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Relationships are Constructed from Generalized Unconscious Social Images Kept in Steady Locations in Mental Space

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Abstract

The *social panorama* approach is a psychotherapeutic method based on the view that generalized unconscious spatial imagery forms the cognitive foundation of social life. It appears to be an efficient therapeutic tool for solving a wide range of relational issues and may inspire research on space in social cognition. The leading principle of the social panorama model is “relation equals location”, which means that people keep the generalized images of relevant others in steady locations in the mental space around them. The exact location of such an image governs the emotional quality of the relationship. We tested the prediction that moving a social image will change the emotional meaning of the relationship involved (i.e., relation equals location). To this end, we measured how increasing the distance to the image of a beloved alters the emotional experience. Our results show that, when asked to triple the distance to the image of a loved one, the participants exhibited a significant decrease in the intensity and dramatic shifts in the quality of their emotions.

Relationships as spatial constructs

Regarding relationships as spatial constructs may be rooted in primordial shamanic traditions. In social psychology, this concept started with Jacob Levy Moreno's *sociograms*. Moreno's (1951) sociograms are depictions of how social parameters, such as interpersonal attraction and eye contact, link the members of a group. Social psychologists have used sociograms to analyse communication networks, power structures and group dynamic phases. In doing so, they discovered that most humans have an intuitive understanding of these pictures. Most relevant to our current study are the sociograms in which individuals are allowed to sketch their relationships just by following their impulses. For this purpose, a person normally draws himself or herself in the center with the images of significant others around him or her, often as seen from above. Status, personal distance, the direction of attention and the strength of the connection are often clearly expressed in these visualizations.

Aside from enabling scientists to perform technical analyses, sociograms tend to elicit emotions: They may be challenging for those represented. More realistic 3-D representations created with the aid of toy figures, computer animations (figure 1) or role-playing stand-ins can even elicit social emotions of dramatic proportions (Schlötter, 2005; Weber, 1993).

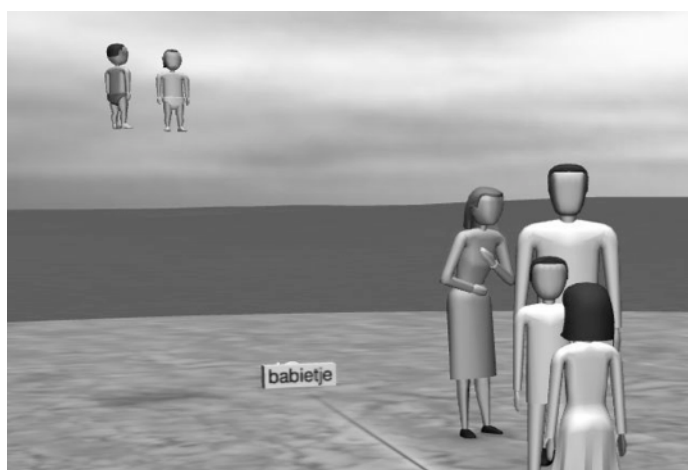


Figure 1: An image created with the online coaching app at www.coachingspaces.com.

However, these 3-D reconstructions of families or teams do not only serve diagnostic purposes. Psychotherapists noticed that by shifting the locations of these symbols, clients may adapt their attitudes to the represented others also in real life. A number of these therapists came to the conclusion that spatial changes in these symbolic configurations are automatically translated into the

social cognition the subject uses for actual interaction. Psychotherapy with the aid of the social panorama method is also based on this assumption (Battino, 2006). Moving social symbols is also the central form of intervention in other therapeutic traditions such as Psychodrama (Gessmann, 2013.), Family Sculptures and Family Reconstruction (Haley & Hoffman, 1967), Family Constellation Therapy (Weber, 1993; Hellinger, 1996; Schlötter, 2005) and Structural Constellations (Varga von Kibed & Sparrer, 2000; Weber, Schmidt & Simon, 2005; Hoppner, 2001).

Social Panorama Theory

How can people change their social attitudes by shifting the locations of social symbols, for instance, pieces of paper or Playmobil figures? Social panorama theory explains this by a strong match between these spatial symbolic representations and the way in which the mind tends to encode social relations (Derks & Hollander, 1996; Derks, 2000, 2005). In other words, due to their analogy, the spatial shifts among these symbols have a direct associative impact on the social cognitive processes that guide social behavior.

How, then, do people simulate social reality? According to this model, they use an unconscious landscape filled with the generalized images of all people who are relevant to them. The permanent character of a *relationship* arises from giving such an image a relatively stable position in this panorama, which means that an individual with whom one has a relationship is located stably at a particular place in mental space. External spatial symbolic manipulations will thus be trans-coded automatically into a person's map of social reality. These phenomena are claimed to take place largely outside of awareness.

