



**Networked Minds Social Presence Inventory:**  
(Scales only, Version 1.2)  
**Measures of co-presence, social presence,  
subjective symmetry, and intersubjective symmetry**

Frank Biocca, Chad Harms

This document includes all the items that comprise the Networked Minds Social Presence Inventory. For more information on the scale, please consult the [Guide to the Networked Minds Inventory](http://www.mindlab.msu.edu/networkedminds/) and other related papers at <http://www.mindlab.msu.edu/networkedminds/>.

**1. First order social presence: Co-presence**

The following items form the measure of co-presence, the degree to which the users feel as if they are together in the same space.

Perception of self	Perception of the other
I often felt as if (my partner) and I were in the same (room) together.	I think (my partner) often felt as if we were in the same room together.
I was often aware of (my partner) in the (room).	(My partner) was often aware of me in the (room).
I hardly noticed (my partner) in the (room)	(My partner) didn't notice me in the (room).
I often felt as if we were in different places rather than together in same (room)	I think (my partner) often felt as if we were in different places rather than together in the same (room).

**2. Second order social presence: Psycho-behavioral interaction**

These items seek to measure the user perception of attention, emotional contagion, and mutual understanding with their partner or participant.

*Perceived psychological engagement*

Perception of self	Perception of the other
<b>Perceived attentional engagement</b>	
I paid close attention to (my partner).	(My partner) paid close attention to me
I was easily distracted from (my partner) when other things were going on.	(My partner) was easily distracted from me when other things were going on.
I tended to ignore (my partner).	(My partner) tended to ignore me.
<b>Perceived emotional contagion</b>	
I was sometimes influenced by (my partner's) moods.	(My partner) was sometimes influenced by my moods.
When I was happy, (my partner) tended to be happy.	When (my partner) was happy, I tended to be happy.
When I was feeling sad (my partner) also seemed to be down.	When (my partner) was feeling sad, (my partner) I tended to be sad.
When I was feeling nervous, (my partner) also seemed to be nervous.	When (my partner) was nervous, (my partner) I tended to be nervous.
<b>Perceived comprehension</b>	
I was able to communicate my intentions clearly to (my	(My partner) was able to communicate their intentions

partner.)	clearly to me.
My thoughts were clear to (my partner).	(My partner's) thoughts were clear to me.
I was able to understand what (my partner) meant.	(My partner) was able to understand what I meant.

*Perceived behavioral interdependence*

Perception of self	Perception of my partner
My actions were often dependent on (my partner's) actions.	(My partner's) actions were often dependent on my actions.
My behavior was often in direct response to (my partner's) behavior.	The behavior of (my partner) was often in direct response to my behavior.
What I did often affected what (my partner) did.	What (my partner) did often affected what I did.

**3. Third order social presence: Subjective and Intersubjective Symmetry**

Third order social presence is derived from the scales used for first order and second order social presence.

Subjective Symmetry: Analysis

Subjective symmetry is a measure of the degree to which the user perceives their level of social presence to be symmetrical or correlated with that of their partner's. It is calculated as a correlation between the ratings of the social presence of the self ("Perception of self") and the other ("Perception of my partner"). This can be calculated for each scale or for the inventory as a whole.

Intersubjective Symmetry: Analysis

Intersubjective symmetry is a measure of the degree to which the user's rating of their social presence is symmetrical (correlated) with their partner's rating of the user's level of social presence. It is calculated as a correlation between the ratings of the social presence of the self ("Perception of self") and the other's rating of the user (i.e., the partner's "Perception of my partner"). The intersubjective symmetry can be calculated for each self-partner pairing. This can be calculated for each scale or for the inventory as a whole.

**4. Notes on the use and analysis of the scales**

*Contextualizing the scale with substitutions for "my partner" and "the room" terms*

To prevent confusion, difficulty, and to make questions clear it is preferable that users respond to concrete references rather than abstract references. Therefore the words in brackets indicate phrases to be substituted for appropriate terms relevant to the mediated interaction.

Example substitutions for the **agent term** holder,  
 "my partner" = the other, participants, robot, player, opponent, guest, "Alicia," etc.

Example substitutions for the **place term** holder,  
 "the room" = office, city, screen, virtual environment, etc.