

STUDY 1

Re-living Task:

Burdensome Target Member Condition

Recall a time when you had to complete a task while part of a group of at least three people. Specifically, we want you to recall a time when one of the group members was burdensome. The burdensome group member made it difficult for the group to complete the task.

In the space below, write what happened during the group task (step-by-step, in order as it happened).

Take your time explaining what happened.

Non-burdensome Target Member Condition

Recall a time when you had to complete a task while part of a group of at least three people. Specifically, we want you to recall a time when all of the group members contributed equally to the group. All of the group members made it easy for the group to complete the task.

In the space below, write what happened during the group task (step-by-step, in order as it happened).

Take your time explaining what happened.

Recall Task Instructions:

Burdensome Target Player

Please think about the **burdensome group member** / ***Group Member A** / ****Group Member B** while answering this set of questions. For each question, please select the response that best represents the way the burdensome person made you feel during the group interaction.

*Participants in the control condition answered questions about “**Group Member A**” instead of “the **burdensome group member**.” Participants completed each of the questions about **Group Member A** based on the following instructions.

Please think about one person who was part of the group experience you previously recalled. For each question, please select the response that best represents the way that person made you feel during the group interaction. For the remainder of the experiment, we will refer to this person as “Group Member A.”

Participants in both conditions also answered questions about **Group Member B. We introduced questions about Group Member B to participants as follows:

Now, think of another (a different) group member who was part of the group experience you previously recalled. Focus on this group member for the following sets of questions. For each question, please select the response that best represents the way this person made you feel during the group interaction. For the remainder of the experiment, we will refer to this person as "Group Member B."

Dependent Variables

NRS-11

Use the scale below to rate your pain (0 means 'No pain sensation' and 10 'most intense pain sensation').

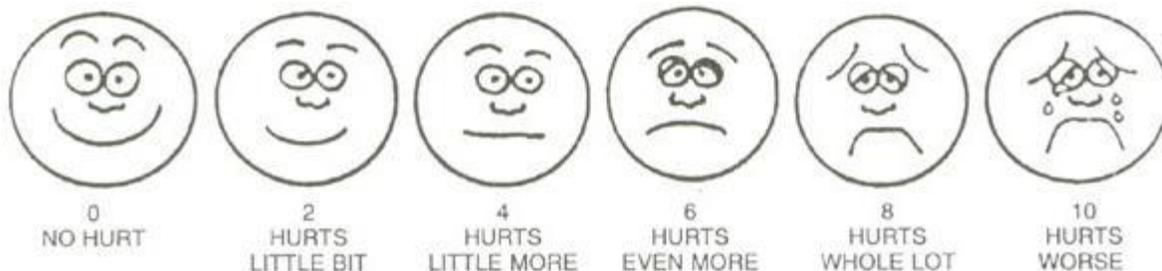
How much pain did *the burdensome group member / Group Member A / Group Member B* cause you?

Use the scale below to rate your pain (0 means 'not at all unpleasant' and 10 'most unpleasant imaginable').

How unpleasant was the pain you felt as a consequence of working with *the burdensome group member / Group Member A / Group Member B*?

Pain Faces Scale (PFS)

Using the scale below, please choose the face that best describes how you felt when working with the *burdensome group member/Group Member A/Group Member B*. Choose the response that best represents the way the person made you feel during the group interaction.



Pain as a Motivator for Ostracizing

Please choose your answers based on how much you agree with the following statements:

1 (*Not at all*) to 7 (*Very much so*)

The Burdensome group member/Group member A/Group member B was not worth including because he or she was 'such a pain.'

I stopped including *the burdensome group member / Group Member A / Group Member B* because this player was making me feel stressed.

Perception of Group Member Burdensomeness

Choose the response that best represents the way this person made you feel during the group interaction:

1 (*Not at all*) to 7 (*Very much so*)

The burdensome group member / Group Member A / Group Member B failed the group.

The burdensome group member / Group Member A / Group Member B was burdensome to the group.

