



HAL
open science

Affective judgment in spatial context: Orienting within physical spaces containing people and things

Christophe Blaison

► **To cite this version:**

Christophe Blaison. Affective judgment in spatial context: Orienting within physical spaces containing people and things. *Social and Personality Psychology Compass*, 2021, 10.1111/spc3.12653 . hal-03553054

HAL Id: hal-03553054

<https://hal.science/hal-03553054v1>

Submitted on 14 Mar 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Affective Judgment in Spatial Context: Orienting in Physical Spaces Containing People and Things

Journal:	<i>Social and Personality Psychology Compass</i>
Manuscript ID	SPCO-1121.R1
Wiley - Manuscript type:	Review Article (Direct Via EEO)
Category:	Social Cognition < Compass Sections, Social Psychology and Personality < Subjects, Applied Psychology < Subjects, Attitudes < Social Psychology and personality < Psychology < Subjects, Social Cognition < Social Psychology and personality < Psychology < Subjects
Abstract:	This article reviews our experimental work about affective judgment in spatial context. This type of judgment serves to regulate one's distance toward people and things in physical space. The main idea is that orienting in physical space requires not only knowing where places are but also how places feel. This, in turn, depends on the influence of people and things contained in space on one's affective appraisal of the surroundings. Based on fundamental principles of social cognition, affective judgment in spatial context combines people's beliefs about how influence unfolds into the surroundings with comparison, categorization and information integration processes. Out comes a subjective affective representation of physical space that is cognitively coherent within a given spatial frame of reference. I review our work according to main topics and discuss four possible directions for future research.

SCHOLARONE™
Manuscripts

Title:

Affective Judgment in Spatial Context:

Orienting within Physical Spaces Containing People and Things

Running Title:

Affective Judgment in Spatial Context

Author:

Christophe Blaison

Affiliation:

Laboratoire de Psychologie Sociale, Institut de Psychologie, Université de Paris.

Postal address: Centre Henri Piéron, Université de Paris, 71, avenue Édouard

Vaillant, 92774 Boulogne-Billancourt Cedex.

Email address: christophe.blaison@u-paris.fr

Acknowledgments:

I would like to thank Prof. Ursula Hess and Till Kastendieck for their valuable support and collaboration to the papers cited in the present review. I would like to thank Julia Blaison for helping improve the clarity and the English of the present review. This manuscript was partially supported by grants from the Deutsche Forschungsgemeinschaft (BL 1280/1-1), and the Agence Nationale pour la Recherche (ANR-20-FRAL-0008).

Affective Judgment in Spatial Context

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For Peer Review

Affective Judgment in Spatial Context

**Affective Judgment in Spatial Context:
Orienting within Physical Spaces Containing People and Things**

Abstract

This article reviews our experimental work about affective judgment in spatial context. This type of judgment serves to regulate one's distance toward people and things in physical space. The main idea is that orienting in physical space requires not only knowing where places are but also how places feel. This, in turn, depends on the influence of people and things contained in space on one's affective appraisal of the surroundings. Based on fundamental principles of social cognition, affective judgment in spatial context combines people's beliefs about how influence unfolds into the surroundings with comparison, categorization and information integration processes. Out comes a subjective affective representation of physical space that is cognitively coherent within a given spatial frame of reference. I review our work according to main topics and discuss four possible directions for future research.

Key words: affect, judgment, distance regulation, assimilation and contrast, influence, comparison, information integration

Affective Judgment in Spatial Context

Affective Judgment in Spatial Context:

Orienting within Physical Spaces Containing People and Things

People live within physical spaces containing things, persons, and groups of people. Starting from decisions with fleeting consequences like finding the right seat in the subway or the right spot at the coffee break during a conference, to more major decisions like choosing the location of one's home in a city, all these decisions involve regulating one's distance toward people and things spatially distributed within the environment. To do this, people have to not only locate the elements contained in the spatial context but also judge whether it is appropriate and urgent for them to approach or avoid any of these elements, usually according to the hedonic principle of seeking pleasure and avoiding pain (Higgins & Nakkawita, 2020). This amounts to judging how a specific destination makes them feel in terms of valence and arousal (Clore et al., 2001; Frijda et al., 1992; Schwarz & Clore, 1983). In effect, these so-called "affective judgments"*¹ enable us to assess the world outside of ourselves in terms of utility (Clore & Schnall, 2005; Damasio, 1994), including anticipating future outcomes (Baumeister et al., 2007; Bechara et al., 1996; Slovic et al., 2007). They act as hedonic guides for navigating adaptively within our physical environment.