Behavioral indicators. There are some indicators that support this view. For instance, during conversations about others, speakers may spontaneously point, gesture and gaze at the places where these others seem to be located in their mental landscapes. Another indicator is *spatial language*. Attentive listeners can hear how people frequently use spatial expressions when they speak about relationships: "He stands by me." "We drifted apart." In order to consider these as supporting the claims of social panorama theory, they must be regarded as literal – and not metaphorical – descriptions of spatial social imagery. Even more convincing is what happens after we ask people to point out the locations of their social images because, when they have spotted one (which can be difficult at first, since these may be below the threshold of awareness), they are often surprisingly decisive about the exact location of such an image. Further, when we try to pinpoint the correct place of such an image in physical space together with them, they may say, "No! No! Mom's image is almost five centimeters more to the left!" Such precision supports the notion that the

person already has a steady localized image in mind before being asked to search for one. Above all, in psychotherapy, people tend to experience strong emotional reactions after visual or verbal instructions that these images be moved closer or further away, turned, or made taller or smaller. Walker (2014) and Derks (2002, 2005) discussed how these emotional responses might be indirect proof for the existence of the unconscious stimuli that are causing them. In psychotherapy, this type of evidence is generally regarded as valid. Strong social emotions, such as fear, jealousy and hate, experienced in the absence of stimuli from real flesh-and-blood individuals (where no real *villains*, *bitches* or *assholes* are to be seen) have always been a common appearance in therapy and are generally seen as proof of a client's imagination (Singer, 1974).

Generalized Social Images

After having met someone for the first time, one may hold a concrete memory of how this person behaved and looked. In this study, we use the term *generalized social images* for images that combine the great variety of looks, behaviors, attributes, traits and ways of expression, etc. of a human being into one single concept also called *personification* in the social panorama (Derks, 2002, 2005; Battino, 2006). Such a generalized image can be located anywhere in mental space and still be recognized as the representation of this particular individual.

The shape of such an image often seems comparable to a caricature or cubist portrait, as was reported by people after painstaking introspection. Such an abstraction may result from the merging and stacking of the memories of repeated interpersonal encounters (real and imaginary) that distills the essence of the person into one concept.

The Relational Meaning of Location

Mental Space. The concept of *mental space* in cognitive psychology was pioneered by Barbara Tversky, who explored in detail how people create spatial representations of their bodies and the space around them and how they mentally map the larger areas they navigate (Tversky, 1991, 1993, 1997). She also investigated how spatial perspectives may change when listening to stories, how gestures can express the spatial dimensions of mental images, and also how to apply all these findings in diagramming, architecture, design and graphic applications (Tverski, 1999). In linguistics it was Gilles Fauconnier (1997) who started to use the expression *mental spaces* in relation to making meaning out of language (Fauconnier & Turner, 2002). George Lakoff and Mark Johnson (1999) explored the role of space in logic, metaphors and in social experience. This work gave rise to the *embodied simulation theory of meaning* (Bergen, 2012), in which the *where-question* plays a crucial

role. In cognitive psychology, Williams, Huang & Bargh (2009) postulated that physical experience is the foundation (or scaffolding) of all cognition. In social psychology the leading question will be: Where do people generally locate one another?

Social Mapping. Even the social realities of individuals with disparate upbringings will expose them to many basic similarities, for instance, in kinship, power, dependence, affiliation, social rules, and punishment. These shared experiences will cause them to construct social maps with some amount of overlap. Thus, as each of us is surrounded by large and important others in childhood, each of us will use the vertical dimension to encode *status* and use the words *high* and *low* to express it. If most people frequently experience their loving caretakers at close range, they will encode affection, familiarity and affiliation with (temperature and) distance (Matthews & Matlock, 2010). If most people perceive their lovers to the front or on the right-hand side, they will tend to reserve those locations for them. Hence, what at first appears to be shared social intuition or metaphor might equally well be a product of collective exposure to universal patterns in human contact (Derks, 2002, 2005).

Space, society and politics. In the mid-1980s, post-modern geography developed a fresh view on the concept of space called *the spatial turn* (Warf & Arias, 2008). This development was largely based on the space concept of Henri Lefebvre (1991), in which space is not only a physical reality, but also a socially produced category for analysis and debate. Lefebvre dealt with the themes of space perception and the use and the possession of space. He pointed out that for orderly societal function, both citizens and government must represent space in similar mental maps (Crang & Thrift, 2000) and that this mapping is interwoven with the distribution of power and territorial claims.