The burdensome group member / Group Member A / Group Member B kept the group from achieving its goals.

I felt like the presence of *the burdensome group member / Group Member A / Group Member B* threatened the group's success.

The burdensome group member / Group Member A / Group Member B contributed to the group.

Liking of Group Members

Choose the response that best represents the way this person made you feel during the group interaction:

1 (*Not at all*) to 7 (*Very much so*)

"How much did you like *the burdensome group member/Group member A/Group member B*?"

Ostracizing the Group Members

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

I excluded *the burdensome group member / Group Member A / Group Member B* from group activities.

I ignored *the burdensome group member / Group Member A / Group Member B* during group activities.

Manipulation Check

What type of group interaction were you asked to recall?

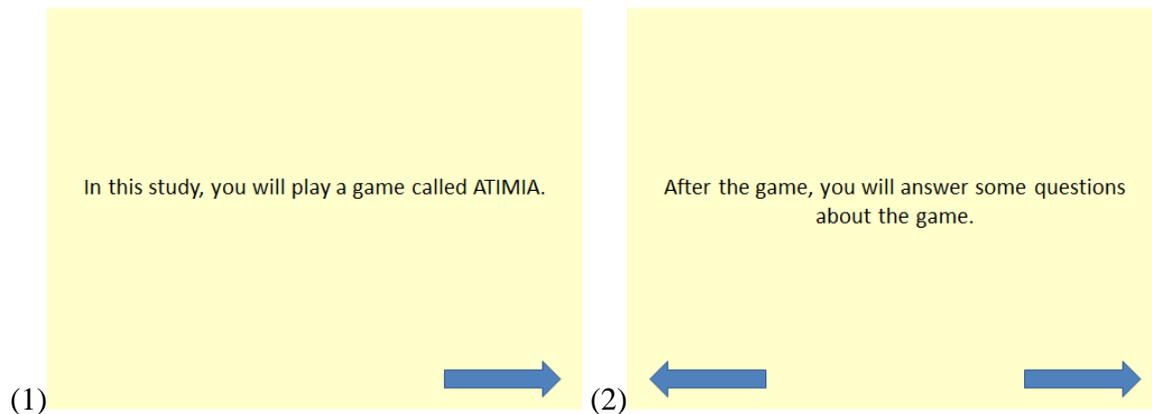
A time when... (*Answer Options*)

