

Who needs a pet? I have a smartphone!

How our digital companions become increasingly important to us

A psychological study by the Universities of Würzburg and Nottingham Trent for Kaspersky Lab

<http://amnesia.kaspersky.com>

A third of consumers willing to ditch their friends for their smartphone. Psychological study discovers new era of 'digital best friends'

Yet 93 per cent willingly give away their smartphone PIN when asked – putting the safety of their 'digital best friend' at risk

An experiment, which asked participants to rate various people and objects in their lives in order of importance, has discovered that 37.4 per cent of participants rate their smartphone as more, or equally, important as their close friends. The results of the experiment, which was conducted by the universities of Würzburg and Nottingham Trent, on behalf of Kaspersky Lab, show that smartphones are set to overtake friends in importance.

- 29.4 per cent of participants said their smartphone was equally important, or more important, to them than their parents
- 21.2 per cent said their smartphone was equal to, or more important, than their partner
- 16.7 per cent rated their smartphone in the highest importance category, although only 1.1 per cent said their smartphone was more important than anything else in their life.

The experiment asked participants to position images representing various people and objects in their lives, in relation to themselves on a diagram of a chessboard. While family, friends and pets were generally placed closer to the participant than their smartphone; many other significant people in the participant's lives - including the people they work or study with every day - took a back seat in comparison to their digital companions.

Despite the value placed on devices as a source of entertainment, information and data storage, participants in a supporting experiment were more than happy to share their smartphone PIN number when asked, exposing access all their personal and sensitive information. During the experiment 93 per cent of participants gave away the PIN to their digital best friend when asked.

Astrid Carolus, Media Psychologist at the University of Wuerzburg, led the study. She comments: "Our phones are an integral part of our lives, and this study brings psychological proof of this. Our friend-like connection with our smartphones means that we place an incredible degree of trust in an inanimate object – so much so, that we consider it a closer and more important element of our lives than many other people. With this in mind, we were surprised to see that it was nevertheless very easy for us to get hold of smartphone PIN codes. We asked people to sit in a waiting room for a period of time, and then asked them for their body height and smartphone PIN code. Without much hesitation the vast majority of people gave it to us. This is worrying, because it suggests that we are willing to put our digital friends – and the data they hold - at risk."

Equating a digital device with human qualities is nothing new. Experiments in the 1990s found that people ascribed human traits to computers when interacting with them. David Emm, senior security researcher at Kaspersky Lab, comments on the security implications of having an emotional connection with a device: "Following on from last year's study into Digital Amnesia – the phenomenon that suggests we forget the information we entrust to our devices – this latest experiment further proves the strong emotional connection we have with our phones. Another

interesting finding was that people rate their smartphones as far more important to them as laptops or other devices that hold the same degree of information, highlighting the symbolic role our phones have for us as digital companions, forever at our side. Having this emotional relationship with your smartphone can mean your decision process when it comes to protecting the data stored on it is more limited. We already know many people forget to secure their smartphones, as they view them almost as an extension of themselves, and this can make them vulnerable to cybercriminals.”

Ascribing more importance to our phones than real-life friends and acquaintances shows just how important it is to secure the information we entrust them with. Kaspersky Lab has been researching in the social effects of digitalization and how this makes people potentially more vulnerable to cybercrime for the last two years. An overview of the results is available at amnesia.kaspersky.com.