Affective judgments, however, do not occur in a vacuum, especially in a spatial context. They require tracking and integrating the affective value of multiple targets, as well as their respective influence on the surroundings. For instance, the

¹ Table 1 lists the definitions of all the concepts followed by an asterisk.

Affective Judgment in Spatial Context

cafeteria surroundings contain a number of people or things, each creating more or less attractive areas (e.g., the area around a disliked colleague or around the coffee machine). On a larger scale, every city contains deprived as well as wealthy places that may respectively depreciate or appreciate the surrounding neighborhoods. As, in space, everything is related to everything else (Tobler, 1970; Tversky, 2003), the affective value of each element depends on the interplay of all other values within the larger spatial context. Thus, the affective value people attach to each element forms part of a larger “affective field.”* Just like magnetic fields orient the movement of magnetic particles, it can be argued that affective fields orient individuals in physical space.

The study of affective judgment in spatial context endeavors to explain how people construct these affective fields. This is important for both applied and theoretical reasons. On the applied side, it could help to understand the underlying affective currents that create spiraling real-world problems like gentrification or residential segregation; all phenomena that typically emerge when large numbers of people share similar representations of the affective field pertaining to an area. More generally, it could help to predict individual people’s movements, how groups of people will self-organize in space, as well as the changes in the spatial context that would influence that self-organization.

On the theoretical side, affective judgment in spatial context is part of an emerging line of inquiry in social psychology about how locations, places or the larger spatial context influence both judgment and behavior (see the “Psychology of places” EASP symposium, 2021; Blaison, 2021). Fellow researchers study how space-

Affective Judgment in Spatial Context

focused stereotypes develop (Bonam et al., 2017), how stable contexts like cities or nations shape individual implicit prejudice (Payne et al., 2017), how regional disparities in racial bias influence discrimination (Hehman et al., 2017; Riddle & Sinclair, 2019), how features of places shape expectations about inhabitants (Wnuk et al., 2021), or how the fit between one's social identity and the environment shapes approach and avoidance behavior (Schmader & Sedikides, 2018), etc.

The study of affective judgment in spatial context also advances basic research. Context effects on judgment have always intrigued social cognition researchers (e.g., Stapel & Suls, 2007). Yet, the unique (and understudied) features of the spatial context promote new theoretical questions and connections on this matter. For instance, whereas social cognition usually focuses on the context effect stemming from a single contextual information, constructing coherent affective fields requires integrating multiple context effects stemming from multiple elements in the spatial context. This requires connecting various theories like the inclusion/exclusion model of assimilation and contrast (Schwarz & Bless, 1992) and information integration theory (Anderson, 1981) in social cognition, with range theory (Volkman, 1951) and range-frequency theory (Parducci, 1965) in psychophysics, etc.

The present paper reviews the results of our research on affective judgment in spatial context so far. First, I will briefly review the existing literature about related topics and its limits. Next, I will review our findings from five published papers, two poster communications, and one yet unpublished data set. Finally, I will highlight four key directions for future research.

Affective Judgment in Spatial Context

State of the Art

In physical space, our perception of people and things colors how we appraise the surroundings and the elements contained within. For instance, a person you don't like renders the close surroundings less affectively pleasant than in a control condition. As a consequence, participants will sit farther away (Hendricks & Bootzin, 1976; Mehrabian, 1968; Mooney et al., 1992; Word et al., 1974) and approach less (McCall et al., 2009). This phenomenon extends to the objects, individual persons or groups contained in the surroundings. The negative properties of people or things spread to others nearby. Thus, people sharing the same space with stigmatized targets, like obese or black persons, appear less attractive than in a control condition (Hebl & Mannix, 2003; Pryor et al., 2012). Similarly, negatively valenced objects devalue people or things they are in physical contact with (Rozin et al., 1986; Rozin & Nemeroff, 2002).