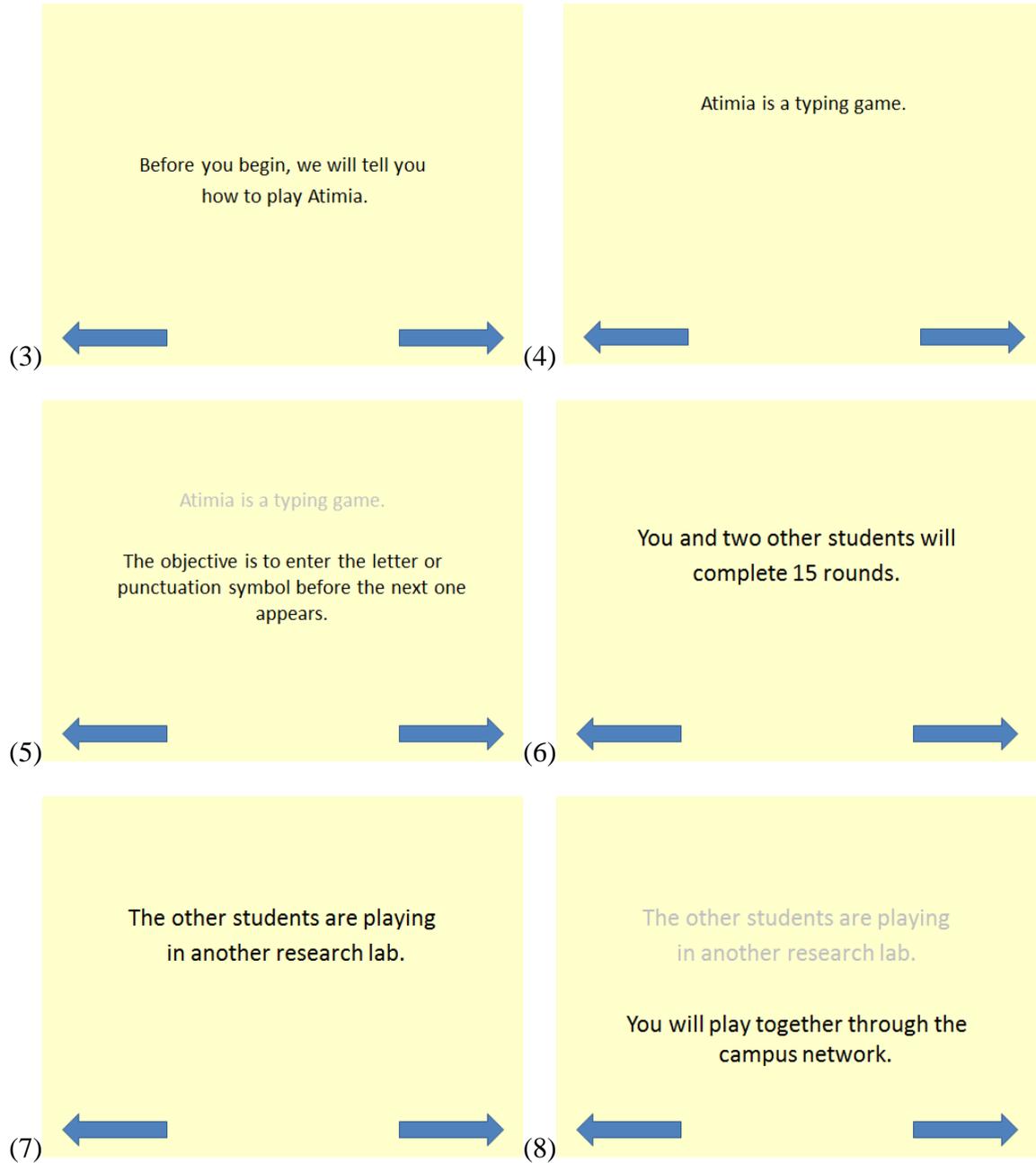
- all group members contributed equally to the group
- you worked in a group with one burdensome group member
- you worked in a group with two burdensome group members
- no one contributed to the group

STUDY 2

Atimia Game

Participants viewed the following instructions on a series of interactive Power Point slides built-in to the MediaLab experiment. The Atimia Game launched immediately after these instructions were presented. The instructions slides are available from the first author.





To connect to Atimia's server, you will enter an in-game screen name.

Login to Game Server
Enter in your desired screenname: Ozzie1
Login

(9)

Do not use your "N" number or your name.

Login to Game Server
Enter in your desired screenname: Ozzie1
Login

(10)

Next, you will click 'Login' to connect.

Login to Game Server
Enter in your desired screenname: Ozzie1
Login

(11)

In the game, you will see:

JAZZIE 0 presses OZZIE1 0 presses WIZARD 0 presses
Press: K Presses Left: 6
Game Progress:

(12)

In the game, you will see:

1. The other players

JAZZIE 0 presses OZZIE1 0 presses WIZARD 0 presses
Press: K Presses Left: 6
Game Progress:

(13)

In the game, you will see:

1. The other players
2. Which letter or symbol to type

JAZZIE 0 presses OZZIE1 0 presses WIZARD 0 presses
Press: K Presses Left: 6
Game Progress:

(14)

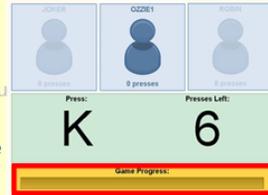
In the game, you will see:
 1.The other players
 2.Which letter or symbol to type
 3.How many more turns you have in the round



(15)



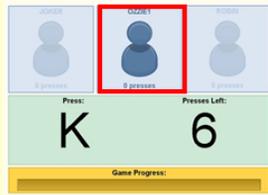
In the game, you will see:
 1.The other players
 2.Which letter or symbol to type
 3.How many more turns you have in the round
 4.Your progress in the game



(16)



When your avatar is dark blue, it is your turn to play the game.



