 |
| YG29 | 5 | 2 | 5 | 2 | 2 | 1 | 4 | 1 | 4 | 1 |
| YG30 | 2 | 1 | 4 | 2 | 2 | 1 | 2 | 1 | 4 | 1 |
| YG31 | 4 | 3 | 5 | 3 | 5 | 3 | 4 | 3 | 5 | 3 |
| YG32 | 4 | 1 | 4 | 3 | 4 | 3 | 4 | 1 | 5 | 1 |

|        |     | BEHAVI | OR ITE | M PRE | AND PC | ST-RAW | V DATA | FOR YO | OGA GR | OUP |
|--------|-----|--------|--------|-------|--------|--------|--------|--------|--------|-----|
| Sl. No |     | I_11   |        | I_12  |        | I_13   |        | I_14   |        | В   |
|        | Pre | Post   | Pre    | Post  | Pre    | Post   | Pre    | Post   | Pre    | Pos |
| YG1    | 2   | 2      | 4      | 4     | 2      | 3      | 4      | 2      | 5      | 1   |
| YG2    | 5   | 1      | 5      | 4     | 4      | 2      | 3      | 1      | 4      | 3   |
| YG3    | 1   | 1      | 4      | 2     | 1      | 1      | 4      | 2      | 4      | 4   |
| YG4    | 1   | 1      | 4      | 1     | 1      | 1      | 4      | 2      | 4      | 3   |
| YG5    | 1   | 1      | 5      | 2     | 2      | 1      | 4      | 2      | 4      | 3   |
| YG6    | 3   | 1      | 4      | 3     | 4      | 2      | 4      | 1      | 5      | 1   |
| YG7    | 2   | 1      | 5      | 3     | 4      | 1      | 4      | 2      | 4      | 2   |
| YG8    | 1   | 1      | 4      | 2     | 5      | 1      | 5      | 2      | 5      | 1   |

| YG9  | 1 | 1 | 4 | 3 | 1 | 1 | 5 | 2 | 3 | 2 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG10 | 3 | 1 | 5 | 2 | 4 | 1 | 4 | 3 | 5 | 2 |
| YG11 | 4 | 1 | 4 | 2 | 3 | 1 | 3 | 2 | 5 | 5 |
| YG12 | 1 | 1 | 4 | 3 | 2 | 1 | 3 | 2 | 5 | 2 |
| YG13 | 1 | 1 | 4 | 1 | 1 | 3 | 3 | 2 | 5 | 4 |
| YG14 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 2 | 4 | 4 |
| YG15 | 3 | 2 | 2 | 1 | 5 | 1 | 3 | 2 | 5 | 3 |
| YG16 | 3 | 1 | 5 | 3 | 2 | 1 | 1 | 1 | 5 | 4 |
| YG17 | 3 | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 3 |
| YG18 | 3 | 1 | 3 | 2 | 2 | 1 | 1 | 2 | 5 | 4 |
| YG19 | 5 | 1 | 5 | 4 | 3 | 1 | 3 | 1 | 5 | 4 |
| YG20 | 4 | 1 | 5 | 3 | 5 | 1 | 5 | 1 | 5 | 2 |
| YG21 | 2 | 1 | 5 | 1 | 3 | 1 | 3 | 1 | 4 | 3 |
| YG22 | 3 | 1 | 3 | 1 | 4 | 1 | 4 | 1 | 5 | 4 |
| YG23 | 5 | 1 | 5 | 2 | 4 | 1 | 4 | 1 | 5 | 4 |
| YG24 | 4 | 1 | 4 | 2 | 5 | 2 | 4 | 3 | 5 | 3 |
| YG25 | 4 | 1 | 2 | 1 | 5 | 2 | 5 | 2 | 5 | 1 |
| YG26 | 5 | 1 | 5 | 2 | 5 | 1 | 2 | 1 | 5 | 4 |
| YG27 | 2 | 1 | 2 | 2 | 4 | 1 | 4 | 1 | 5 | 4 |
| YG28 | 4 | 1 | 4 | 2 | 3 | 1 | 4 | 1 | 4 | 4 |
| YG29 | 5 | 1 | 5 | 2 | 5 | 1 | 2 | 1 | 5 | 4 |
| YG30 | 1 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| YG31 | 4 | 2 | 4 | 3 | 5 | 3 | 4 | 4 | 5 | 4 |
| YG32 | 5 | 2 | 5 | 2 | 3 | 2 | 3 | 4 | 4 | 4 |

|        |     |      |     | PRE ANI |     |      |     |      |     |      |
|--------|-----|------|-----|---------|-----|------|-----|------|-----|------|
| Sl. No |     | В    |     | В       |     | В    |     | В    | Е   |      |
|        | Pre | Post | Pre | Post    | Pre | Post | Pre | Post | Pre | Post |
| YG1    | 5   | 3    | 4   | 1       | 5   | 2    | 3   | 1    | 1   | 1    |
| YG2    | 5   | 3    | 3   | 1       | 4   | 1    | 4   | 2    | 4   | 2    |
| YG3    | 5   | 4    | 4   | 1       | 1   | 1    | 4   | 2    | 4   | 2    |
| YG4    | 4   | 3    | 4   | 2       | 2   | 2    | 1   | 2    | 2   | 1    |
| YG5    | 2   | 2    | 4   | 1       | 3   | 1    | 3   | 2    | 1   | 2    |
| YG6    | 4   | 4    | 4   | 1       | 4   | 1    | 3   | 2    | 3   | 2    |
| YG7    | 5   | 2    | 5   | 1       | 4   | 1    | 1   | 1    | 3   | 1    |
| YG8    | 5   | 1    | 4   | 2       | 5   | 1    | 4   | 1    | 4   | 1    |
| YG9    | 1   | 1    | 4   | 2       | 4   | 3    | 2   | 2    | 1   | 1    |
| YG10   | 5   | 3    | 4   | 1       | 5   | 1    | 5   | 1    | 4   | 2    |
| YG11   | 5   | 5    | 4   | 1       | 4   | 1    | 4   | 1    | 4   | 1    |
| YG12   | 5   | 2    | 4   | 1       | 4   | 1    | 2   | 1    | 3   | 1    |
| YG13   | 5   | 3    | 4   | 2       | 4   | 1    | 3   | 1    | 4   | 1    |
| YG14   | 4   | 3    | 5   | 1       | 4   | 2    | 3   | 2    | 5   | 2    |
| YG15   | 5   | 2    | 4   | 1       | 4   | 1    | 1   | 1    | 1   | 2    |
| YG16   | 5   | 4    | 4   | 3       | 4   | 1    | 2   | 1    | 2   | 1    |
| YG17   | 5   | 3    | 5   | 1       | 4   | 1    | 2   | 1    | 3   | 1    |
| YG18   | 5   | 4    | 5   | 1       | 5   | 1    | 2   | 1    | 2   | 1    |
| YG19   | 5   | 4    | 4   | 2       | 4   | 1    | 4   | 1    | 2   | 1    |
| YG20   | 5   | 2    | 5   | 1       | 5   | 1    | 5   | 1    | 5   | 1    |