At the functional level, the reviewed effects have in common that the affective value of the target is assimilated toward a spatially contiguous element. At the cognitive process level, this assimilation effect may result from various processes sometimes acting in combination (Heider, 1946; Jones et al., 2009; Mussweiler, 2003; Rozin et al., 1986; Schwarz & Bless, 1992; Walther, 2002; Wertheimer, 1922). For instance, a popular view is that assimilation effects between elements occur because people can form mental units (Heider, 1946) or categories (Bless & Schwarz, 2010; Schwarz & Bless, 1992), so that the affective properties of one element tend to be inferred from the other.

Affective Judgment in Spatial Context

The social psychology literature, however, addresses only partially how spatial context may influence (affective) judgment. Firstly, it disregards the wider spatial context formed by elements further away from the target. Yet, these distant elements, too, may affect the judgment of the target, albeit in the opposite direction. For example, we know that attitudes far away from one's own elicit a contrast effect (Sherif & Hovland, 1961). Thus, affective elements in the spatial context may not only elicit assimilation* but also contrast* effects on people's affective judgment of the surroundings. This combination of effects will be discussed in more detail under "affective polarization of space."*

Secondly, research so far has overlooked factors likely to moderate the influence an element has on people's affective judgment of the surroundings of that element. For instance, affective elements influence their surroundings with varying intensity and reach. Other things equal, the affective value of a target will be assimilated more strongly toward affective elements with greater perceived influence. Perceived influence, and thus assimilation, should also decrease with increasing distance. Yet, perceived distance depends on the adopted spatial frame of reference.* Following theories of judgment in psychophysics (e.g., range model of Volkman, 1951) two elements look closer together in a larger spatial context. As far as I know, the role of the size of the spatial frame of reference has not been investigated in relation to the effects of influence. Spatial categorization processes play a role, too: places are less assimilated behind a border (Mishra & Mishra, 2010). However, little is known about how the effect of borders interacts with the perceived influence crossing them.

Affective Judgment in Spatial Context

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Thirdly, beyond an affective element's affective polarization of space and the role of the moderators, the construction of affective fields requires integrating affective information from multiple sources. For instance, in addition to any extrinsic affective value* derived from spatial context, targets usually also possess intrinsic value.* How do these distinct sources of value combine or compete? Also, a target's environment routinely contains more than just one affectively laden element (i.e., the underground contains a collection of attractive and dubious looking individuals; a city contains a collection of attractive and unattractive places). How do people amalgamate these contrasting influences to construct an integrated affective field of the scene?

Affective Judgment in Spatial Context

I shall organize the review of our findings according to the three questions identified above, calling for further investigation: affective polarization of space, potential moderators, and integration of affective information from multiple sources.

Affective Polarization of Space

We called "hotspots"* elements of the spatial context that come across as affectively prominent, or salient (e.g., someone swearing loudly on the underground will stand out affectively in contrast to the affective reaction evoked by the other commuters; Higgins, 1996). From past research on salience, one can argue that hotspots should grab attention and possess more causal weight or relevance ((Taylor & Fiske, 1978). Thus, they should influence the construction of the affective field disproportionately.

Affective Judgment in Spatial Context

One robust finding is that hotspots do not only elicit an assimilation effect nearby, but also a contrast effect farther away. For instance, a neighborhood inhabited by a stigmatized group not only taints the surroundings nearby, it also makes farther away surroundings feel more attractive than in a control condition (Blaison et al., 2018; Blaison, Fayant, et al., 2017; Blaison & Hess, 2016). This affective polarization of space emerges whether the participants have a bird's eye view of the environment and the threat is imaginary (e.g., Blaison, Fayant, et al., 2017), but also when they have a first-person perspective and the threat is more present (i.e., a location associated with electric shocks; Kastendieck et al., 2019).

It emerges when the hotspot possesses influence that is based on rational considerations, like when criminality spills over. But it also applies when the influence is based on less rational considerations, like when a house where a domestic crime occurred 20 years ago still taints the surrounding area (Blaison & Hess, 2016, Exp. 3), or when one's own home spreads a positive aura on the surroundings (Blaison et al., 2018). Affective polarization of space also emerges when the dependent variable is a relative scale of self-reported affect (i.e. the Self-Assessment Manikin scales; Bradley & Lang, 1994) or an absolute measure of utility in dollars, and whether distance is manipulated within-participants or between-participants (Blaison, Fayant, et al., 2017).