Aside from being a psychiatrist, Jacob Levy Moreno also called himself a psycho-sociologist, and he believed that *sociometry* could also become a research tool in sociology and the political sciences. The social panorama model is similarly promising. It claims that who a person believes he/she is within society is primarily a product of a three-dimensional unconscious construct of the self and the others, with humanity at large as the background. Keeping the locations of these images relatively stable helps a person to believe their social position is relatively permanent (figure 2).



Figure 2: A sketch showing the self within the social (and spiritual) panorama.

Status, identity and roots are probably the main drivers behind political behavior. But however stable such concepts are, they are not immune to change. Oetsch (2000, 2002) analyzed the creation of populist political power on the basis of the spatial imagery set in motion by politicians' suggestive communication. Populist speeches, for instance, may be full of the juxtaposition of *working people* and *elite*. This may help to create the image of a deeply divided society in which there is an inevitable conflict between the "top" (the state or the ruling class) and the "bottom" (ordinary people, the citizens). Populist politicians have frequently created the image of how *the little people* are facing *the system*, or how *normal citizens* will become overpowered by the *ruling class* or by *foreigners* (Oetsch, 2002).

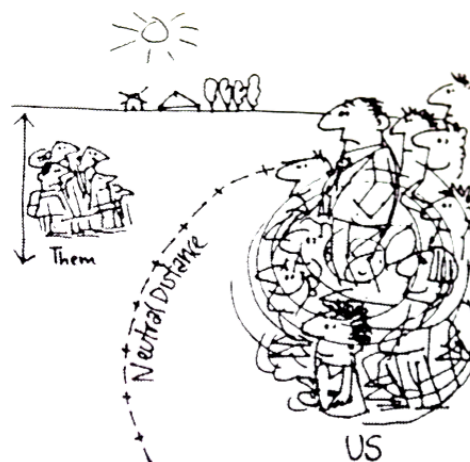


Figure 3: A demagogic panorama as a special case of a social panorama

Hypothesis

Relation equals Location. The hypothesis tested is: The emotional intensity and emotional quality of a relationship is determined primarily by the distance, the direction, the eye level and the direction of gaze of the social image that represents the target person. Thus, a change in the relationship implies that the social image will move closer, further away, up, down, sideways, or shift orientation. Moving the image in one or more of these ways will necessarily change the emotional quality and intensity of the relationship.

We chose *distance* as an independent variable in this study, since *social distance* has been explored within a variety of paradigms (Matthews & Matlock, 2010; Thorpe and Liberman, 2010; Hackenbracht & Gasper, 2013). In addition to testing this hypothesis, we also collected some additional data on the relative positions (i.e., *directions*) at which the images of loved ones are located (*left, right, front, back and inside*), but we will not elaborate on this. The crucial role of the *direction of gaze* is supported by Weisbuch, Lamer & Ford (2013), who found this to be a core part of how people remember each other. However, for the sake of simplicity, the variables *eye level* and *direction of gaze* are not included in this study.

Origin of the hypothesis

Linguistic hints. It was linguists who noticed the verbal expressions that give away the spatial nature of social imagery (Lakoff & Johnson, 1980; Lakoff, 1989; Lakoff & Johnson, 1999; Matthews & Matlock, 2010). [For instance: / a distant relation / we are close / high status / the opposition / we are keeping distance / the upper class / they are opponents / in-group versus out-group / all look up to him / we moved away from each other / we are supporters / he is backing me up / he is an outsider / she confronted me / they work side by side /.] These utterances were mostly regarded as metaphorical, but social panorama theory claims that they should be taken as literal expressions of the spatial configurations in social imagery (Derks & Hollander, 1996).

Clinical hints. As most issues in psychotherapy have to do with relationships, a multitude of therapeutic methods have evolved to help clients to cope with grieve, abuse, hate, fear, divorce, envy, dominance, submission and the complexities of family life. Several of these methods make explicit use of spatial intervention; an anthropological survey might uncover ancient shamanic traditions that were already doing the same thing. In the 1960s, Virginia Satir developed the family sculpture method (Satir, Stachowiak & Taschman, 1994), in which the members of a client's family are encouraged to locate each other in a room according to how they felt about their ties (Haley &

Hoffman, 1967). By intuitive shifting back and forth of these *living statues*, the sculpture was improved until all were satisfied with their positions. In family constellation therapy (Schlötter, 2005; Weber, 1994; Hellinger, 1996), a similar procedure is followed, but the family-members of the client are represented (role-played) by therapy group members. Although the therapist themselves may not describe it this way, the spatial manipulations are the most striking feature in constellation therapy.