| YG21 | 5 | 2 | 5 | 2 | 3 | 2 | 3 | 2 | 3 | 2 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG22 | 5 | 4 | 4 | 1 | 2 | 1 | 4 | 1 | 4 | 1 |
| YG23 | 5 | 4 | 4 | 1 | 4 | 1 | 5 | 1 | 4 | 1 |
| YG24 | 5 | 3 | 4 | 1 | 5 | 3 | 5 | 2 | 5 | 2 |
| YG25 | 5 | 3 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 2 |
| YG26 | 2 | 4 | 5 | 2 | 4 | 2 | 5 | 2 | 5 | 2 |
| YG27 | 5 | 4 | 2 | 1 | 4 | 1 | 4 | 1 | 4 | 1 |
| YG28 | 5 | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 5 | 1 |
| YG29 | 5 | 4 | 4 | 2 | 4 | 2 | 4 | 1 | 4 | 1 |
| YG30 | 2 | 2 | 4 | 1 | 4 | 2 | 4 | 1 | 4 | 1 |
| YG31 | 5 | 2 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 1 |
| YG32 | 4 | 2 | 4 | 2 | 5 | 1 | 5 | 1 | 5 | 1 |

|        | В   | BEHAVIO  | R ITEM | PRE ANI  | D POST- | RAW DA   | TA FOR | YOGA G  | ROUP |      |
|--------|-----|----------|--------|----------|---------|----------|--------|---------|------|------|
| Sl. No |     | B<br>_21 |        | B<br>_22 |         | B<br>_23 |        | B<br>24 | I_2  |      |
|        | Pre | Post     | Pre    | Post     | Pre     | Post     | Pre    | Post    | Pre  | Post |
| YG1    | 5   | 2        | 5      | 1        | 4       | 1        | 5      | 2       | 1    | 1    |
| YG2    | 5   | 2        | 4      | 1        | 4       | 1        | 5      | 2       | 1    | 2    |
| YG3    | 4   | 2        | 4      | 1        | 4       | 1        | 1      | 2       | 4    | 4    |
| YG4    | 4   | 2        | 4      | 1        | 1       | 1        | 1      | 2       | 2    | 1    |
| YG5    | 2   | 2        | 2      | 1        | 3       | 1        | 5      | 1       | 4    | 2    |
| YG6    | 5   | 2        | 5      | 1        | 3       | 2        | 5      | 2       | 5    | 3    |
| YG7    | 5   | 2        | 3      | 1        | 4       | 1        | 5      | 3       | 1    | 1    |
| YG8    | 5   | 2        | 5      | 1        | 3       | 1        | 5      | 1       | 4    | 1    |

| YG9  | 1 | 2 | 4 | 1 | 5 | 2 | 5 | 1 | 1 | 3 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG10 | 5 | 2 | 3 | 1 | 4 | 1 | 5 | 3 | 4 | 2 |
| YG11 | 5 | 2 | 5 | 1 | 3 | 1 | 5 | 2 | 4 | 2 |
| YG12 | 5 | 2 | 5 | 2 | 4 | 1 | 4 | 2 | 3 | 1 |
| YG13 | 5 | 2 | 5 | 1 | 3 | 1 | 5 | 3 | 5 | 1 |
| YG14 | 5 | 2 | 5 | 1 | 4 | 1 | 5 | 2 | 3 | 1 |
| YG15 | 5 | 2 | 4 | 3 | 4 | 3 | 5 | 1 | 4 | 1 |
| YG16 | 5 | 3 | 5 | 2 | 3 | 2 | 5 | 1 | 1 | 1 |
| YG17 | 3 | 3 | 3 | 1 | 4 | 1 | 5 | 2 | 2 | 1 |
| YG18 | 5 | 3 | 5 | 2 | 4 | 1 | 5 | 2 | 3 | 1 |
| YG19 | 5 | 2 | 5 | 2 | 4 | 1 | 4 | 2 | 5 | 1 |
| YG20 | 5 | 2 | 4 | 1 | 4 | 2 | 4 | 2 | 5 | 1 |
| YG21 | 5 | 2 | 5 | 1 | 2 | 2 | 4 | 3 | 4 | 1 |
| YG22 | 5 | 2 | 5 | 2 | 4 | 1 | 4 | 2 | 2 | 1 |
| YG23 | 5 | 2 | 5 | 2 | 3 | 3 | 3 | 1 | 5 | 1 |
| YG24 | 5 | 2 | 5 | 1 | 2 | 1 | 4 | 3 | 1 | 1 |
| YG25 | 5 | 1 | 2 | 1 | 2 | 2 | 4 | 3 | 1 | 1 |
| YG26 | 5 | 2 | 5 | 1 | 5 | 1 | 5 | 2 | 5 | 1 |
| YG27 | 5 | 2 | 5 | 1 | 2 | 1 | 4 | 1 | 2 | 1 |
| YG28 | 5 | 4 | 5 | 1 | 4 | 1 | 5 | 2 | 5 | 1 |
| YG29 | 5 | 2 | 5 | 1 | 4 | 1 | 5 | 2 | 2 | 1 |
| YG30 | 5 | 2 | 5 | 1 | 5 | 1 | 5 | 2 | 1 | 1 |
| YG31 | 5 | 3 | 5 | 1 | 4 | 1 | 4 | 2 | 4 | 2 |
| YG32 | 5 | 3 | 4 | 2 | 4 | 1 | 5 | 2 | 4 | 1 |

|        |     | BEHAVI | OR ITEM | I PRE AN | D POST | -RAW DA | ATA FOR | YOGA G | ROUP |      |
|--------|-----|--------|---------|----------|--------|---------|---------|--------|------|------|
| Sl. No | ВІ  | _26    | B I     | _27      | ВІ     | _28     | ΒI      | _29    | B I_ | _30  |
|        | Pre | Post   | Pre     | Post     | Pre    | Post    | Pre     | Post   | Pre  | Post |
| YG1    | 1   | 1      | 5       | 3        | 4      | 1       | 1       | 1      | 4    | 3    |
| YG2    | 1   | 1      | 5       | 3        | 2      | 1       | 1       | 1      | 5    | 2    |
| YG3    | 4   | 1      | 4       | 2        | 1      | 1       | 1       | 1      | 4    | 3    |
| YG4    | 4   | 1      | 4       | 2        | 1      | 1       | 1       | 1      | 4    | 2    |
| YG5    | 1   | 1      | 2       | 1        | 4      | 1       | 1       | 1      | 5    | 1    |
| YG6    | 1   | 1      | 5       | 3        | 3      | 1       | 1       | 1      | 5    | 2    |
| YG7    | 1   | 1      | 5       | 4        | 4      | 1       | 1       | 1      | 4    | 2    |
| YG8    | 1   | 1      | 5       | 2        | 4      | 1       | 1       | 1      | 5    | 2    |
| YG9    | 5   | 1      | 5       | 2        | 1      | 1       | 4       | 1      | 5    | 2    |
| YG10   | 1   | 1      | 5       | 2        | 5      | 1       | 1       | 1      | 5    | 2    |
| YG11   | 1   | 1      | 5       | 4        | 5      | 1       | 1       | 1      | 5    | 5    |
| YG12   | 1   | 1      | 4       | 3        | 5      | 1       | 1       | 1      | 4    | 2    |
| YG13   | 1   | 4      | 5       | 2        | 3      | 1       | 1       | 1      | 4    | 2    |
| YG14   | 1   | 4      | 4       | 4        | 2      | 1       | 1       | 1      | 4    | 4    |
| YG15   | 1   | 1      | 4       | 3        | 3      | 1       | 1       | 2      | 5    | 2    |
| YG16   | 1   | 1      | 5       | 2        | 4      | 1       | 1       | 1      | 4    | 3    |
| YG17   | 1   | 1      | 5       | 3        | 4      | 1       | 1       | 1      | 5    | 3    |
| YG18   | 1   | 1      | 5       | 4        | 2      | 1       | 1       | 1      | 5    | 4    |
| YG19   | 1   | 1      | 5       | 3        | 5      | 1       | 1       | 1      | 5    | 4    |
| YG20   | 1   | 1      | 5       | 3        | 4      | 1       | 1       | 1      | 5    | 2    |
| YG21   | 1   | 1      | 5       | 3        | 5      | 2       | 1       | 1      | 5    | 4    |