(17)



During each round of the game, you will have 20 chances to enter the correct letter or punctuation symbol.

(18)



During each round of the game, you will have 20 chances to enter the correct letter or punctuation symbol.

Capitalization does not influence your accuracy.

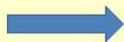
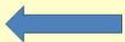
(19)



Atimia updates your total accuracy after each round.



(20)



After your turn, you will choose who plays the next round.



(21)

The game is over after 15 rounds.

(22)

You will now practice typing in the letters and symbols to become familiar with the game.

(23)

In the practice round, a letter or symbol will appear.



(24)

In the practice round, a letter or symbol will appear.

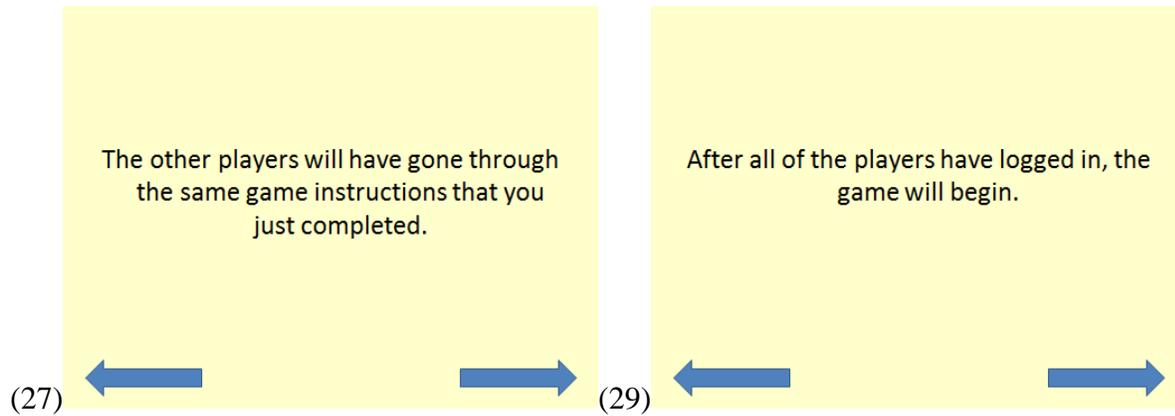
Your objective is to type the letter or symbol in the box below.



(25)

After practicing, you will be asked to log into Atimia by entering your screen name.

(26)



Dependent Variables

We will now ask you questions about your experience with *Alex/Pat* (the player on your LEFT/RIGHT) during the task.

NRS-11

Use the scale below to rate your pain (0 means 'not at all unpleasant' and 10 'most unpleasant imaginable').

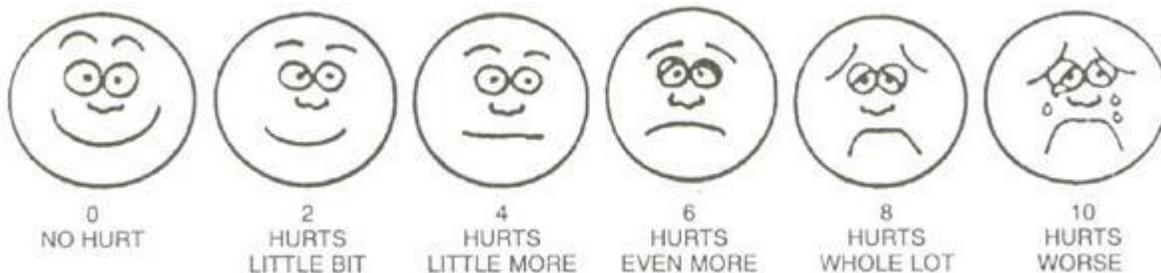
How unpleasant was the pain you felt when interacting with *Alex/Pat*?