In 1994 Derks and Walker began to treat great numbers of clients (both in a private practice and in a psychiatric clinic) on the basis of “relation equals location”. This means that when clients complain about relationships, the “problematic persons” are in the *wrong* places in their mental spaces. The locations of these persons’ images are then traced by asking clients to point out with their eyes closed what the precise distance, direction, eye level and the direction of gaze of each image is. With some routine this becomes a simple procedure. However, identifying the positions to which the problematic images are to be moved and dealing with the complex resistance that may arise is more challenging. A variety of related procedures enable therapists to help to restructure their clients’ models of the social world in order to improve their quality of life (Battino, 2006). The reliability of the phenomena described and the fact that the method is applied worldwide suggest that the principles of social panorama theory are universal.

For most clinicians, proving the effectiveness of their methods in double-blind clinical trials has a low priority. They often regard the worldwide popularity of a therapy as a sign of its validity and they seldom have the means and skills to conduct such studies (Wake, Gray & Bourke, 2013).

Tentative trails. Derks’ (2002, 2005) initial probing aimed to test whether people use general *corners* for certain categories of people, such as strong, weak, trustworthy, and dangerous ones. Although this was not confirmed, these trials highlighted the role of space in social representation. This led to tests involving distance, orientation, front versus back, and height. The participants in these trials belonged to training groups and were asked to move the image of a friend further away or more to the side, turn it by 45 degrees, or to shift the gaze up or down. Surprisingly, they unanimously reported emotional shifts (Derks, 2002, 2006).

The locations of partners and ex-partners. In 2004 Derks explored with 239 students where they represented their loved ones in mental space. This was followed by a series of informal experiments that were included in social panorama trainings. Since 2007 these *partners and ex-partners experiments* have been carried out with at least 43 groups of between 12 and 180 participants. Most of the estimated 1000+ participants were mental health professionals. Since the aim of these

experiments was experiential education and not to collect scientific data, they are not well documented. Most people are fascinated by intimate relationships; they are in relationships and have been in previous relationships. These relations are notoriously emotional and offer a great introduction into the underlying spatial mechanisms.

Procedure of the partners and ex-partners experiment. For preparation, the participants were shown a live demonstration of how one finds the location of the image of a (loved) person. The procedure comprises the following steps:

At the beginning 1) the social emotional feeling associated with the relationship with the target person is evoked by asking the participant *to experience the (general) feeling they link with being with that particular person*. When after some time the participant signals (by nodding) that s/he is aware of this feeling, s/he is 2) asked to point in the direction where the target person's image came up. The person leading the procedure then walks to the point indicated and tries to figure out by using his hands to estimate distance, direction, level of the target's eyes in relation to the participant's eye level, and 4) direction of the target's gaze.

(These three pieces of information – the location relative to the body center of the subject, the eye level relative to that of the subject, and the direction in which the image is looking – have proven to be sufficient information to work with in therapy.)

Once the participants have become familiar with the technique for accessing unconscious social images, they are paired up. Together they search for the locations where they keep the persons most dear to them and also the location of ex-partners who remain in some way (positively or negatively) relevant to them.

When all have found the locations of these *(former) loved ones*, the results are made visible to all. This is done by marking a 40 cm x 30 cm rectangle of tape on the floor to create a *self-position*, with a small triangle on one side to show the orientation of the nose. This rectangle is enclosed within a circle of about 1.8 m radius that represents the sphere of intimacy. Subsequently, all group members are asked to put sheets of paper labeled *partner* or *ex* around this one single self-position. The paper used for *partners* is of a different color to that for *exes*, and all sheets show the direction of gaze with pointers or noses. On their sheets, the participants also indicate the difference in eye level (e.g., "+5 cm" or "-3 cm") in relation to their own.



Figure 4: Photograph of a partners and ex-partners experiment conducted with 180 participants in 2010. The woman standing at the self-position is about to place her ex-partner sheet. The two different colors for partners and ex-partners are not visible in black and white. The distribution of the sheets placed by about 150 previous participants shows what usually occurs.

The participants then put their sheets one by one in the appropriate locations on the floor relative to the self-position (figure 4), stacking them on top of each other if necessary. Tape is used to hold the sheets in place. The result is a kind of *scatter plot* of the locations used.

The *partners and ex-partners experiment* creates an overview of how people generally locate their intimate relations (Derks, 2012). In the *partners and ex-partners experiments* we tend to find that partners are roughly distributed as follows: left 10%, front 60%, right 20%, back 5% and inside 5%. These results are obtained when one creates 4 90-degree horizontal radial segments. The front and back segments are halved by the ventral-dorsal medial plane (i.e., the 90-degree forward visual field). The *on the inside* position is used for all images that overlap the self-position by at least one third. *Ex-partners* are generally located in all possible directions but at greater distances. The unconscious dynamics between images of partners and ex-partners may be the reason for seeking therapy, for instance, when the images of ex-partners are still within the intimate sphere and prevent solid bonding with a new loved one. Other reasons may be that one flesh-and-blood partner is represented in two different locations (bi-location), or that father and lover are located in the same place in mental space (shared location).