Understanding this "affective polarization of space" requires invoking two distinct processes. First, there is an *influence process* where people estimate how much and how far a hotspot affectively influences the surroundings. The reach of a hotspot's influence depends on both its "gradient of influence"* and the intensity of

Affective Judgment in Spatial Context

1
2
3 positive and negative affect it evokes. At constant gradient of influence, negative
4
5 (respectively positive) influence will reach farther for hotspots that evoke more
6
7 intense negative (respectively positive) affect. Where the influence is deemed
8
9 substantial, an assimilation effect is observed.
10
11

12
13 Second, in parallel to the influence process, people engage in a *comparison*
14
15 *process*. The extent to which a hotspot influences a target in the surroundings is
16
17 compared to the extent it influences the other targets in the spatial frame of
18
19 reference. This comparison results in positioning the target within the distribution of
20
21 exposure to influence of all other elements in the spatial frame of reference. As
22
23 stipulated by range-frequency theory (Parducci, 1965), people then attribute an
24
25 affective value to each target by mapping its position within the distribution along
26
27 the dimension of affective judgment (e.g., lesser relative exposure to negative
28
29 influence means being closer to the positive pole of the affective valence dimension).
30
31 This process naturally leads to a linearly decreasing assimilation effect near the
32
33 hotspot, followed by a linearly increasing contrast effect farther away (Blaison,
34
35 Fayant, et al., 2017) -- in effect, an affective polarization of space.
36
37
38
39
40
41
42

43 However, and that's why a distinction between the influence and the
44
45 comparison process is required, contrast does not necessarily emerge. Whether it does
46
47 actually depend on whether people mentally categorize the farthest locations as
48
49 pertaining to a different, i.e., significantly less exposed zone, than the one where the
50
51 hotspot's influence is too strong (e.g., 100 m from a nuclear power plant) (Schwarz &
52
53 Bless, 1992). When a hotspot's influence appears to fill the spatial frame of reference
54
55
56
57
58
59
60

Affective Judgment in Spatial Context

completely, there is not enough distance for any contrast effect to emerge (Blaison & Hess, 2016, Exp. 1 & Exp. 5).

Following similar results in other domains (Kim et al., 2006; Leknes et al., 2013; Nieuwenhuis et al., 2005), the influence of a hotspot does not need to be nil for the emergence of a contrast effect, it just has to be reasonably low *compared* to other areas of the frame of reference (Blaison & Hess, 2016, Exp. 6). Accordingly, people report lower subjective arousal than in a control condition far away from an arousing negative hotspot (i.e., a contrast effect), even though their physiological arousal as measured by skin conductance is still significantly higher than in the control condition (Kastendieck et al., 2019).

As just seen, hotspots polarize space on other dimensions of affect than valence, like the dimension of arousal (Blaison & Hess, 2016, Exp. 2; Kastendieck et al., 2019). This pattern is not only compatible with general principles of social cognition (e.g., Schwarz & Bless, 1992), but also with theories about the emergence of affect. Affect checks how well people are doing toward some goals (Carver & Scheier, 1990, 2001). People experience positive affect when their rate of progress toward a goal exceeds a given criterion, whereas they experience negative affect when it falls below. When the goal is to approach a reward, then doing well (i.e., decreasing distance to the goal) is met with elation, eagerness and excitement, whereas doing poorly is met with frustration, anger and sadness. When the goal is to avoid a punishment, then doing well (i.e., increasing the distance to the goal) is met with relief, serenity and contentment, whereas doing poorly is met with fear, guilt and anxiety (Carver & Harmon-Jones, 2009; Carver & White, 1994). By extension,

Affective Judgment in Spatial Context

1
2
3 approaching a threatening hotspot is like faring poorly toward the goal of avoiding
4
5 punishment: people indeed report experiencing negative affect with high arousal
6
7 (Blaison & Hess, 2016; i.e., fear or anxiety; see Russell & Barrett, 1999). Reversely,
8
9 moving far away is like faring well with the avoidance goal: people report
10
11 experiencing positive affect with low arousal (Blaison & Hess, 2016; i.e., serenity or
12
13 relief).
14
15
16