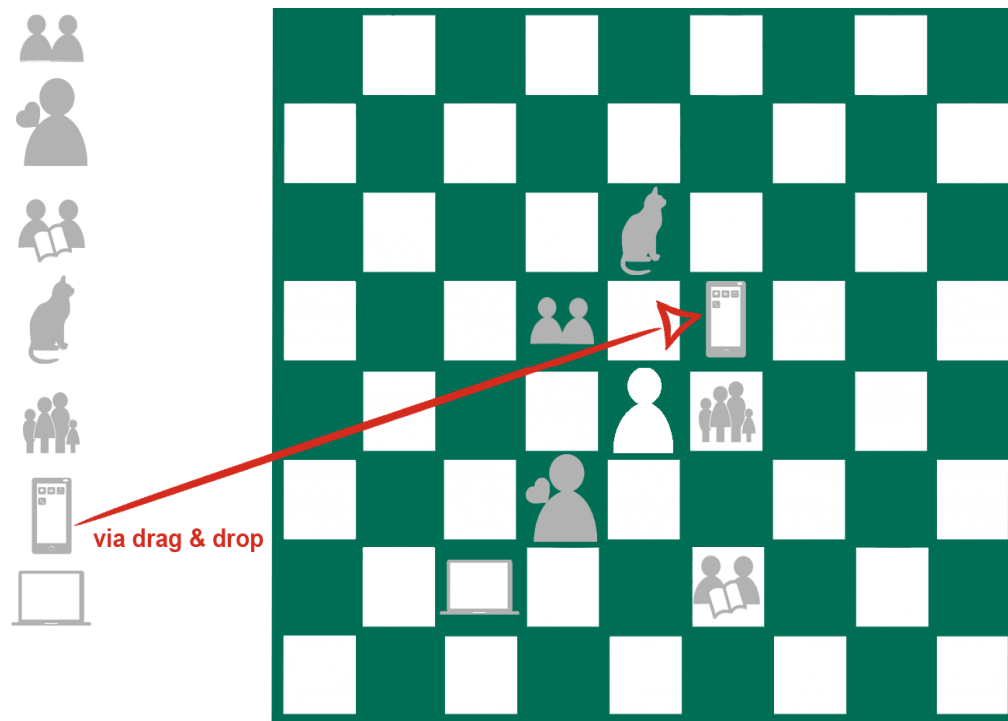
The Experiments

The following report describes the approach taken to carry out the two different experiments, from which we have drawn the above conclusions. These include a PORD experiment and a waiting experiment. 1215 participants took part in the online study which included the PORD experiment, while 95 people participated in the waiting experiment. Both studies were carried out in order to gain a greater understanding of our emotional connection with our devices, and yet how willing we are to put those devices at risk. The experiments were undertaken at laboratory facilities at the Universities of Würzburg and Nottingham Trent.

Methodology for the PORD Positioning Relations and Devices Experiment

Smartphones are digital companions for consumers. And smartphone users have established an emotional relationship with their device, resulting in a feeling of closeness to their phone. As a consequence, we decided to study the "emotional relevance" that participants attribute to their phones, and compare this with the emotional relevance attributed to other human beings.

The instrument used during the study was an online tool called PORD (Positioning Relations and Devices), and was based on a psychological therapy technique. The technique is usually used to visualize relational structures and cohesion within a family, by positioning pieces (each representing family members) on a chessboard.



Positioning of the selected persons and media devices

This basic idea of visualizing relationships on a chessboard is used here to outline how close we feel (1) to a range of relevant others and (2) to media devices. Users were instructed to:

1. Name people relevant to them (out of a list of suggested groups such as close friends)
2. Name media devices they use (out of a list of suggested media devices)
3. Place an icon representing themselves on the board

4. Place icons representing people and devices on the board, with close proximity to the self-icon indicating a higher importance

In short: If the icon of a person or a media device is positioned closer to the piece representing me, this person/device is more important to me.

I wanna hold you tight: the findings of the PORD experiment

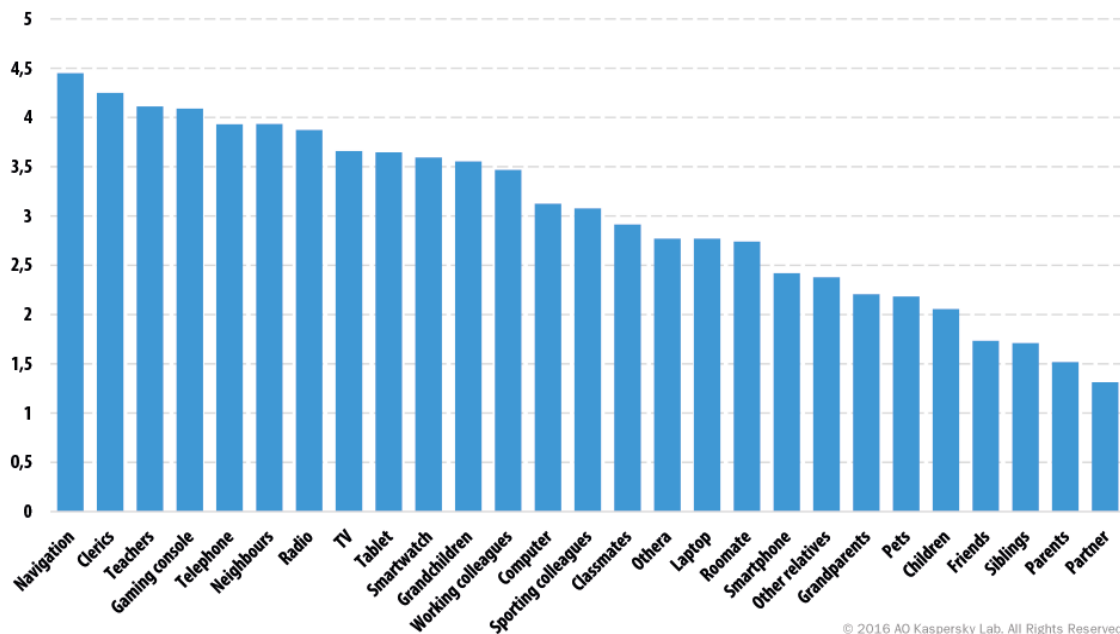
The PORD experiment allowed participants to visualize the importance of relevant persons and media devices by positioning pieces representing these persons and media devices in relation to themselves on a chessboard. The closer a piece was put to the representation of themselves, the more important that person/device was considered. The most important findings for this test are presented in this report.