Method

To the best of our knowledge, this study is the first attempt to test the “relation equals location” hypothesis on the basis of the theoretical framework described above. Hence, we adhered to a basic two-by-two pre-post design in which we were able to compare the measurements of participants within and between groups.

The participants in this study were randomly assigned either to an experimental group (asked to move the image of their beloved 3 times further away) or to a control group (instructed to think of their favorite pizza toppings instead of moving social images).

The participants were first asked to experience the feeling of love for their loved ones and focus on this for a minute. Next, the intensity of the feeling of love was measured using a 10-point semantic differential scale that ranged from very low to very high intensity. Since we considered that the request to locate the image could in itself intensify the emotions as a result of focusing attention on the image of the loved one, we interrupted the procedure with the measurement and then asked the participants to locate the image in mental space. However, since the participants needed to become aware of the locations of the images before we could ask them to move them, they next had to decide whether they sensed the image “*at your left, in front, at your right, at your back or inside of you*”.

The experimental intervention consisted of a written instruction to move the image of the *loved one* to a location 3 times as distant. This intervention was chosen to change the location of the image of the loved one in a proportional manner because clinical pilot studies had shown that people use idiosyncratic scales in their social imagery. In general, however, the location for a loved one ranges from 5 to 70 cm from the center of the body. The suggestion to, for instance, shift the image by one meter would have had a disproportional impact.

The same 10-point scale was subsequently used again to measure the difference in intensity of the affect experienced.

The hypothesis was that encouraging the participants to place the images of their love ones at greater distance would reduce their levels of social emotion. This change would be noticeable in the second measurement of the intensity of the feeling of love. After the post-measurement the emotional process was checked qualitatively by asking the participants to describe in their own words what had happened.

Finally, the participants were asked to bring the image of the beloved back to its original location.

The nil-hypothesis (i.e., relation does not equal location) would be accepted if moving the image of the loved one to 3x its original distance did not change the affect significantly more than thinking about the *non-spatial* control task (finding one's favorite pizza topping).

In addition to results in terms of the differences in emotional intensity, we also collected data about the location of the loved ones and about the participants' experiences as described in their own words. We did not analyze the data about the location of loved ones, since they were not relevant to this study. However, the qualitative textual data describing the experience of the participants were categorized, and the distributions from measurements of the *experimental group* and the *control group* compared.

Participants. The participants were 53 undergraduate social science students with a mean age of 26.7 who were attending two courses on social and intercultural communication at Johannes Kepler University Linz, Austria. The 22 males and 31 females were assigned randomly to an experimental group ($n=25$, instructed to move the image) and a control group ($n=26$, instructed to think of a pizza topping). Two respondents were removed from the sample because their questionnaires were incomplete.

Procedure and materials. In two identical sessions, held in September 2011 and February 2012, the participants were first asked to complete the task slowly, in a relaxed manner, and in absolute silence. Then they were handed a one-page questionnaire written in English and titled "Social Imagination Test". The conditions during these sessions were controlled to allow the necessary concentration.

After filling out sex and age, the participants were asked the question "Who is the person you love most?" Then they were instructed, "Please recall the general feeling of love for this person as strongly as you can. Take a minute to intensify this feeling." The latter request served to activate the unconscious image of the loved person.

The next instruction was "Please indicate the intensity of this feeling (by circling the number) on a scale from: (=1) very low intensity to very high intensity (=10)."

Next the questionnaire read "Find out where you imagine the loved other, while recalling this feeling of love."

The participants could select from "at your left, in front, at your right, at your back or inside of you."

The participants in the experimental group were then asked, “Please recall the feeling of love for the person you love most again.” This was followed by “Move the image of that person to a place that is three times as far away from your body center as it was.”

Control condition. It might be the case that people lose some of the intensity of the feeling of love when they have to recall it repeatedly. A control condition should enable us to discriminate boredom from a change in emotional intensity as a result of the spatial intervention. The control group must be given no suggestion to relocate the loved one’s image. We therefore instructed the control group to think of their favorite pizza toppings before measuring the intensity of love for the second time. The *pizza question* was successfully answered by all control participants – in hindsight, a more neutral task might have been preferable.

Semantic Check. The questionnaire included a semantic check at the bottom: “Please describe in your own words what happened.” Subsequently, the participants were asked to restore the images of their loved ones back to their original location.