| YG22 | 1 | 1 | 5 | 3 | 2 | 1 | 1 | 1 | 5 | 3 |
|------|---|---|---|---|---|---|---|---|---|---|
| YG23 | 1 | 1 | 4 | 3 | 2 | 1 | 1 | 1 | 5 | 3 |
| YG24 | 1 | 4 | 5 | 4 | 5 | 2 | 1 | 1 | 5 | 4 |
| YG25 | 1 | 1 | 5 | 4 | 4 | 1 | 1 | 1 | 1 | 3 |
| YG26 | 1 | 1 | 5 | 3 | 2 | 1 | 1 | 1 | 4 | 2 |
| YG27 | 1 | 1 | 5 | 2 | 5 | 1 | 1 | 1 | 5 | 4 |
| YG28 | 1 | 1 | 5 | 4 | 4 | 1 | 1 | 1 | 4 | 2 |
| YG29 | 1 | 1 | 4 | 4 | 4 | 1 | 5 | 1 | 5 | 2 |
| YG30 | 4 | 1 | 4 | 4 | 4 | 1 | 1 | 1 | 4 | 2 |
| YG31 | 2 | 1 | 5 | 4 | 5 | 1 | 1 | 1 | 5 | 3 |
| YG32 | 1 | 1 | 4 | 3 | 2 | 1 | 1 | 1 | 5 | 3 |

|       | SLEEP ITEM PRE AND POST-RAW DATA FOR CONTROL GROUP |        |       |        |       |        |       |        |     |            |  |  |
|-------|--|--------|-------|--------|-------|--------|-------|--------|-----|------------|--|--|
| Sl.No | SLEEP  | ITEM_1 | SLEEP | ITEM_2 | SLEEP | ITEM_3 | SLEEP | ITEM_4 | SLF | EEP ITEM_5 |  |  |
|       | pre  | post   | pre   | post   | pre   | post   | pre   | post   | pre | post       |  |  |
| CG1   | 3  | 4      | 3     | 3      | 5     | 5      | 5     | 4      | 4   | 4          |  |  |
| CG2   | 3  | 3      | 2     | 4      | 5     | 5      | 4     | 5      | 4   | 3          |  |  |
| CG3   | 1  | 3      | 2     | 2      | 1     | 5      | 4     | 4      | 1   | 4          |  |  |
| CG4   | 4  | 4      | 4     | 4      | 5     | 5      | 3     | 4      | 3   | 4          |  |  |
| CG5   | 4  | 4      | 2     | 2      | 5     | 5      | 5     | 4      | 5   | 4          |  |  |
| CG6   | 4  | 4      | 4     | 3      | 5     | 5      | 4     | 4      | 4   | 4          |  |  |
| CG7   | 3  | 3      | 3     | 3      | 5     | 5      | 4     | 4      | 5   | 4          |  |  |
| CG8   | 4  | 4      | 4     | 4      | 5     | 4      | 4     | 4      | 5   | 5          |  |  |

| CG9  | 4 | 4 | 4 | 2 | 5 | 5 | 5 | 4 | 4 | 3 |
|------|---|---|---|---|---|---|---|---|---|---|
| CG10 | 4 | 4 | 2 | 3 | 4 | 4 | 2 | 3 | 4 | 4 |
| CG11 | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 5 | 5 |
| CG12 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 |
| CG13 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 3 | 2 | 3 |
| CG14 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 4 | 4 |
| CG15 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| CG16 | 3 | 4 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 |
| CG17 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 4 |
| CG18 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 4 |
| CG19 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 4 | 5 | 5 |
| CG20 | 4 | 4 | 4 | 5 | 4 | 5 | 4 | 4 | 4 | 5 |
| CG21 | 5 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 5 | 5 |
| CG22 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 5 |
| CG23 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 4 | 5 | 5 |
| CG24 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 4 | 4 | 4 |
| CG25 | 3 | 1 | 5 | 4 | 4 | 5 | 5 | 5 | 5 | 4 |
| CG26 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 4 | 4 |
| CG27 | 3 | 3 | 2 | 3 | 3 | 4 | 5 | 5 | 5 | 5 |
| CG28 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| CG29 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 5 | 4 | 4 |

|        |     |        |     | OST-RAW |     |      |     |      |     |      |
|--------|-----|--------|-----|---------|-----|------|-----|------|-----|------|
| Sl. No |     | ITEM_6 |     | ITEM_7  |     |      |     | 1    |     | 1    |
| 001    | pre | post   | pre | post    | pre | post | pre | post | pre | post |
| CG1    | 4   | 4      | 4   | 5       | 3   | 5    | 2   | 5    | 4   | 4    |
| CG2    | 4   | 4      | 4   | 4       | 4   | 5    | 5   | 5    | 5   | 4    |
| CG3    | 4   | 4      | 1   | 4       | 4   | 4    | 1   | 1    | 4   | 5    |
| CG4    | 4   | 3      | 5   | 5       | 1   | 1    | 4   | 4    | 4   | 4    |
| CG5    | 5   | 4      | 5   | 5       | 2   | 2    | 1   | 1    | 2   | 2    |
| CG6    | 4   | 4      | 4   | 4       | 2   | 2    | 1   | 1    | 3   | 3    |
| CG7    | 5   | 4      | 4   | 4       | 2   | 2    | 5   | 5    | 4   | 4    |
| CG8    | 5   | 5      | 4   | 5       | 3   | 2    | 5   | 5    | 4   | 4    |
| CG9    | 4   | 4      | 4   | 4       | 2   | 2    | 1   | 1    | 4   | 3    |
| CG10   | 4   | 4      | 2   | 2       | 2   | 2    | 1   | 1    | 3   | 2    |
| CG11   | 4   | 5      | 4   | 4       | 3   | 3    | 2   | 2    | 4   | 4    |
| CG12   | 5   | 5      | 5   | 5       | 4   | 4    | 2   | 2    | 5   | 5    |
| CG13   | 4   | 4      | 4   | 4       | 1   | 1    | 2   | 1    | 5   | 5    |
| CG14   | 5   | 5      | 4   | 4       | 1   | 4    | 4   | 4    | 4   | 5    |
| CG15   | 4   | 4      | 2   | 3       | 5   | 5    | 5   | 4    | 4   | 4    |
| CG16   | 4   | 4      | 4   | 4       | 1   | 1    | 5   | 5    | 5   | 5    |
| CG17   | 5   | 5      | 4   | 4       | 5   | 5    | 5   | 5    | 4   | 4    |
| CG18   | 4   | 4      | 5   | 5       | 2   | 2    | 4   | 5    | 4   | 4    |
| CG19   | 5   | 5      | 5   | 5       | 4   | 4    | 4   | 4    | 5   | 5    |
| CG20   | 4   | 5      | 4   | 4       | 5   | 5    | 5   | 5    | 5   | 5    |
| CG21   | 5   | 5      | 5   | 5       | 1   | 1    | 2   | 4    | 5   | 4    |
| CG22   | 5   | 5      | 5   | 5       | 2   | 3    | 5   | 5    | 4   | 4    |

