

Description of sample project —

Medical communication

for The Observer XT

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Medical Communication sample project

The Observer XT installation USB stick contains a folder **Documentation/Sample projects/Human sample project** with a backup file (*.vpb) of the sample project **Medical Communication**. In this project the gazing behavior and communication of a doctor was observed when he had a patients file either on paper or on a tablet.

Other sample projects

You can download a large number of other sample projects on the Noldus IT website.

The following sample experiments are available:

- Medical Communication
- Infant caregiver interaction
- Kids at play
- Consumer behavior
- Child FaceReader
- Interval sampling in office workers
- Cycling
- HILAS cockpit evaluation
- Medical research
- E-Prime and The Observer

To download a sample project

1. Browse to www.noldus.com and select MyNoldus. Log in with your username and password. If you do not yet have an account, you can create one.
2. Go to **Downloads > The Observer XT > Sample projects**.

3. Download the sample project together with the accompanying videos and the file *Description of sample projects of The Observer XT - psychology usability ergonomics.pdf*.

Install the sample project

To install the sample project

1. On The Observer XT installation USB stick, open the folder Documentation\Sample Projects\Human Sample Project\Project backup. Copy the file **Medical Communication.vpb** to a location on your computer.
2. On The Observer XT installation USB stick, open the folder Sample Documentation\Projects\Human Sample Project\Video files. Copy the video files to the **Video Files** folder of The Observer XT on your computer:

C:\Users\Public\Public Documents\Noldus\The Observer XT\Video Files.

The following video files are needed:

- Paper patients file video 1.avi
- Paper patients file video 2.avi
- Tablet patients file video 1.avi
- Tablet patients file video 2.avi

3. In The Observer XT, choose **File > Restore Backup**.
4. Browse to the backup file. Optionally click **Browse** and select another project location. By default the project is saved on:

C:\Users\Public\Public Documents\Noldus\The Observer XT\Projects

5. Click **Open**. The project opens on your screen.

Explore Medical Communication

This sample project shows the gazing behavior and communication of a doctor when he has a patient's file either on paper or on a tablet. There are two observations, one with a paper patient's file and one with a patient's file on a tablet. Both observations were coded by three untrained coders. The reliability analysis is, therefore, realistic.

SETUP

Choose **Setup** > (choose one of the options below).

Coding scheme

The coding scheme contains three behavior groups:

- **Gazing** – with the individual behaviors *Gazing at patient*, *Gazing at patients file*, *Gazing at nurse* and *Other/No gazing*.
- **Communication** – With a number of communication types like *Businesslike (open/closed) question*, *Empathic (open/closed) question*, *Explaining*. Each behavior in this group is linked to two modifier groups. *To whom* indicates to which person communication is directed to. *Topic* indicates whether the communication is medical, personal or otherwise.
- **Doctor presence** – This behavior group only contains the two behaviors *Yes* and *No* and is used to select the intervals during which the doctor was present.

Independent variables

The project contains the following independent variables:

- **Patients file** – To indicate whether the patients file in the observation was on tablet or on paper.
- **Observer** – To indicate which observer has coded the observation.

OBSERVE

Choose **Observe** > **Observation** > **Open**. Choose one of the following:

Observations

- Paper_OK – Patient’s file on paper, coder Olga Krips.
- Tablet_OK – Patient’s file on tablet, coder Olga Krips.
- Paper_LL – Patient’s file on paper, coder Leanne Loijens.
- Tablet_LL – Patient’s file on tablet, coder Leanne Loijens.
- Paper_PZ – Patient’s file on paper, coder Patrick Zimmerman.
- Tablet_PZ – Patient’s file on tablet, coder Patrick Zimmerman.

ANALYZE

Data profiles

Choose **Analyze** > **Select Data** > **Open Data Profile**. Choose one of the data profiles listed below and click **OK**.

All data profiles, except for *All data* contain an **Interval** selection box to analyze only the time that the doctor was present.

- **All data** – Which includes all the data.
- **All data by type of patients file** – To obtain separate analysis results for each type of patient’s file.
- **Gazing for reliability analysis** – To carry out a reliability analysis on the gazing behaviors. This profile contains a filter on the behavior group *Gazing*.
- **Communication for reliability analysis** – To carry out a reliability analysis on the communication behaviors. This profile contains a filter on the behavior group *Communication*.
- **Gazing by type of patients file** – To analyze the gazing separately for the observations with the tablet patient’s file and the paper patient’s file. The profile contains two result boxes. One branch has

a filter box for the observations with the tablet patient's file and the other branch a filter box for the paper patient's file. Both branches have a filter box for the *Gazing* behavior group.

- **Communication by type of patients file** – To analyze the communication separately for the observations with the tablet patient's file and the paper patient's file. The profile contains two result boxes. One branch has a filter box for the observations with the tablet patient's file and the other branch a filter box for the paper patient's file. Both branches have a filter box for the *Communication* behavior group.

Behavior analyses

The project contains three behavior analyses in which the data obtained by the three coders are averaged. To open these analysis results, choose **Analyze > Behavior analysis > Open Archive**, and open an *.arx file.

- **Gazing by type of patients file** – Based on the data profile with the same name. The results show that the doctor looks more at the patient's file when it is on a tablet. When the patient's file is on paper, he looks more at the nurse—
- **Communication by type of patients file** – Based on the data profile with the same name. The modifiers *To whom* and *Topic* are not analyzed. The behavior *No communication* is much higher when the patient's file is on a tablet. When the patient's file is on paper, the behaviors *Businesslike open question*, *Empathic open question*, *Wrapping up*, *Explaining* and *Other communication* are higher.
- **All data by type of patients file** – Based on the data profile with the same name. This behavior analysis is a full analysis of the data grouped by type of patient's file. The modifiers are also analyzed.

Reliability analyses

Reliability analyses were done to assess inter coder reliability. Three observation pairs per type of patient's file were analyzed. Each pair compares two coders that coded the same observation.

Two reliability analyses were carried out, one on the behavior group *Gazing* and one on *Communication*. The default method **Frequency/Sequence** was used.

To open these analysis results, choose **Analyze > Reliability analysis > Open Archive**, and open an *.arx file.

- **Reliability analysis gazing** – The reliability analysis was carried out on the behavior group *Gazing*. The analysis shows that the percentage of agreement between observation pairs varied between 74% and 96%.
- **Reliability analysis communication** – The reliability analysis was carried out on the behavior group *Communication* including the modifiers *To whom* and *Topic*. The percentage of agreement between observation pairs was much lower than for the behavior group *Gazing*. It varies between 27% and 62%. Note that the three coders were not trained beforehand. For trained coders one can expect a higher percentage of agreement.

The Reliability analyses show that a clear behavior like *Gazing* can be scored reliably without training beforehand. For *Communication*, that is much more sensitive to interpretation, it is more difficult to score reliably. Therefore for such behaviors, coders need to be trained.

