Update: before being accused of being a bully because I compare social priming researchers to parapsychologists, a) I consider myself to be a psi researcher, so if anyone takes offense to being compared to myself, I am very sorry, and b) the bottom line of this post is: if you take social priming seriously based on the empirical record, you should take psi seriously, too.

Now, there you have two controversial terms in one blog post title! No, I am not going to claim that psi may be involved in social priming or vice versa. No, I won’t make any claims here about paranormal phenomena playing a role in social priming (although…), but something struck me when going over my Twitter feed this weekend.

So, what happened? Well – sh*t really hit the fan after publication of Social Psychology’s replication issue, edited by Brian Nosek and Daniel Lakens, to be found here. A lot of things have already been written and blogged on the entire issue of replications and replicating research, and the debate has turned quite ugly from time to time. But I’ll not be addressing that here – many other did a better job at that than me.

No, what struck me is that there seem to be some interesting parallels between parapsychology and social priming research I’d like to share with you. Disclaimer beforehand: I am an active researcher in both social priming and psi. I may be prejudiced with regard to both topics – please keep that in mind when reading

First of all: both fields make bold claims about the nature of the human mind and – if correct – have far-stretching consequences for our understanding of who we are. If psi exists, it would mean the mind does not answer to laws of physics, and may therefore not be reduced to brain activity. Or the laws of physics are wrong, that’s also an option. At least, the confirmed existence of psi would change our view of the world. Your mind is not what your brain does – but something more! That’s an idea many people would find attractive.

Social priming research, if true, shows that our environment has an extremely large impact on our behaviour, both overt and covert – a simple prime may make us walk slower, make us buy stuff we normally would not, or even make us more or less prone to show criminal behaviour. Taken to the extreme (a point once defended by Diederik Stapel in an interview with the Dutch ‘Academische Boekengids’, if you read Dutch, you can find it here), it means that you, or your ‘self’ – the agent that decides what you body will do next – is nothing more than a series of tendencies primed by your environment. Consciousness and free will have little to do with behaviour and are just illusions. Maybe not a pleasant idea, but very tangible – it means that human behaviour is rational, and can be completely explained and understood. Again, an idea many people would find attractive.
So, it’s clear both fields have a large appeal: they challenge our native and naive ideas about who we are. It’s therefore not surprising that both parapsychology and social priming are ‘hot topics’ in the main stream popular media.

Both social priming and parapsychology have a serious problem, though: after a series of spectacular claims and promising results (for parapsychology in the 1930s, for social priming starting in the 1990s), problems arose. Key findings turned out to be difficult to replicate. In parapsychology, there is even a term for this: the decline effect, and it’s even become a topic of study. After some initial successes to demonstrate telepathy, precognition or clairvoyance, effect sizes decreased, to disappear completely after repeated replication attempts. In social priming, we see that the large effects reported by original studies quite often turn out to be far smaller or even non-existent in subsequent replications ran with larger populations. As a result, both fields are struggling to show that the effects they study even exist. Overall, meta-analyses do show there is ‘something going on’, both for psi and social priming, but the actual effects are elusive.

The emphasis on showing effects has drawn attention away from what a mature field should do: come up with theories and test those. Both parapsychology and social priming are traditionally characterized by lack of theories that explain the phenomena that are being studied. And with ‘theories’ I mean a general, and plausible framework that can produce falsifiable claims – not post-hoc explanations for effects. In social priming, for example, I once read a nice metaphor about how behaviour is akin to a piano on a sheet of ice, subject to all kind of external forces – see here) Although this sounds very reasonable, this theory cannot be falsified – if a finding does not replicate, you can always conjure up a ‘moderating’ variable that has extinguished the effect. Another reason that in particular cognitive (neuro)scientists are very critical about social priming research is that the explanations for the effects are very implausible with regard to their (neuro)cognitive implementation.

My greatest concern, though, is the elusiveness of the effects. I do accept that the effects may exist. I doubt, though, how relevant the effects are in everyday life. In a blogpost, Simone Schnall mentioned an online replication attempt of her (in)famous finding that washing your hands makes you behave more morally. The replication failed. Schnall was not surprised – she explicitly stated that the priming procedure would only work in the lab, where subjects can be closely monitored. This is a pretty strong blow for ecologial validity – if an effect does not replicate outside the lab, then what does it really tell you about human behaviour?

Parapsychology, though, seems to have matured a bit more than social priming over the last years. There are several falsifiable theories out there that do predict when psi phenomena will occur, and under what circumstances, for example Von Lucadou’s model of Pragmatic Information, and Bierman’s CIRTS-model. Both these models are inspired by physics, and do make sense. Most importantly, they are falsifiable: both MPI and CIRTS make very explicit predictions about psi-effects. According to the MPI, for example, psi-phenomena can be explained as non-local correlations, analogous to quantum entanglement. As in quantum theory, MPI postulates that such non-local correlations can never be used to transmit information – if that were possible, they would allow for faster-than-light communication, and thus for nasty paradoxes. This yields some weird predictions: most importantly, as soon as an effect becomes ‘informative’ it has to disappear. For example, you may be able to find presentiment in one study. However, in the next study you now know that you may expect presentiment, and thus build a presentiment-meter (see my previous post). According to MPI, you’re not allowed to – and, poof, your effect is gone.

So, how to demonstrate psi if it disappears if you’re looking for it? Von Lucadou proposed an elegant solution: don’t look for it specifically. Von Lucadou and co-workers have published several experiments in which they show that in interactions between an observer and a quantum random number generator, the output of the qRNG will correlate with aspects of the observer. However, which aspects cannot be known beforehand. So, the one time, there is a correlation between the qRNG and the observer’s intentions (which would be the classical psychokinesis-case – it looks like you’re influencing a physical...
system with your mind), the next time it’s a correlation between the qRNG and the observer’s shoe size. The only solid thing is that if you measure, let’s say, 100 correlations, you will always find more than you’d expect on basis of chance alone.

So, to summarize – psi and social priming are both controversial fields, where there is good reason to assume something’s going on – but we don’t know what. Both fields have come up with theories, and parapsychology seems to be doing an even better job than social priming. However, in the end, it’s very well possible both fields are chasing ghosts. Well, if that’s the case, at least the parapsychologists can say it’s their job.