| CG23 | 2 | 2 | 5 | 4 | 2 | 2 | 4 | 5 | 4 | 4 |
|------|---|---|---|---|---|---|---|---|---|---|
| CG24 | 5 | 5 | 4 | 5 | 2 | 3 | 2 | 3 | 4 | 4 |
| CG25 | 4 | 5 | 3 | 3 | 4 | 4 | 5 | 2 | 4 | 3 |
| CG26 | 4 | 5 | 5 | 4 | 1 | 2 | 4 | 4 | 4 | 5 |
| CG27 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 4 |
| CG28 | 5 | 5 | 4 | 4 | 2 | 3 | 4 | 4 | 5 | 4 |
| CG29 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 4 | 5 |

|       | (       | SLEEP IT | EM PRE  | AND PO | ST-RAW  | DATA I | FOR CON | NTROL G | ROUP    |        |
|-------|---------|----------|---------|--------|---------|--------|---------|---------|---------|--------|
| Sl.No | SLEEP I | TEM_11   | SLEEP I | TEM_12 | SLEEP I | TEM_13 | SLEEP I | TEM_14  | SLEEP I | TEM_15 |
|       | pre     | post     | pre     | post   | pre     | post   | pre     | post    | pre     | post   |
| CG1   | 4       | 4        | 5       | 4      | 5       | 5      | 5       | 5       | 2       | 5      |
| CG2   | 5       | 4        | 4       | 5      | 5       | 5      | 5       | 2       | 5       | 2      |
| CG3   | 4       | 5        | 4       | 5      | 3       | 4      | 1       | 5       | 1       | 3      |
| CG4   | 4       | 4        | 5       | 5      | 4       | 4      | 5       | 5       | 2       | 2      |
| CG5   | 4       | 3        | 4       | 4      | 2       | 2      | 5       | 5       | 2       | 2      |
| CG6   | 3       | 3        | 5       | 5      | 5       | 3      | 5       | 5       | 2       | 2      |
| CG7   | 4       | 4        | 4       | 4      | 4       | 5      | 4       | 4       | 1       | 1      |
| CG8   | 4       | 4        | 5       | 5      | 5       | 5      | 4       | 4       | 1       | 1      |
| CG9   | 4       | 3        | 4       | 4      | 2       | 2      | 5       | 5       | 2       | 2      |
| CG10  | 2       | 3        | 2       | 2      | 3       | 3      | 5       | 5       | 2       | 2      |
| CG11  | 1       | 4        | 3       | 5      | 3       | 4      | 5       | 5       | 1       | 1      |
| CG12  | 5       | 5        | 4       | 4      | 4       | 4      | 5       | 5       | 5       | 5      |
| CG13  | 5       | 5        | 5       | 5      | 5       | 5      | 5       | 5       | 1       | 4      |
| CG14  | 4       | 4        | 5       | 4      | 4       | 5      | 5       | 5       | 5       | 5      |
| CG15  | 4       | 4        | 4       | 2      | 3       | 5      | 5       | 4       | 5       | 5      |

| CG16 | 5 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 5 |
|------|---|---|---|---|---|---|---|---|---|---|
| CG17 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| CG18 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 1 | 1 |
| CG19 | 4 | 4 | 4 | 5 | 4 | 3 | 5 | 5 | 5 | 5 |
| CG20 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 2 | 3 |
| CG21 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 5 | 1 | 1 |
| CG22 | 4 | 4 | 2 | 3 | 5 | 5 | 5 | 5 | 1 | 1 |
| CG23 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 4 | 2 | 2 |
| CG24 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 4 | 4 |
| CG25 | 4 | 3 | 5 | 5 | 3 | 2 | 5 | 5 | 1 | 1 |
| CG26 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 1 | 1 |
| CG27 | 4 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 1 | 5 |
| CG28 | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 2 | 2 |
| CG29 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 |

|        | (   | GLITEM     | PRE AN | D POST-    | RAW DA | ATA FOR | CONTR | OL GRO | IJP |      |
|--------|-----|------------|--------|------------|--------|---------|-------|--------|-----|------|
| Sl. No |     | <u>I_1</u> |        | <u>I_2</u> |        | I_3     |       | I_4    |     | I_5  |
|        | pre | post       | pre    | post       | pre    | post    | pre   | post   | pre | post |
| CG1    | 4   | 5          | 4      | 4          | 3      | 4       | 5     | 5      | 5   | 5    |
| CG2    | 4   | 4          | 3      | 4          | 3      | 4       | 5     | 5      | 5   | 5    |
| CG3    | 3   | 3          | 3      | 3          | 4      | 4       | 4     | 5      | 5   | 5    |
| CG4    | 4   | 4          | 2      | 3          | 2      | 3       | 5     | 5      | 5   | 5    |
| CG5    | 3   | 3          | 3      | 3          | 4      | 4       | 4     | 5      | 5   | 4    |
| CG6    | 3   | 3          | 3      | 3          | 3      | 3       | 5     | 5      | 5   | 4    |
| CG7    | 4   | 3          | 5      | 4          | 4      | 4       | 4     | 4      | 4   | 3    |
| CG8    | 2   | 3          | 5      | 5          | 5      | 5       | 5     | 5      | 5   | 5    |

| CG9  | 4 | 4 | 4 | 3 | 1 | 1 | 4 | 4 | 4 | 4 |
|------|---|---|---|---|---|---|---|---|---|---|
| CG10 | 5 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 5 | 5 |
| CG11 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| CG12 | 3 | 2 | 3 | 2 | 3 | 4 | 5 | 5 | 5 | 5 |
| CG13 | 4 | 4 | 2 | 3 | 4 | 4 | 5 | 5 | 5 | 5 |
| CG14 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 4 |
| CG15 | 4 | 4 | 2 | 2 | 2 | 2 | 5 | 5 | 5 | 5 |
| CG16 | 4 | 4 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 |
| CG17 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 |
| CG18 | 4 | 4 | 5 | 5 | 4 | 5 | 4 | 4 | 3 | 3 |
| CG19 | 2 | 3 | 5 | 5 | 3 | 4 | 5 | 5 | 5 | 5 |
| CG20 | 4 | 5 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 4 |
| CG21 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 5 | 5 |
| CG22 | 4 | 4 | 2 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| CG23 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 4 | 3 |
| CG24 | 4 | 4 | 2 | 3 | 2 | 3 | 5 | 5 | 5 | 5 |
| CG25 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 5 | 4 |
| CG26 | 2 | 3 | 2 | 3 | 4 | 4 | 5 | 5 | 5 | 5 |
| CG27 | 3 | 3 | 4 | 5 | 5 | 5 | 4 | 5 | 4 | 4 |
| CG28 | 2 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 5 | 5 |
| CG29 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |

|        | (   | G I ITEM | PRE AN | D POST- | RAW DA | ATA FOR | CONTR | OL GRO | UP  |      |
|--------|-----|----------|--------|---------|--------|---------|-------|--------|-----|------|
| Sl. No | G   | I_6      | G      | I_7     | G      | I_8     | G     | I_9    | G I | _10  |
|        | pre | post     | pre    | post    | pre    | post    | pre   | post   | pre | post |
| CG1    | 5   | 5        | 4      | 4       | 4      | 4       | 5     | 5      | 4   | 2    |
| CG2    | 5   | 5        | 4      | 4       | 4      | 5       | 5     | 3      | 3   | 5    |
| CG3    | 5   | 5        | 4      | 4       | 5      | 5       | 5     | 5      | 3   | 4    |
| CG4    | 5   | 5        | 4      | 2       | 2      | 4       | 5     | 4      | 4   | 4    |
| CG5    | 5   | 5        | 5      | 5       | 4      | 3       | 4     | 5      | 4   | 3    |
| CG6    | 5   | 5        | 5      | 4       | 4      | 5       | 4     | 5      | 3   | 3    |
| CG7    | 4   | 4        | 5      | 4       | 5      | 4       | 4     | 5      | 4   | 4    |
| CG8    | 5   | 4        | 4      | 5       | 4      | 3       | 5     | 4      | 3   | 4    |
| CG9    | 5   | 5        | 4      | 4       | 4      | 2       | 5     | 5      | 3   | 3    |
| CG10   | 5   | 5        | 5      | 5       | 2      | 2       | 5     | 5      | 3   | 3    |
| CG11   | 5   | 4        | 4      | 4       | 1      | 1       | 5     | 5      | 4   | 5    |
| CG12   | 5   | 5        | 3      | 2       | 4      | 4       | 5     | 5      | 4   | 4    |
| CG13   | 5   | 5        | 4      | 5       | 2      | 3       | 5     | 5      | 4   | 4    |
| CG14   | 5   | 4        | 4      | 4       | 4      | 4       | 4     | 4      | 4   | 4    |
| CG15   | 4   | 5        | 4      | 2       | 2      | 2       | 5     | 5      | 4   | 4    |
| CG16   | 4   | 5        | 4      | 4       | 5      | 4       | 5     | 5      | 2   | 5    |
| CG17   | 5   | 5        | 5      | 4       | 5      | 2       | 5     | 5      | 5   | 5    |
| CG18   | 5   | 5        | 2      | 4       | 5      | 5       | 5     | 5      | 4   | 4    |
| CG19   | 5   | 5        | 5      | 5       | 4      | 4       | 4     | 4      | 5   | 4    |
| CG20   | 5   | 4        | 2      | 4       | 2      | 3       | 2     | 3      | 3   | 4    |
| CG21   | 5   | 5        | 5      | 5       | 5      | 5       | 4     | 5      | 2   | 4    |
| CG22   | 5   | 5        | 3      | 3       | 3      | 3       | 5     | 4      | 4   | 4    |
| CG23   | 4   | 4        | 3      | 5       | 5      | 3       | 5     | 5      | 5   | 5    |

| CG24 | 5 | 5 | 3 | 3 | 1 | 1 | 5 | 5 | 4 | 4 |
|------|---|---|---|---|---|---|---|---|---|---|
| CG25 | 4 | 5 | 5 | 4 | 3 | 3 | 5 | 5 | 5 | 5 |
| CG26 | 5 | 5 | 3 | 4 | 5 | 4 | 4 | 4 | 4 | 4 |
| CG27 | 5 | 5 | 4 | 4 | 2 | 3 | 5 | 5 | 4 | 4 |
| CG28 | 5 | 5 | 3 | 4 | 4 | 4 | 5 | 5 | 4 | 4 |
| CG29 | 5 | 4 | 4 | 5 | 2 | 2 | 5 | 5 | 5 | 4 |

|      |     |      | G I ITE | M PRE | AND PO | OST-RA | W DAT | A FOR | CONTR  | OL GR | OUP    |      |
|------|-----|------|---------|-------|--------|--------|-------|-------|--------|-------|--------|------|
| Sl.  | G I | _11  | G I     | _12   | G I    | _13    | G I   | _14   | G I_15 |       | G I_16 |      |
|      | pre | post | pre     | post  | pre    | post   | pre   | post  | pre    | post  | pre    | post |
| CG1  | 3   | 3    | 4       | 3     | 2      | 3      | 4     | 4     | 3      | 5     | 3      | 5    |
| CG2  | 3   | 4    | 4       | 4     | 2      | 4      | 3     | 4     | 3      | 5     | 3      | 5    |
| CG3  | 2   | 3    | 4       | 4     | 3      | 3      | 2     | 3     | 3      | 2     | 2      | 2    |
| CG4  | 4   | 4    | 4       | 4     | 2      | 2      | 5     | 5     | 5      | 5     | 1      | 1    |
| CG5  | 4   | 3    | 4       | 3     | 2      | 2      | 1     | 1     | 4      | 3     | 4      | 2    |
| CG6  | 3   | 3    | 3       | 3     | 3      | 2      | 3     | 2     | 2      | 2     | 2      | 2    |
| CG7  | 4   | 5    | 4       | 3     | 5      | 4      | 5     | 5     | 5      | 5     | 5      | 5    |
| CG8  | 3   | 4    | 3       | 5     | 2      | 3      | 4     | 4     | 4      | 4     | 1      | 1    |
| CG9  | 3   | 3    | 3       | 3     | 3      | 2      | 1     | 1     | 3      | 3     | 2      | 2    |
| CG10 | 2   | 3    | 5       | 4     | 3      | 2      | 2     | 3     | 3      | 3     | 2      | 2    |
| CG11 | 3   | 4    | 4       | 4     | 2      | 3      | 2     | 3     | 3      | 4     | 1      | 1    |
| CG12 | 4   | 4    | 5       | 2     | 4      | 5      | 4     | 4     | 2      | 4     | 1      | 1    |
| CG13 | 4   | 4    | 2       | 3     | 2      | 3      | 2     | 3     | 1      | 2     | 1      | 2    |
| CG14 | 5   | 4    | 4       | 5     | 4      | 5      | 4     | 5     | 2      | 5     | 1      | 5    |
| CG15 | 4   | 4    | 4       | 4     | 2      | 3      | 2     | 3     | 5      | 5     | 5      | 5    |
| CG16 | 4   | 3    | 4       | 4     | 5      | 5      | 5     | 5     | 5      | 5     | 1      | 1    |
| CG17 | 4   | 4    | 4       | 4     | 5      | 5      | 2     | 3     | 3      | 3     | 1      | 1    |
| CG18 | 4   | 4    | 3       | 5     | 3      | 5      | 3     | 4     | 3      | 4     | 2      | 4    |
| CG19 | 4   | 4    | 4       | 5     | 5      | 4      | 4     | 5     | 2      | 2     | 1      | 1    |
| CG20 | 3   | 5    | 3       | 4     | 3      | 5      | 2     | 5     | 2      | 3     | 1      | 1    |
| CG21 | 3   | 4    | 3       | 4     | 2      | 4      | 2     | 2     | 5      | 4     | 1      | 1    |
| CG22 | 4   | 4    | 4       | 3     | 3      | 2      | 2     | 4     | 4      | 3     | 2      | 2    |
| CG23 | 5   | 4    | 4       | 4     | 3      | 2      | 5     | 5     | 5      | 4     | 1      | 4    |
| CG24 | 4   | 4    | 4       | 4     | 5      | 5      | 5     | 5     | 5      | 5     | 1      | 1    |
| CG25 | 5   | 5    | 5       | 4     | 4      | 4      | 5     | 5     | 4      | 4     | 2      | 3    |
| CG26 | 4   | 5    | 3       | 5     | 2      | 3      | 4     | 5     | 5      | 5     | 3      | 3    |
| CG27 | 4   | 4    | 4       | 5     | 5      | 5      | 3     | 4     | 3      | 3     | 1      | 1    |
| CG28 | 4   | 5    | 5       | 5     | 3      | 4      | 3     | 4     | 3      | 4     | 1      | 1    |
| CG29 | 4   | 5    | 4       | 5     | 2      | 3      | 2     | 4     | 3      | 5     | 1      | 1    |

