

Influence of the social power construing and associated cardiovascular reactivity on creative problem-solving.

Creativity and problem-solving are important in many areas of life, for example in business, academia, or government, especially if solutions and ideas have to be of high quality and competitive. Creativity can help to find relevant and satisfying solutions – to both abstract and social problems and conflicts. Creativity (and what follows: quality) of a solution depends not only on the decision maker's creativity as a trait but also on a variety of social influences, maybe especially if the problem itself is of social nature. Such problems are often not well structured and have many potential solutions, which even further calls for creativity in solving them. There are findings in the literature suggesting that creativity is more pronounced in people with more social power, which can be defined as an asymmetric control over valued resources in social relationships.

Individuals who have social power can understand it in two different ways: as a personal opportunity, focusing on achieving one's own goals, or as their responsibility for people dependent on them. The way people understand their social power can change from situation to situation for the same person, e.g. someone can construe their position as a boss in their workplace as an opportunity to further their ambitions, but at the same time construe their parenthood as their responsibility for children's wellbeing.

Previous studies on cardiovascular reactivity to stress has shown that physiological reaction patterns are important predictors of our behavior. Specifically, cardiovascular challenge pattern is a predictor of better task performance. Challenge patterns are also observed more often in people with more social power, and specifically with social power that they treat as a personal achievement or opportunity to do something, as opposed to responsibility for others. Perceiving stress as a challenge means that we see the situation as demanding but possible to deal with. The other way to see it is as a threat, where we don't think we're able to come up with a solution.

Since social power understood as opportunity is associated with cardiovascular challenge pattern, which in turn is related to better task performance in general, then this effect should be visible also for creative problem-solving – especially since other research shows that higher social power, in general, facilitates creativity. Treating power as opportunity would probably be also linked with more intrinsic motivation than construing it as responsibility, which in turn should further improve creative problem-solving. Power construed as responsibility makes people more open to advice from others, so perhaps it can also undermine creativity by more conservative approach and allowance for bigger influence from other people. It is also associated with a threat cardiovascular pattern which in turn is associated with less efficient task performance.

The main hypothesis is that construing power as an opportunity (vs responsibility) predicts a higher level of creativity of solution mediated by challenge physiological pattern.

To address the issue a two online (total 1000 participants) and one laboratory (300 participants) study that includes continuous, non-invasive measurement of cardiovascular activity with state-of-the-art physiological equipment will be employed.

Physiological measures offer many benefits in addition to traditional self-descriptive and experimental methods, such as the opportunity to monitor participants' reactions, without errors introduced for example by participants' imperfect memory or social desirability bias.

This is important, because of how widespread the benefits of creativity are, both for people who have social power, and those who depend on their decisions and ideas. Findings of this project will be also of interest to professionals not only in the psychological field but virtually in all contexts where individuals with social power have to make decisions and solve problems, especially poorly structured, heuristic problems, such as often very complex problems of social nature.