17
18 Beyond its theoretical appeal, the contrast effect in affective polarization of
19
20 space has important practical implications. For instance, the presence of a distant
21
22 negative hotspot in the spatial context (e.g., a distant place inhabited by a
23
24 stigmatized group) can increase participants' willingness to pay at least 10% more
25
26 rent (Blaison, Fayant, et al., 2017, Exps. 1 & 2). This increase in rent is not
27
28 significantly different from the one elicited by the presence of a nearby positive
29
30 hotspot, like a nice urban park, in a different condition (Blaison, Fayant, et al., 2017,
31
32 Exp. 2).
33
34
35
36
37

Moderators of Affective Polarization of Space

38
39 After presenting the basic affective polarization effect, I focus on various factors that
40
41 moderate its shape or limit its emergence.
42
43
44

Properties of Hotspots

45
46
47 **Valence.** Both positive and negative hotspots polarize space affectively, albeit
48
49 in opposite directions. A nice park, one's own home or the home of a favorite
50
51 celebrity may make distant places look *less* attractive than in a control condition
52
53 (Blaison et al., 2018).
54
55
56
57
58
59
60

Affective Judgment in Spatial Context

Gradient of Influence. Hotspots vary also according to how quickly people believe their influence will fade with increasing distance, i.e., their gradient of influence. All else being equal, negative hotspots with shallower gradients of influence (e.g., a nuclear power plant versus an unsafe neighborhood) elicit affective polarization with a shallower slope: assimilation extends further and, hence, contrast emerges farther away (Blaison & Hess, 2016, Exp. 4). This result is indirect evidence that, beyond merely believing that farther is better, people in effect process the slope of the hotspot's gradient of influence in addition to objective distance.

Intensity. Hotspots can evoke more or less intense positive or negative affect. At constant gradient of influence, the influence stemming from more intense hotspots should reach farther because it fades from a higher position. However, a series of yet unpublished experiments suggests a more complicated story. More intense negative hotspots also possess a steeper gradient of influence: influence decreases quicker with distance. In a first experiment (N = 90), participants were shown a bird's eye view of a neighborhood and were asked how much a housing project subjectively harmed the reputation of target locations. The results showed that a crime ridden housing project was seen as more intensely negative than a regular housing project, and that perceived harm decreased quicker with increasing distance such that, further away, there was no more significant difference between the two types of housing projects. This slope difference generalized to a slightly different operationalization in a second experiment (N = 221; pre-registered: <https://osf.io/sbrz4>). Here we contrasted a housing project with mild vs intense criminality and the dependent variable was a measure of self-reported motivation to

Affective Judgment in Spatial Context

1
2
3 avoid the target location (i.e., an indirect assessment of gradient of influence). The
4
5 motivation to avoid decreased quicker with increasing distance to the more intensely
6
7 negative hotspot. In a third experiment (N = 101; pre-registered:
8
9 <https://osf.io/2xdar>), we capitalized on pilot results that showed that individuals
10
11 with a severe disease that is highly contagious evoke more intensely negative affect
12
13 than individuals with a severe disease that is only mildly contagious. Here too, the
14
15 motivation to avoid decreased quicker with increasing distance to the highly
16
17 contagious individual in a waiting room. Correspondingly, self-reported positive
18
19 affect rose quicker with increasing distance to the individual with the highly
20
21 contagious disease.
22
23
24
25
26

Spatial Frame of Reference

27
28
29
30
31 Relative judgments (e.g., good-bad, far-close) are sensitive to range effects
32
33 (Parducci, 1965; Volkman, 1951). For instance, object B is judged closer to object A
34
35 when the spatial frame of reference contains objects C, D and E, that are located
36
37 farther away from A. Similarly, people feel closer to members of the ingroup when
38
39 members of the outgroup are present (Turner et al., 1987) because the latter stretch
40
41 the frame of reference. Conversely, distances appear larger in smaller frames of
42
43 reference. In consequence, people perceive a greater decrease of influence per unit of
44
45 distance in smaller spatial frames of reference, and the reach of this influence
46
47 appears shorter as a consequence (Blaison & Hess, 2016, Exp. 6). As a result, the
48
49 gradient of influence is steeper in smaller frames of reference and thus contrast
50
51 effects emerge closer to the hotspot (Blaison & Hess, 2016, Exp. 5).
52
53
54
55
56
57
58
59
60