|        | B   | EHAVIO | R ITEM I | PRE AND | POST-R | AW DAT | `A FOR C | CONTRO | L GROU | P    |
|--------|-----|--------|----------|---------|--------|--------|----------|--------|--------|------|
| Sl. No | ВІ  | [_1    | В        | I_2     | В      | [_3    | B 1      | [_4    | B I_5  |      |
|        | pre | post   | pre      | post    | pre    | post   | pre      | post   | pre    | post |
| CG1    | 5   | 5      | 5        | 5       | 4      | 5      | 4        | 4      | 4      | 4    |
| CG2    | 5   | 5      | 5        | 5       | 5      | 5      | 4        | 4      | 4      | 5    |
| CG3    | 5   | 5      | 3        | 5       | 2      | 5      | 4        | 4      | 1      | 4    |
| CG4    | 5   | 4      | 4        | 3       | 4      | 3      | 4        | 5      | 5      | 5    |
| CG5    | 5   | 5      | 5        | 5       | 5      | 4      | 5        | 4      | 4      | 5    |
| CG6    | 5   | 5      | 5        | 5       | 4      | 4      | 4        | 4      | 4      | 4    |
| CG7    | 5   | 5      | 5        | 5       | 4      | 4      | 5        | 5      | 5      | 5    |
| CG8    | 5   | 5      | 5        | 5       | 5      | 4      | 5        | 5      | 4      | 4    |
| CG9    | 5   | 5      | 5        | 4       | 5      | 5      | 5        | 5      | 4      | 4    |
| CG10   | 5   | 5      | 5        | 5       | 4      | 4      | 2        | 3      | 4      | 4    |
| CG11   | 5   | 5      | 5        | 5       | 4      | 4      | 4        | 4      | 5      | 5    |
| CG12   | 4   | 4      | 4        | 4       | 4      | 4      | 4        | 5      | 4      | 3    |
| CG13   | 5   | 5      | 5        | 5       | 5      | 5      | 5        | 4      | 5      | 5    |
| CG14   | 5   | 5      | 5        | 5       | 5      | 5      | 4        | 5      | 4      | 4    |
| CG15   | 5   | 5      | 5        | 5       | 4      | 5      | 5        | 4      | 4      | 4    |
| CG16   | 5   | 5      | 3        | 4       | 3      | 4      | 5        | 5      | 5      | 5    |
| CG17   | 5   | 5      | 5        | 5       | 5      | 5      | 5        | 5      | 5      | 5    |
| CG18   | 4   | 4      | 5        | 5       | 5      | 5      | 5        | 5      | 4      | 5    |
| CG19   | 4   | 5      | 4        | 5       | 5      | 5      | 5        | 5      | 4      | 4    |
| CG20   | 5   | 5      | 4        | 4       | 5      | 5      | 4        | 4      | 4      | 4    |
| CG21   | 4   | 5      | 4        | 4       | 4      | 4      | 5        | 5      | 5      | 5    |
| CG22   | 5   | 5      | 5        | 5       | 5      | 5      | 5        | 5      | 5      | 5    |
| CG23   | 5   | 5      | 5        | 5       | 5      | 5      | 5        | 4      | 4      | 5    |
| CG24   | 5   | 5      | 4        | 5       | 5      | 5      | 5        | 5      | 4      | 4    |
| CG25   | 5   | 5      | 5        | 4       | 4      | 5      | 5        | 5      | 5      | 4    |
| CG26   | 4   | 4      | 5        | 5       | 5      | 5      | 5        | 5      | 3      | 5    |
| CG27   | 5   | 5      | 5        | 5       | 5      | 5      | 5        | 4      | 4      | 5    |
| CG28   | 5   | 5      | 5        | 5       | 5      | 5      | 4        | 5      | 4      | 4    |
| CG29   | 4   | 4      | 5        | 5       | 5      | 5      | 4        | 5      | 4      | 4    |

| BEHAVIOR ITEM PRE AND POST-RAW DATA FOR CONTROL GROUP |     |      |       |      |     |      |       |      |        |      |
|---|-----|------|-------|------|-----|------|-------|------|--------|------|
| Sl. No  | В   | I_6  | B I_7 |      | В   | I_8  | B I_9 |      | B I_10 |      |
|   | pre | post | pre   | post | pre | post | pre   | post | pre    | post |
| CG1   | 5   | 5    | 5     | 4    | 5   | 5    | 4     | 4    | 5      | 4    |
| CG2   | 4   | 5    | 4     | 5    | 5   | 5    | 4     | 4    | 4      | 5    |
| CG3   | 2   | 4    | 5     | 5    | 5   | 5    | 5     | 5    | 5      | 5    |
| CG4   | 4   | 5    | 4     | 4    | 4   | 4    | 4     | 4    | 5      | 5    |
| CG5   | 4   | 4    | 4     | 4    | 5   | 5    | 4     | 4    | 5      | 5    |
| CG6   | 5   | 5    | 5     | 5    | 5   | 5    | 4     | 4    | 5      | 5    |
| CG7   | 3   | 4    | 5     | 5    | 1   | 4    | 5     | 5    | 5      | 5    |
| CG8   | 4   | 4    | 4     | 5    | 5   | 4    | 5     | 4    | 4      | 4    |
| CG9   | 4   | 4    | 4     | 5    | 5   | 5    | 5     | 3    | 4      | 4    |
| CG10  | 5   | 5    | 4     | 4    | 5   | 5    | 3     | 3    | 5      | 4    |
| CG11  | 4   | 4    | 5     | 5    | 3   | 4    | 4     | 4    | 5      | 5    |
| CG12  | 5   | 4    | 4     | 5    | 5   | 5    | 5     | 4    | 3      | 3    |
| CG13  | 5   | 5    | 5     | 5    | 5   | 5    | 5     | 5    | 5      | 5    |
| CG14  | 4   | 4    | 4     | 4    | 5   | 4    | 5     | 5    | 3      | 3    |
| CG15  | 5   | 5    | 4     | 5    | 5   | 4    | 4     | 5    | 5      | 5    |
| CG16  | 5   | 5    | 5     | 5    | 5   | 5    | 5     | 5    | 4      | 4    |
| CG17  | 5   | 5    | 5     | 5    | 5   | 5    | 5     | 5    | 4      | 3    |
| CG18  | 5   | 5    | 5     | 5    | 5   | 5    | 2     | 3    | 5      | 4    |
| CG19  | 5   | 4    | 5     | 5    | 5   | 5    | 5     | 5    | 4      | 5    |
| CG20  | 5   | 5    | 5     | 5    | 5   | 5    | 5     | 5    | 5      | 5    |
| CG21  | 4   | 5    | 4     | 4    | 5   | 5    | 5     | 4    | 4      | 4    |
| CG22  | 4   | 3    | 5     | 5    | 5   | 5    | 5     | 5    | 5      | 5    |
| CG23  | 4   | 5    | 5     | 5    | 4   | 4    | 5     | 4    | 5      | 5    |
| CG24  | 4   | 4    | 3     | 3    | 3   | 3    | 4     | 5    | 5      | 5    |
| CG25  | 5   | 5    | 5     | 5    | 4   | 4    | 5     | 4    | 4      | 5    |
| CG26  | 4   | 3    | 5     | 4    | 5   | 5    | 5     | 5    | 4      | 5    |
| CG27  | 5   | 5    | 5     | 5    | 5   | 5    | 5     | 5    | 5      | 5    |
| CG28  | 4   | 4    | 5     | 4    | 5   | 5    | 4     | 5    | 4      | 4    |
| CG29  | 3   | 4    | 3     | 4    | 5   | 5    | 5     | 5    | 4      | 4    |