Results

Where were the loved ones located? The question “Where do you imagine the loved other, while recalling this feeling of love?” was identical for the experimental and the control group. The participants were asked to find the locations of their loved ones in order to become aware of the location of their (normally unconscious) images, which is a prerequisite for shifting them in a controlled manner. The locations of the loved ones, as shown in table 1, are not the focus of this study but a byproduct of the approach. The above-mentioned *partners and ex-partners experiments* tend to yield roughly 10% left, 60% front, 20% right, 5% back, and 5% inside. Analyzing the data, we found 3 *inside* responses in the *experimental* sample, which amounts to 12%. This high percentage probably compensated for some of the differences between the two groups, since – logically – images on the inside will move little if shifted to 3 times their original distance.

Table 1: The localization of loved ones in the present study of 52 participants.

Localization of loved ones	Number
Loved one at the left	3
Loved one in front	30
Loved one at the right	13
Loved one at the back	2
On the inside	4

Pre-measurement of the intensity of love. In the *experimental* group ($n=25$), the average intensity of love felt initially was $M= 8.07$ with a standard deviation $SD=1.76$. The average intensity of love felt in the *control* group ($n=26$) was $M=7.48$ with $SD=1.47$. A t-test for these two conditions yielded $t(25)=1.28$ with $p=.21$ and showed only a marginal difference.

Post-measurement of emotional intensity. After moving the image of the loved one to three times its original distance, the intensity of the emotion dropped from $M=8.07$ to $M=6.28$ with $SD=2.41$, where the pre/post $t(24)=3.54$ with $p\leq .001$. See figure 5.

The intensity of love after thinking of a pizza topping. After thinking about their favorite pizza toppings, the *control* group's average intensity of love rose slightly from $M=7.48$ with $SD=1.47$ to $M=7.65$ with $SD=1.88$. The result of the pre/post t-test was $t(25)=0.16$. $p=.87$ and not significant.

The result of the post/post t-test comparing experimental and control groups showed a two-tailed $t(50)=2.23$. $p=.03$.

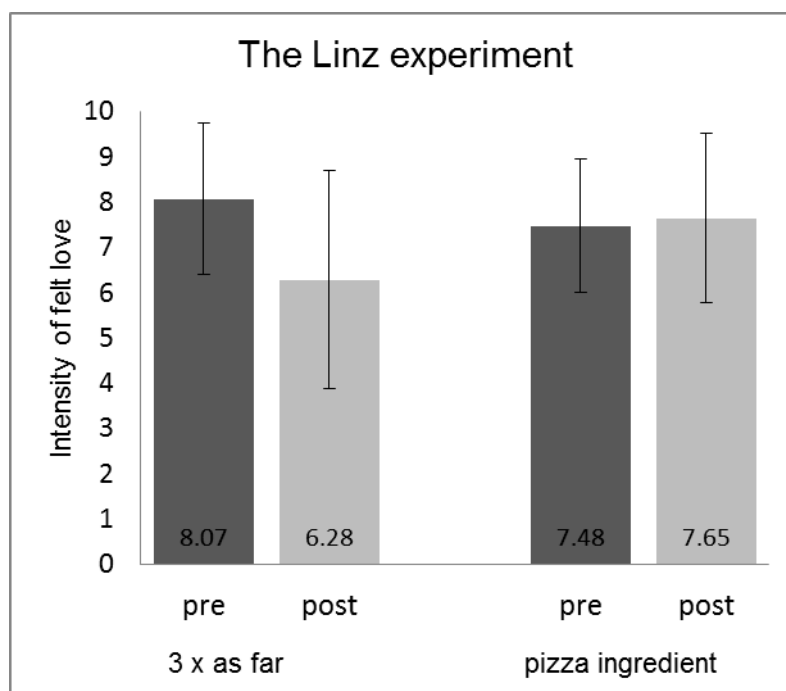


Figure 5: The Linz experiment

The semantic check. Most participants answered the semantic check question (22 and 19 in the *experimental* and the *control* group, respectively). Table 2 shows the results of the analysis in terms of five categories: 1) the emotion became stronger, 2) the emotion became weaker, 3) no change in the emotion, 4) a shift towards another emotion, 5) other responses.

Table 2: Results of changing the locations of the loved ones

Change type	Reaction type				
	Stronger	Weaker	Unchanged	Emotional Shift	Other
3 x as far	1	7	3	9	2
Pizza ingredient	8	0	5	1	5

A chi square test ($p=.0004$) indicated a significant difference between the frequencies of the semantic check distributions. The experimental intervention had high scores for the emotion weakening and shifting from love to another emotion. The control intervention tended to intensify the emotion or leave it unchanged. The categorized answers in their original form are presented in the appendix. Note that four of them were translated from German.