Affective Judgment in Spatial Context

1
2
3 However, the gradient of influence does not become indefinitely steeper with
4 a shrinking frame of reference. At some point, influence fills the frame of reference
5 so completely that contrast cannot emerge and only assimilation remains (Blaison &
6 Hess, 2016, Exp. 5). Again, this result shows that objective distance cannot explain
7 affective polarization alone; to judge the affective value of a location, people also
8 process the hotspot's gradient of influence within a given spatial frame of reference.
9
10
11
12
13
14
15
16
17

Borders

18
19
20 Perceived negative influence propagates less easily across spatial categories
21 (e.g., states, neighborhoods, etc.) even when their borders offer no real protection.
22
23 Other things equal, people therefore feel safer when an earthquake occurs in a
24 neighboring state than in their own state (Mishra & Mishra, 2010). This "border
25 effect"* has been attributed to the accentuation effect due to participants' mental
26 categorization of space (Mishra & Mishra, 2010). Additional evidence suggests that
27 the border effect depends on the perceived discontinuity of contact between the
28 spatial categories (Galak et al., 2007), which itself appears to depend on the amount
29 of influence perceived to be crossing the border (Blaison et al., 2019).
30
31
32
33
34
35
36
37
38
39
40
41
42

43 Specifically, we claimed that border effects are weakened whenever influence
44 creates like a mental bridge between two spatial categories that attenuates the
45 perceived discontinuity of contact. Thus, the border effect is weaker when the border
46 is visually thinner (Blaison et al., 2019; Mishra & Mishra, 2010). It is also weaker
47 when the influence that crosses the border is more intense, or of such a nature that it
48 can easily cross the border anywhere (Blaison et al., 2019). Indeed, some types of
49 influence, like criminality stemming from an unsafe housing block, propagate by
50
51
52
53
54
55
56
57
58
59
60

Affective Judgment in Spatial Context

1
2
3 surface transport whereas others, like bad smells or toxins, propagate by air. Some
4
5 evidence shows that, in participants' minds, passable borders (e.g., a river crossed by
6
7 a bridge) mitigate influence propagating by surface transport more than influence
8
9 propagating by air (Blaison et al., 2019). Thus, at variance with other contexts where
10
11 influence processes are absent (Tajfel & Wilkes, 1963), it is the combined properties
12
13 of both the influence and the border that determine the strength of the border effect
14
15 in spatial contexts.
16
17
18
19

Integration of Affective Information from Multiple Sources

20
21 In the previous sections, I presented how people judge the affective value of a
22
23 location as a function of the distance to one hotspot in an affectively neutral
24
25 environment. In the next, I present two sets of experimental work that tackle more
26
27 complex situations.
28
29
30
31

Positive or Negative Hotspots and Intrinsically Positive or Negative Surroundings

32
33 Target locations derive “extrinsic value”* from their distance to hotspots, as
34
35 described above. But of course, inherent characteristics lend “intrinsic value”* to
36
37 targets, too. Several of our experiments study how people integrate both types of
38
39 information.
40
41
42
43
44

45 Sometimes, the affective field is uniformly positively or negatively valenced,
46
47 like for a wealthy or deprived neighborhood being intrinsically positive or negative
48
49 respectively. How then does the influence of a positive or negative hotspot impact
50
51 that affective field? When asked about their feelings toward a specific location,
52
53 participants integrate both the influence of the affective hotspot and the intrinsic
54
55 affective value of the neighborhood (provided both are salient; Blaison, Gollwitzer,
56
57
58
59
60

Affective Judgment in Spatial Context

et al., 2017). For a positive hotspot (a park or the home of one's favorite celebrity), the results show a main effect of distance to the hotspot, a main effect of the intrinsic value of the surroundings (wealthy vs deprived), and an absence of interaction. Relative to their respective baseline, a positive hotspot is thus a plus for both intrinsically positive and negative surroundings. In the immediate vicinity of a negative hotspot (a noisy highway or a crime ridden housing block), however, the negative influence prevails exclusively. People lend no weight to the intrinsic value of the surroundings close to the hotspot. The intrinsic value of the neighborhood starts having an effect only further away (Blaison, Gollwitzer, et al., 2017). It is as if negative influence, possessing more inertia than positive influence, flowed, at least for some distance, undisturbed despite the intrinsic affective value of the surroundings. Thus, relative to their respective baseline, a negative hotspot hits intrinsically positive surroundings harder than intrinsically negative ones.