|        | BE  | HAVIOR | ITEM P | RE AND | POST-R            | AW DAT | A FOR C | ONTROL | GROU | P    |
|--------|-----|--------|--------|--------|-------------------|--------|---------|--------|------|------|
| Sl. No | ВІ  | _11    | ВІ     | _12    | _12 B I_13 B I_14 |        | ВІ      | [_15   |      |      |
|        | pre | post   | pre    | post   | pre               | post   | pre     | post   | pre  | post |
| CG1    | 3   | 4      | 4      | 4      | 4                 | 4      | 4       | 5      | 4    | 5    |
| CG2    | 3   | 4      | 4      | 4      | 4                 | 4      | 3       | 4      | 5    | 5    |
| CG3    | 1   | 2      | 5      | 5      | 5                 | 5      | 1       | 4      | 2    | 3    |
| CG4    | 2   | 5      | 2      | 5      | 1                 | 2      | 4       | 4      | 4    | 4    |
| CG5    | 3   | 3      | 4      | 4      | 4                 | 4      | 4       | 4      | 5    | 5    |
| CG6    | 5   | 3      | 5      | 5      | 3                 | 3      | 3       | 3      | 4    | 4    |
| CG7    | 3   | 5      | 5      | 4      | 2                 | 5      | 4       | 5      | 5    | 5    |
| CG8    | 4   | 4      | 4      | 4      | 4                 | 4      | 4       | 5      | 1    | 1    |
| CG9    | 4   | 4      | 4      | 5      | 4                 | 4      | 4       | 2      | 4    | 4    |
| CG10   | 3   | 3      | 5      | 5      | 3                 | 3      | 4       | 4      | 4    | 4    |
| CG11   | 4   | 5      | 4      | 4      | 4                 | 4      | 3       | 4      | 5    | 5    |
| CG12   | 3   | 3      | 3      | 3      | 3                 | 3      | 3       | 2      | 3    | 2    |
| CG13   | 2   | 3      | 5      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG14   | 2   | 3      | 2      | 3      | 2                 | 2      | 2       | 2      | 2    | 2    |
| CG15   | 5   | 5      | 5      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG16   | 4   | 3      | 5      | 3      | 2                 | 5      | 5       | 5      | 5    | 5    |
| CG17   | 3   | 4      | 3      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG18   | 4   | 4      | 5      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG19   | 4   | 3      | 5      | 4      | 5                 | 3      | 2       | 5      | 5    | 5    |
| CG20   | 2   | 3      | 5      | 4      | 3                 | 3      | 3       | 3      | 4    | 5    |
| CG21   | 4   | 4      | 5      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG22   | 5   | 5      | 5      | 5      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG23   | 4   | 4      | 4      | 4      | 5                 | 5      | 5       | 5      | 5    | 5    |
| CG24   | 2   | 2      | 4      | 4      | 4                 | 4      | 4       | 4      | 5    | 5    |
| CG25   | 4   | 4      | 5      | 5      | 4                 | 4      | 4       | 3      | 5    | 4    |
| CG26   | 4   | 5      | 4      | 4      | 5                 | 4      | 4       | 5      | 4    | 5    |
| CG27   | 4   | 3      | 4      | 5      | 4                 | 3      | 4       | 5      | 5    | 5    |
| CG28   | 3   | 3      | 3      | 4      | 4                 | 4      | 4       | 4      | 5    | 5    |
| CG29   | 4   | 4      | 4      | 4      | 5                 | 4      | 5       | 4      | 5    | 5    |

| BEH    | IAVIOR | ITEM PR | E AND I | POST-RA | W DATA | A FOR CO | ONTROL | GROUP |     |      |
|--------|--------|---------|---------|---------|--------|----------|--------|-------|-----|------|
| Sl. No | BI     | _16     | BI      | _17     | BI     | _18      | B I_19 |       | BI  | _20  |
|        | pre    | post    | pre     | post    | pre    | post     | pre    | post  | pre | post |
| CG1    | 5      | 5       | 5       | 5       | 5      | 4        | 2      | 4     | 4   | 4    |
| CG2    | 5      | 5       | 4       | 4       | 5      | 2        | 3      | 3     | 4   | 4    |
| CG3    | 2      | 4       | 2       | 5       | 1      | 5        | 3      | 5     | 2   | 4    |
| CG4    | 4      | 4       | 2       | 4       | 4      | 4        | 4      | 4     | 4   | 4    |
| CG5    | 5      | 5       | 4       | 4       | 5      | 5        | 3      | 2     | 3   | 3    |
| CG6    | 5      | 5       | 4       | 4       | 4      | 4        | 4      | 4     | 4   | 4    |
| CG7    | 5      | 4       | 5       | 5       | 5      | 4        | 3      | 5     | 3   | 5    |
| CG8    | 4      | 4       | 4       | 4       | 4      | 4        | 4      | 4     | 4   | 5    |
| CG9    | 4      | 5       | 4       | 4       | 4      | 5        | 4      | 2     | 4   | 3    |
| CG10   | 5      | 5       | 3       | 3       | 5      | 5        | 4      | 4     | 3   | 3    |
| CG11   | 4      | 4       | 4       | 4       | 3      | 3        | 3      | 4     | 3   | 3    |
| CG12   | 3      | 2       | 2       | 2       | 4      | 4        | 5      | 4     | 5   | 4    |
| CG13   | 4      | 4       | 4       | 4       | 4      | 4        | 4      | 4     | 1   | 3    |
| CG14   | 5      | 5       | 5       | 5       | 4      | 4        | 4      | 4     | 4   | 4    |
| CG15   | 5      | 5       | 4       | 4       | 4      | 4        | 5      | 4     | 5   | 4    |
| CG16   | 5      | 4       | 4       | 4       | 4      | 4        | 2      | 4     | 4   | 4    |
| CG17   | 5      | 5       | 5       | 5       | 4      | 2        | 4      | 3     | 4   | 4    |
| CG18   | 5      | 5       | 4       | 4       | 4      | 4        | 4      | 4     | 5   | 4    |
| CG19   | 5      | 5       | 5       | 5       | 3      | 4        | 5      | 5     | 5   | 5    |
| CG20   | 5      | 5       | 5       | 5       | 5      | 5        | 5      | 5     | 5   | 5    |
| CG21   | 3      | 4       | 4       | 4       | 4      | 3        | 4      | 4     | 5   | 4    |
| CG22   | 5      | 5       | 5       | 5       | 5      | 4        | 5      | 5     | 5   | 4    |
| CG23   | 4      | 4       | 4       | 4       | 5      | 5        | 5      | 5     | 5   | 5    |
| CG24   | 5      | 5       | 4       | 4       | 4      | 4        | 2      | 2     | 5   | 5    |
| CG25   | 5      | 5       | 3       | 4       | 4      | 5        | 2      | 3     | 2   | 3    |
| CG26   | 4      | 5       | 5       | 4       | 5      | 5        | 2      | 3     | 4   | 3    |
| CG27   | 5      | 5       | 5       | 5       | 5      | 5        | 5      | 5     | 5   | 5    |
| CG28   | 5      | 5       | 4       | 5       | 5      | 4        | 4      | 4     | 4   | 4    |
| CG29   | 5      | 5       | 4       | 4       | 4      | 5        | 4      | 4     | 4   | 4    |