Use the scale below to rate your pain (0 means 'No pain sensation' and 10 'most intense pain sensation').

How much did interacting with *Alex/Pat* cause you pain?

Pain Faces Scale (PFS)

Please choose the face that best describes how you felt when interacting with Alex/Pat.



Pain as a Motivator for Ostracizing

We will now ask you questions about your experience with *Alex/Pat* (the player on your LEFT/RIGHT) during the task.

1 (*Not at all*) to 7 (*Very much so*)

Alex/Pat was not worth including because this player was "such a pain".

I stopped including *Alex/Pat* because this player was making me feel stressed.

Perception of Group Member Burdensomeness

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

Alex/Pat failed the group.

Alex/Pat was burdensome to the group.

Alex/Pat kept the group from achieving its goals.

I felt like the presence of *Alex/Pat* threatened the group's success.

Alex/Pat contributed to the group.

Liking of the Group Members

We will now ask you questions about your evaluations towards *Alex/Pat* (the player on your LEFT/RIGHT during the word game).

1 (*Not at all*) to 7 (*Very much so*)

How much did you like *Alex/Pat*?

Ostracizing the Group Members

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

I excluded *Alex/Pat* from group activities.

I ignored *Alex/Pat* during group activities.

Exclusionary Cues

We are not asking whether you would actually do each behavior, but rather the degree to which you would be tempted to do each one.

Please select the response that best represents how tempted you would be to do the behavior.

1 – 9 scale: 1 (*Not at all tempted*) 5 (Somewhat tempted) 9 (Very tempted)

Treat *Alex/Pat* nicely. – Reverse scored

Insult *Alex/Pat*.

Shove *Alex/Pat*.

Walk away from *Alex/Pat* if this player was approaching you.

Ignore *Alex/Pat* if this player asked you a question.

Make a disgusted expression at *Alex/Pat*.

Lend *Alex/Pat* your favorite pen. – Reverse scored

Take the credit for a group task.

Let *Alex/Pat* borrow some of your money.

Interrupt *Alex/Pat* when this player is talking.

Give *Alex/Pat* a turn in a group interaction.

Raise your voice during a discussion with *Alex/Pat*.

Invite *Alex/Pat* to another group activity. – Reverse scored

Leave *Alex's/Pat's* name out of a conversation about the rest of the group.

Tell others that *Alex/Pat* is not like us.

Roll your eyes while listening to *Alex/Pat* talk.

Spread unflattering rumors about *Alex/Pat*.

Refuse to work together in a group with *Alex/Pat*.

Manipulation Check

We will now ask you about each player's performance in the task.

How many letters or punctuation marks did *Alex/Pat* type in correctly? _____

STUDY 3: Cyberball Game

Cyberball Game Instructions

Welcome to Cyberball, the Interactive Ball-Tossing Game Used for Mental Visualization!

In the upcoming experiment, we test the effects of practicing mental visualization on task performance. Thus, we need you to practice your mental visualization skills. We have found that the best way to do this is to have you play an on-line ball tossing game with other participants who are logged on at the same time.

In a few moments, you will be playing a ball tossing game with other students over our network. The game is very simple. When the ball is tossed to you, press 1 on the keyboard to throw to the Left Player or press 2 on the keyboard to throw to the Right Player. When the game is over, the experimenter will give you additional instructions.

What is important is not your ball tossing performance, but that you **MENTALLY VISUALIZE** the entire experience. Imagine what the others look like. What sort of people are they? Where are you playing? Is it warm and sunny or cold and rainy? Create in your mind a complete mental picture of what might be going on if you were playing this game in real life.

Dependent Variables

We will now ask you questions about your experience with the *LEFT/RIGHT* player during the Cyberball game.

NRS-11

Use the scale below to rate your pain (0 means 'not at all unpleasant' and 10 'most unpleasant imaginable').