One Negative and One Positive Hotspot

What happens when a negative and a positive hotspot share the same area? Can the positive hotspot then "protect" the surroundings from the negative influence of the negative hotspot? For this, participants saw different situations, like a crime ridden housing block bordered by a nice park or by their own home (Blaison et al., 2018).

Since bad is stronger than good (Baumeister et al., 2001; Rozin & Royzman, 2001), negative hotspots devalued positive ones but not the reverse. However, evidence showed that this phenomenon is attenuated in some cases. First, positive hotspots resisted devaluation better when they were farther away from the next negative hotspot (Blaison et al., 2018). Second, even though they were close to a

Affective Judgment in Spatial Context

negative hotspot, some positive elements, like one's own home ((Blaison et al., 2018); see also Lewicka, 2011) or the home of a favorite celebrity (Blaison, Gollwitzer, et al., 2017), resisted devaluation better than other positive elements, like a nice park (Blaison et al., 2018). More specifically, negative elements in the immediate surroundings canceled the positive value of a park but not that of one's home or the one of a favorite celebrity. It is not entirely clear why this was the case. A motivational account would invoke the association to the self (Beggan, 1992; Gawronski et al., 2007; Ye & Gawronski, 2016), thus, self-protection motives could be at play (Alicke & Sedikides, 2009). A different account could invoke the fact that one's home and the home of a favorite celebrity may appear more defensible against any kinds of negative influence (e.g., Newman, 1978).

What is remarkable is that when a positive element keeps positivity in the presence of a negative hotspot, that positivity helps to counter the effect of negative influence in the surroundings, too. For instance, even the surroundings of one's own home were to some extent "shielded" from the effect of the negative influence of an unsafe housing block (Blaison et al., 2018). Relatedly, the more people felt that a park stayed positive despite the presence of an unsafe housing block, the more it protected the surroundings against the effect of the negative influence (Blaison et al., 2018). Thus, to construct the mental representation of the affective field, people integrate the effects of the influence of both negative and positive elements, provided the positive elements manage to remain positive in the face of the negative elements.

Future Directions

Affective Judgment in Spatial Context

Based on how people integrate the effects of the influence of affective hotspots on their surroundings, the theory of affective judgment in spatial context helps to understand how people map affect onto space, which is crucial for orienting adaptively in physical space. Below, I will briefly describe four key avenues for future research.

Affective judgment in spatial context promotes research questions about how people integrate assimilation and contrast effects stemming from multiple contextual cues. As far as I know, this issue has received little attention (but see Marsh et al., 2000; Wänke et al., 2001). To simplify the matter, let us focus on a space scattered with negative hotspots. There are three different circumstances. There may be, first, regions where only assimilation effects overlap (i.e., close to all the hotspots); second, regions where assimilation and contrast effects overlap (i.e., close to some hotspots but far away from others); and third, regions where only contrast effects overlap (i.e., far away from all the hotspots). If we assume the weighted averaging rule (Anderson, 1981), will people tally up the effects according to the same weights? Or will some effects weigh more or less according to circumstances?

To give one concrete example, imagine the neighborhood in Fig 2 (Panel 1). Say the negative hotspots each elicit a polarization as depicted in Fig 1. Would location A feel better than location B because people tally up three (positive) contrast effects vs only one (negative) assimilation effect (Fig 2, Panel 2.1) or does B feel better than A (Fig 2, Panel 2.2)? Most participants agree with the second option (Blaison, 2019). Thus, in spatial contexts with negative hotspots, assimilation effects are likely given much more weight than contrast effects. In motivational language, people

Affective Judgment in Spatial Context

1
2
3 seem to prioritize distance to the nearest negative hotspot, which is compatible with
4
5 the classic notion of goal gradient (Hull, 1932; Miller, 1944), that entails that the
6
7 motivation to avoid a repulsive target increases with decreasing distance to the
8
9 target (J. S. Brown, 1948). How do these notions apply to regions where only
10
11 assimilation or contrast effects overlap? How does it play out for multiple positive
12
13 hotspots or a mix of positive and negative hotspots? In sum, investigating how
14
15 affective information integration works as a function of approach or avoidance
16
17 motivation in all circumstances, is a major issue for advancing affective judgment in
18
19 spatial context.
20
21
22
23
24