General Discussion

Universal principle? The fact that all participants could locate their loved ones' images supports the universality of social panorama theory. Therapeutic workshops held in North and South America, Asia, Polynesia and all over Europe suggest that the social world is primarily a spatial construct and that this seems to be independent of culture. However, whether the positions of partners are influenced by culture, age, or gender is open for further exploration.

The present study indicates that the intensity of a social emotion can be influenced by suggesting that subjects move the relevant images to more distant locations in mental space. Our results show that the social emotion may change not only in intensity but also in quality, and may shift to another type. The intensity of this different type of emotion may be stronger, even when the image is placed further away.

State of consciousness. When experimenting with unconscious imagery, one needs to consider some basic lessons from psychotherapy. To begin with, the state of consciousness of the participants must be regulated such that they can gain access to the unconscious knowledge under scrutiny. In hypnotherapy, one speaks of *trance induction*. This is most often a preamble that helps the client to relax and slow down their thinking. Modern imagination therapy (Andreas & Andreas, 1989) found that very simple suggestions, such as "close your eyes, direct your attention inwards and relax" may suffice to prepare people.

Implicit suggestion and lack of feedback. The second concern in experimenting with unconscious social imagery is called *implicit suggestion*. Hypnotherapists have been aware that this undesired priming can be caused by any type of stimulus in the environment. This, of course, plays a role in all cognitive tasks, but becomes even more important when the task involves relaxed introspective exploration.

How to access the correct generalized images? Under clinical conditions, the therapist is able to influence a client's response on the basis of direct verbal and non-verbal feedback. If the client picks a concrete social memory instead of the generalized spatial image, the therapist may thus ask to look for a *more general image*. In the paradigm used in this study, it is assumed that the feeling of love is connected to the general image by way of synesthesia. In other words, focusing on the general feeling of love for the loved one will help to automatically access their general spatial image, since these two are linked. We regard this assumption to be the weakest part in proving that relation equals location because in the above-described procedure one does not know whether the subject focuses on a general feeling of love to access the general spatial image of the loved one. The semantic check shows that a subject might also access a specific memory of a past situation and then place that image at a farther distance. For instance: The subject sees his loved one on the other side of the dining table where she was sitting last Sunday. Next he moves her 3 times further away. This will distort the memory of the dinner, but will not have a significant effect on the general sense of the relationship.

Social distance and distance in mental space. Another aspect of this exploration is the distinction between *social distance* as used in the *social distance concept* (Bogarus, 1933; Matthews & Matlock, 2008; Williams & Bargh, 2008) and the *distance between the generalized images* of people in mental space. For instance, Joy Hackenbracht and Karen Gasper (2013) started an article with the sentence "Close others tend to elicit more intense feelings than distant others" (Hackenbracht & Gasper, 2013, pp. 94). In their study, they used *interpersonal closeness* as the dependent variable; this variable was determined by means of two tests: (i) The Friendship Intensity Measure (Selfhout, Denissen, Branje & Meeus, 2009), the scale of which ranges from 0=far acquaintance to 10=best friend and (ii) The Inclusion of Other in the Self Scale (by Aron, Aron & Smollan, 1992), a five-item questionnaire. In this study, Hackenbracht & Gasper (2013) proved that people use the intensity of their emotions in relation to what happens to friends (or acquaintances) to gauge the closeness of their relationships. Calibrating the tests for relational distance mentioned above against measures of mental space ("Where do you sense the image of your friend?") could make the theoretical concepts used more robust.

Construal Level Theory (Thorpe and Liberman, 2010) postulates that, among other factors, greater physical distance to an object causes people to think about it in more abstract terms, whereas a small distance makes it more concrete to them. Here we need to make clear that the present study does not involve *the physical distance to someone*, but only *the imagined distance*. In other words, the generalized mental image of a person can be represented fifty meters away in mental space, as estimated from the center of one's body, while at the same time the real person can be sitting on one's lap – as might conceivably happen in a brothel. However, the *social distance* felt in this extreme example (“But I don’t feel any closeness to her”) can be identical to the subjective *social distance* that Thorpe and Liberman wrote about..

Imagination in therapy and social attitudes. Although research tends to focus on pathological imagination, such as intrusive images after a traumatic experience (Brewin, James, Gregory, Lipton & Burgess, 2010), others recognized that *healthy* human cognition must be fabricated out of *sound* mental constructs (Andreas & Andreas 1989, Holmes & Mathews, 2010; Brewin, Gregory, Lipton & Niel, 2010; Ng, Krans & Holmes, 2013). This insight is gradually turning the improvement of the client’s imagery into the central medium of action in psychotherapy (Pope & Singer, 1978; Battino, 2006; Arntz, 2012; Edwards, 2007). Social panorama theory is part of this development.