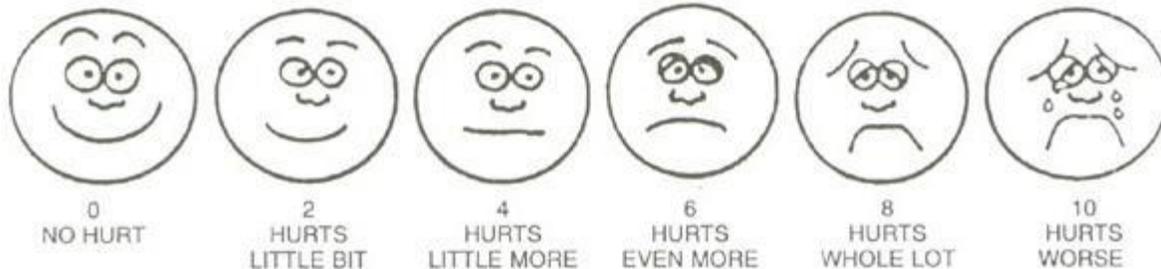
How unpleasant was the pain you felt when interacting with the *LEFT/RIGHT* player?

Use the scale below to rate your pain (0 means 'No pain sensation' and 10 'most intense pain sensation').

How much did interacting with the *LEFT/RIGHT* player cause you pain?

Pain Faces Scale (PFS)

Please choose the face that best describes how you felt when interacting with the *LEFT/RIGHT* player.



Pain as a Motivator for Ostracizing

We will now ask you questions about your experience with the *LEFT/RIGHT* player during the Cyberball game.

1 (*Not at all*) to 7 (*Very much so*)

The LEFT/RIGHT player was not worth including because he or she was ‘such a pain.’

I stopped including the *LEFT/RIGHT* player because he or she was making me feel stressed.

Perception of Group Member Burdensomeness

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

The *LEFT/RIGHT* player failed the group.

The *LEFT/RIGHT* player was burdensome to the group.

The *LEFT/RIGHT* player kept the group from achieving its goals.

I felt like the presence of the *LEFT/RIGHT* player threatened the group's success.

The *LEFT/RIGHT* player contributed to the group.

Liking of the Group Members

We will now ask you questions about your evaluations towards the *LEFT/RIGHT* player.

1 (*Not at all*) to 7 (*Very much so*)

How much did you like the LEFT/RIGHT player?

Ostracizing the Group Members

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

I excluded the *LEFT/RIGHT* player from group activities.

I ignored the *LEFT/RIGHT* player during group activities.

Manipulation Check

Please answer the following questions. Use the keyboard to type your answers in the spaces provided.

How long (in seconds) did it take the player on your *RIGHT* to throw the ball? _____

How long (in seconds) did it take the player on your *LEFT* to throw the ball? _____

Studies 4 and 5: Online Cyberball

Cyberball Game Instructions

Welcome to Cyberball, the Interactive Ball-Tossing Game!

In a few moments, you will be playing a ball tossing game with other MTurk workers.
The game is very simple.

When the ball is tossed to you, simply click on the name of the player you want to throw it to. When the game is over, the experiment will give you additional instructions.

What is important is *TO COMPLETE THE GAME AS FAST AS POSSIBLE!*

The game only **lasts 36/21 tosses**.

Be prepared to throw the ball as soon as you catch it!

Okay, ready to begin? Please click on the "Next" button to begin!

Dependent Measures

We will now ask you questions about your experience with the *ATOMICMASS/CRUIJFFTURN* player during the Cyberball game.

NRS-11

Use the scale below to rate your pain (0 means 'not at all unpleasant' and 10 'most unpleasant imaginable').

How unpleasant was the pain you felt when interacting with *ATOMICMASS/CRUIJFFTURN*?