|        | BE  | HAVIOR | ITEM P | RE AND | POST-R | AW DAT | A FOR C | CONTROL | GROU   | P    |
|--------|-----|--------|--------|--------|--------|--------|---------|---------|--------|------|
| Sl. No | ВІ  | [_21   | ВІ     | _22    | Bl     | _23    | ВІ      | _24     | B I_25 |      |
|        | pre | post   | pre    | post   | pre    | post   | pre     | post    | pre    | post |
| CG1    | 5   | 5      | 5      | 5      | 5      | 4      | 2       | 4       | 4      | 4    |
| CG3    | 4   | 5      | 4      | 4      | 4      | 4      | 3       | 4       | 3      | 5    |
| CG4    | 4   | 2      | 2      | 2      | 2      | 2      | 4       | 4       | 2      | 4    |
| CG5    | 5   | 5      | 4      | 4      | 4      | 3      | 4       | 5       | 4      | 4    |
| CG6    | 5   | 5      | 5      | 5      | 4      | 4      | 4       | 5       | 4      | 2    |
| CG7    | 2   | 5      | 1      | 4      | 5      | 4      | 3       | 4       | 5      | 5    |
| CG8    | 5   | 5      | 5      | 4      | 5      | 4      | 2       | 4       | 4      | 4    |
| CG9    | 5   | 5      | 5      | 4      | 5      | 4      | 5       | 5       | 2      | 2    |
| CG10   | 5   | 5      | 3      | 2      | 4      | 4      | 5       | 5       | 2      | 3    |
| CG11   | 5   | 5      | 4      | 5      | 4      | 5      | 3       | 3       | 2      | 2    |
| CG12   | 5   | 5      | 4      | 5      | 4      | 4      | 4       | 3       | 2      | 2    |
| CG13   | 4   | 5      | 4      | 5      | 4      | 5      | 4       | 4       | 1      | 1    |
| CG14   | 5   | 5      | 5      | 5      | 4      | 5      | 4       | 5       | 5      | 3    |
| CG15   | 5   | 4      | 4      | 4      | 3      | 5      | 4       | 5       | 3      | 3    |
| CG16   | 4   | 4      | 4      | 4      | 4      | 5      | 5       | 5       | 4      | 4    |
| CG17   | 5   | 5      | 2      | 3      | 4      | 4      | 5       | 4       | 1      | 4    |
| CG18   | 5   | 5      | 5      | 5      | 5      | 4      | 5       | 5       | 2      | 2    |
| CG19   | 5   | 5      | 4      | 4      | 4      | 4      | 4       | 5       | 4      | 5    |
| CG20   | 5   | 5      | 4      | 4      | 4      | 4      | 5       | 5       | 5      | 4    |
| CG21   | 3   | 5      | 3      | 4      | 4      | 4      | 5       | 5       | 3      | 4    |
| CG22   | 5   | 5      | 5      | 4      | 5      | 5      | 5       | 5       | 5      | 4    |
| CG23   | 5   | 5      | 4      | 4      | 4      | 5      | 5       | 5       | 3      | 5    |
| CG24   | 5   | 5      | 4      | 4      | 4      | 4      | 5       | 5       | 4      | 4    |
| CG25   | 5   | 5      | 4      | 4      | 4      | 3      | 3       | 3       | 5      | 3    |
| CG26   | 5   | 5      | 5      | 4      | 4      | 4      | 5       | 5       | 5      | 5    |
| CG27   | 5   | 5      | 5      | 5      | 5      | 5      | 5       | 5       | 5      | 5    |
| CG28   | 5   | 5      | 5      | 4      | 4      | 5      | 5       | 4       | 4      | 3    |
| CG29   | 5   | 5      | 5      | 5      | 4      | 4      | 4       | 5       | 3      | 3    |

|       | BE  | HAVIOR | ITEM P | RE AND | POST-R | AW DAT | A FOR C | CONTROL | GROU   | P    |
|-------|-----|--------|--------|--------|--------|--------|---------|---------|--------|------|
| Sl.No | ВІ  | _26    | B I_27 |        | B I_28 |        | B I_29  |         | B I_30 |      |
|       |     |        |        | I      |        |        |         |         |        |      |
| ~~1   | pre | post   | pre    | post   | pre    | post   | pre     | post    | pre    | post |
| CG1   | 1   | 1      | 5      | 5      | 5      | 2      | 5       | 2       | 5      | 5    |
| CG2   | 1   | 1      | 5      | 4      | 2      | 4      | 2       | 1       | 5      | 4    |
| CG3   | 2   | 5      | 4      | 5      | 4      | 5      | 4       | 5       | 4      | 5    |
| CG4   | 1   | 1      | 5      | 4      | 4      | 4      | 1       | 1       | 5      | 5    |
| CG5   | 1   | 1      | 5      | 5      | 5      | 2      | 1       | 1       | 5      | 4    |
| CG6   | 1   | 1      | 4      | 5      | 2      | 2      | 1       | 1       | 5      | 4    |
| CG7   | 1   | 5      | 1      | 5      | 1      | 5      | 1       | 5       | 5      | 5    |
| CG8   | 1   | 1      | 5      | 5      | 2      | 2      | 1       | 1       | 5      | 5    |
| CG9   | 4   | 1      | 1      | 5      | 5      | 3      | 2       | 1       | 1      | 5    |
| CG10  | 1   | 1      | 4      | 4      | 3      | 2      | 1       | 1       | 4      | 4    |
| CG11  | 1   | 1      | 5      | 5      | 4      | 4      | 1       | 1       | 4      | 4    |
| CG12  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG13  | 1   | 1      | 5      | 5      | 4      | 4      | 1       | 1       | 5      | 5    |
| CG14  | 1   | 1      | 5      | 3      | 4      | 3      | 1       | 1       | 5      | 5    |
| CG15  | 1   | 1      | 2      | 5      | 1      | 5      | 2       | 1       | 1      | 5    |
| CG16  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG17  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG18  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG19  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG20  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG21  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG22  | 1   | 1      | 5      | 5      | 4      | 4      | 1       | 1       | 5      | 5    |
| CG23  | 1   | 1      | 5      | 4      | 4      | 4      | 2       | 5       | 1      | 5    |
| CG24  | 1   | 1      | 5      | 5      | 4      | 5      | 1       | 1       | 5      | 5    |
| CG25  | 1   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 4    |
| CG26  | 1   | 1      | 5      | 5      | 3      | 5      | 1       | 1       | 5      | 5    |
| CG27  | 5   | 1      | 5      | 5      | 5      | 5      | 1       | 1       | 5      | 5    |
| CG28  | 1   | 1      | 5      | 5      | 3      | 5      | 1       | 1       | 5      | 5    |
| CG29  | 5   | 1      | 1      | 5      | 5      | 3      | 1       | 1       | 5      | 5    |