The value system underlying social panorama theory aims to balance and harmonize inter-human relationships. The central building block is the discovery that people use de-contextualized mental representations of others – so-called personifications – to construct their relationships to them. These are understood as spatially organized *mental holograms* that, during a real encounter, function as perceptual filters between the real individuals involved. Once they have established stable spatial images of one another, people seem to react only slightly to the real person in front of them, but respond mainly to their unconscious images – this is what sustains social attitudes (Walker, 2014).

Generalized images. The neural basis of generalization seems to consist of a shared set of neural connections that function as the linking pin in a conceptual category. It appears that through the rehearsal of a series of related concepts, the number of activated synaptic links will shrink after every trial, while at the same time the strength of the shared connections will increase. In this way the brain automatically emphasizes the essence of the category. This engraining process causes the neural networks involved to become more simple and robust after every *use* and *rest* (Sinclair, 1982; Derks & Goldblatt, 1986; Derks & Sinclair, 2000, which results in a neural conduction with less resistance because fewer neurons are involved. After sufficient rehearsal, this speeds up processing to below the threshold of consciousness while reducing the mental effort required (Kahnemann,

1973, 2011; Schneider and Shiffrin, 1977). Recent functional magnetic resonance imagery (fMRI) research supports this, as it shows that all thought about *distance*, as in *social distance*, *spatial distance* and *temporal distance*, activates the same cortical areas (Parkinson & Wheatley 2013; Parkinson, Liu & Wheatley, 2014).

Conclusion

The present study supports social panorama theory, which states that people construct relations by projecting social images onto stable locations in mental space. This study has introduced a paradigm from cognitive therapy to social cognition research. The social panorama method is applied to a wide range of psychological issues, such as fear of public speaking, conflicts in families and teams, exclusion, hatred, submissiveness, grandiosity, negative attitudes towards the self, and problems with intimacy, love and affection. Researchers wishing to use a related approach can expect the potential for research to match that for therapy.

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Appendix: Table 3: Verbal Comments of the Results Experienced

A: 3 x as far condition: 22 responses from 25 subjects

Please describe in your own words what happened?

1) Stronger

Imagination produces strong real feelings and a response in the body /

2) Weaker

Lost encourage, lost friend, gained distance /

Person more distanced, more difficult to imagine, less feelings /

As the person was far away, my feelings were lower for this person, and I couldn't see the face of the person clearly /

Feelings get less intensive when the person moves (3 times) away /

Person wasn't very clear to see with long distance /

The person is far away, not reachable /

Nearly the same as before, a little less feelings /

3) Unchanged

Nothing special happened to me /

Intensity was the same, location not relevant /

Intensity did not change, but the distance was noticeable /

4) Emo-shift

Very sad, like the person don't want to come over to me, like she doesn't feel the same (as I do) /

Does he goes away or comes he to me?; bad feeling /
 I lost myself, as if a part of me is ripped /
 The good feeling turned into a rather bad one /
 Short Unhappiness /
 I feel more distance, it moves me sad /
 by moving the picture, the feeling was not much lower intensity, but felt slightly negative.
 Returning was a very good feeling /
 I felt very uncomfortable, like losing something /
 I don't liked it that this person is so far away /

5) Other

I feel a little bit strange, like I was dreaming /
 He was too far away, I wanted to embrace him /

B: Favorite pizza ingredient condition: 19 responses from 26 subjects

Please describe in your own words what happened?

1) Stronger

I'm not quite sure, maybe afterwards the feelings were stronger /
 Experience very intense; I saw her and could smell her /
 At first the most loved person was scaled at 8, then after the thought experiment on 9 /
 Feelings become more intensive on this scale /
 The image was on my mind. The intensity of my feeling was higher /
 The loved person came closer I would love to have dinner with the person, comes closer, the desire grows; real good feeling, I would be prepared after thinking of a favorite pizza /
 The person stood again in front of me, but nearer and we kissed and hugged /
 Positive association with the loved one was strengthened /

2) Weaker

3) Unchanged

I am very happy that he exists /
 Positive feelings toward that person from beginning on. Visualizing was easy & I felt close.
 Pizza was disturbing. Value on scale didn't change /
 The feelings during the first part were more intensive, than in the second part. I don't know exactly my favorite pizza /
 Nothing really changed /
 I was happy, but there was no change in emotions /

4) Emo-shift

The feelings change a little when you think of something else in between /

5) Other

Don't understand the link btw. The person and pizza. Hard to define ONE person. Love more persons, but in a different way /
 I thought of little moments I recall with this person /
 I thought about him, our long & intensive relationship & our very special & unique moments /
 I don't like these questions /
 The feelings for the Pizza were bigger than the feelings for the person /

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