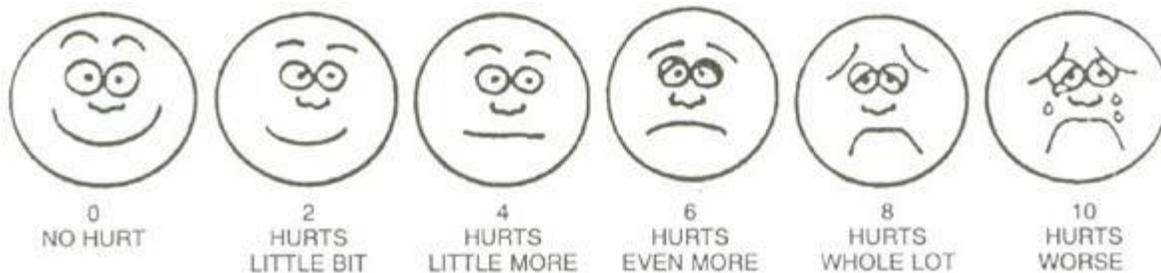
Use the scale below to rate your pain (0 means 'No pain sensation' and 10 'most intense pain sensation').

How much did interacting with *ATOMICMASS/CRUIJFFTURN* cause you pain?

Pain Faces Scale (PFS)

Please choose the face that best describes how you felt when interacting with

ATOMICMASS/CRUIJFFTURN DURING the Cyberball game.



McGill Pain Questionnaire

This questionnaire provides you with a list of words that describe some of the different qualities of pain and related symptoms. Please choose the number that best describes the intensity of each of the pain and related symptoms that you felt while interacting with *CruijffTurn*. Use 0 if the word does not describe the pain or related symptoms that you experienced.

Please choose the number that best describes the intensity of each of the pain and related symptoms that you felt while interacting with *AtomicMass/CruijffTurn*.

0 (*None*) to 10 (*Worst Possible*).

Shooting

Stabbing

Sharp

Cramping

Gnawing
Hot-burning
Aching
Heavy
Tender
Splitting
Tiring-exhausting
Sickening
Fearful
Punishing-cruel

Perception of Group Member Burdensomeness

Please rate the degree to which you agree with these statements using the scale provided:

1 (*Not at all*) to 7 (*Very much so*)

ATOMICMASS/CRUIJFFTURN failed the group.

ATOMICMASS/CRUIJFFTURN was burdensome to the group.

ATOMICMASS/CRUIJFFTURN kept the group from achieving its goals.

I felt like the presence of the *ATOMICMASS/CRUIJFFTURN* threatened the group's success.

The *ATOMICMASS/CRUIJFFTURN* contributed to the group.

General Negative Affect

We will now ask you questions about your experience with AtomicMass/CruiffTurn in the Cyberball game.

This scale consists of a number of words that describe feelings and emotions. Read each item and then indicate your answer. Indicate to what extent you felt the emotion when interacting with AtomicMass.

1 (*very slightly or not at all*), 2 (*a little*), 3 (*moderately*), 4 (*quite a bit*), 5 (*extremely*).

When interacting with AtomicMass/CruiffTurn...

I felt distressed.

I felt upset.

I felt guilty.

I felt scared.

I felt hostile.

I felt irritable.

I felt ashamed.

I felt nervous.

I felt jittery.

Burden-Specific Affect

We will now ask you questions about your experience with AtomicMass/CruijffTurn in the Cyberball game.

This scale consists of a number of words that describe feelings and emotions. Read each item and then indicate your answer. Indicate to what extent you felt the emotion when interacting with AtomicMass.

1 (*very slightly or not at all*), 2 (*a little*), 3 (*moderately*), 4 (*quite a bit*), 5 (*extremely*).

When interacting with AtomicMass/CruijffTurn...

I felt frustration.

I felt anger.

I felt irritation.

I felt impatience.

Liking of the Players

We will now ask you questions about AtomicMass/CruijffTurn.

1 (*Not at all*) to 7 (*Very much so*).

How much did you like AtomicMass/CruijffTurn?

How pleasant did you find AtomicMass/CruijffTurn?

How much did you enjoy AtomicMass/CrujffTurn?

Manipulation Check

Please answer the following questions. Use the keyboard to type your answers in the spaces provided.

How long (in seconds) did it take *ATOMICMASS* to throw the ball? _____

How long (in seconds) did it take *CRUIJFFTURN* to throw the ball? _____