Sketch of the average distances and therefore the importance of humans and media devices visualized by the PORD experiment

The smartphone is our most important technological device – and it is even more important than many humans

The study showed us that smartphones rank very high in our lives today. They are more important than roommates or colleagues and clearly closer to us than any other technological device. We are less emotionally connected to smartwatches, for example, despite the fact that they are physically far closer to us than our phones. For the average participant, family, good friends and pets were positioned closer to them than any technology, suggesting they are valued higher than technology. But as the numbers mentioned in the introduction demonstrate: for a significant minority, devices are already more important to them than parents, friends and their partners.

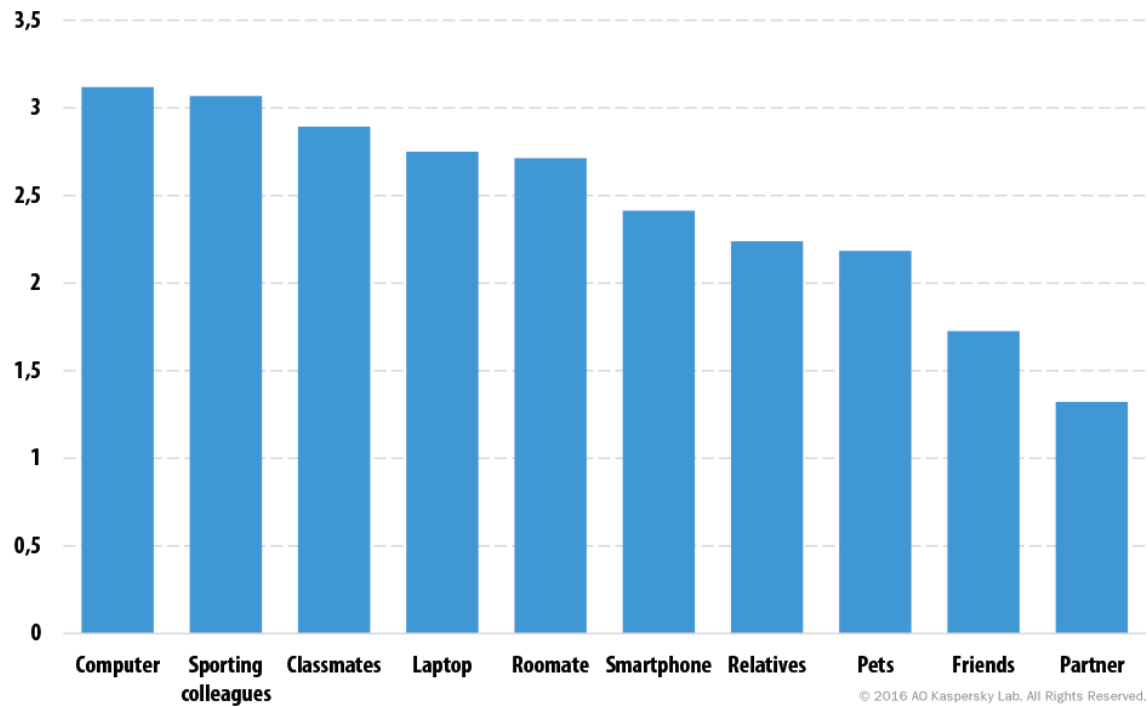


All possible categories of people and devices with “distance to oneself”

Pets are more important than relatives. And smartphones are more important than roommates, classmates and colleagues

Within the top 10 humans and media devices: the partner was considered most important overall, followed by friends, pets and relatives (the ‘relatives’ category included siblings, children, and grandparents).

The smartphone followed in fifth position, making it more important than some real human beings including roommates, classmates and sporting colleagues, despite these people being selected as important in the first step of the test.



Top 10 people and media devices with the least “distance to oneself”

Methodology for the waiting game

In a different experiment, we wanted to see what would happen if we made people wait. Participants were welcomed and, after waiting, given a short overview of the study they were supposed to participate in (including obtaining informed consent and implementing ethical guidelines), without all aspects of the procedure and our expectations being disclosed in any detail.

After the welcome, they were sat down in a room resembling a comfortable waiting space. Here they were filmed by a hidden camera to objectively capture any smartphone engagement.



Waiting session

Participants waited for ten minutes. After five minutes the experimenter entered and asked for the participants' body height, as a distractor, and their smartphone PIN.

If they refused or asked for a reason, the procedural script specified exactly what to reply: *"Studies reveal significant correlations between height and PIN", "We cannot continue without this information!", "You need to give us the PIN"*.

We documented if, and how easily, the PIN was revealed. After waiting for a total of 10 minutes, the experimenter entered again to guide the participant into the next room for a different experiment.

Putting our digital companions at risk: the findings of the waiting game

93% of all participants who have a PIN code for their smartphone gave this sensitive data away, the majority without even answering back or querying why they had been asked for their PIN.

Only three participants overall refused to give away their PIN code and only five did not have a code at all.