25
26 A second key point is that affective judgment in spatial context relies on
27
28 spatial cognition. Spatial cognition research studies how people represent the
29
30 objective properties of the environment, like spatial relationships between objects
31
32 (Nadel, 2013; Tolman, 1948). Numerous studies showed that spatial representations
33
34 are biased reflections of the environment (Tversky, 2003, 1993). People overestimate
35
36 route distances with increasing intervening objects (Thorndyke, 1981), or they
37
38 perceive distances differently depending on the objects' valence (Carbon &
39
40 Hesslinger, 2013; Kerkman et al., 2004), implication for the self (Burriss &
41
42 Branscombe, 2005) or their status as a reference point (Sadalla et al., 1980). As
43
44 perceived influence and affective polarization of space depend on perceived
45
46 distance, future research should integrate both traditions better.
47
48
49
50
51
52

53
54 On the other hand, spatial representations in memory encode how places feel
55
56 in addition to their spatial location (Crawford et al., 2006; Crawford & Cacioppo,
57
58 2002; MacKay & Ahmetzanov, 2005; Wilkowski & Robinson, 2007), and memory
59
60

Affective Judgment in Spatial Context

organization drifts towards cognitive consistency (Heider, 1946, 1958). Thus, the affective field pertaining to a space may bias future expectancies and memories toward people or things that are affectively consistent or inconsistent with the background affective value of the affective field (Greve et al., 2019).

A third key point is that affective judgment in spatial context depends on individual and cultural differences. One obvious difference pertains to affective meanings. Previous research used hotspots with consensual affective meaning, but, depending on their personality, their personal experience, their momentary goals, their activated social identity or their cultural background, people's subjective feelings toward a hotspot may vary greatly. For instance, neighborhoods feel more or less desirable as a function of the ingroup or outgroup status of their inhabitants (Havekes et al., 2016; Krysan et al., 2009). However, affiliation goals triggered by an emergency may cause warmer feelings toward outgroup members (Mawson, 2005). Stable differences in affective meanings toward people and things exist between cultures (Heise, 1979, 2007). For the same reasons, people may also differ in the amount of attention lent to people and things in the spatial context, which may affect the weighing during information integration (Anderson, 1981) and the shape of the affective field.

Other parameters may be affected too. For instance, negative influence may be perceived to extend farther for people with a highly activated behavioral inhibition system (Carver & White, 1994). Strangers may apply wider spatial frames of reference than locals because the former lack granular knowledge of the city. When integrating intrinsic and extrinsic information, members of individualistic

Affective Judgment in Spatial Context

1
2
3 culture could focus relatively more on intrinsic information, whereas members of
4
5 collectivistic cultures could rather focus on extrinsic information (Masuda et al.,
6
7 2008; Masuda & Nisbett, 2001). In sum and in line with a long tradition in social
8
9 psychology (i.e., Lewin, 1951), the affective field pertaining to a space may vary
10
11 depending on the situation and the person.
12
13

14
15 However, beyond the dynamic and individual character of affective fields,
16
17 collective stability and similitude also can arise. As long as a group of people share
18
19 the same culture, the same social identity or the same goals, etc., they should
20
21 construct similar affective fields. Further, social influence processes, like the
22
23 emergence of space-focused stereotypes (Bonam et al., 2017) and their spreading
24
25 through vicarious learning, may lend normative power to these shared
26
27 psychological constructs. Since affective fields guide expectancies and behavior, they
28
29 may become reified in the concrete world. For example, extreme social segregation
30
31 may stem in part from the polarized nature of affective fields around negative
32
33 hotspots. Two forces may then motivate people: there is not only the motivation to
34
35 avoid the area around the negative hotspot but also to approach the area that turned
36
37 attractive far away from the hotspot. Polarization may thus initiate a vicious cycle
38
39 where the decrease in collective demand for the more proximal areas fuels the
40
41 increasing demand for the more distant ones.
42
43
44
45
46
47
48
49

50
51 For studying the interaction between that individual and collective level of
52
53 affective fields, agent-based modeling (ABM) may be a key technique. In ABM,
54
55 computer-simulated individuals (agents) communicate with each other, generating
56
57 macro-level patterns of social dynamics (Helbing, 2012; E. R. Smith & Conrey, 2007).
58
59
60

Affective Judgment in Spatial Context

For instance, one could program the agents with the principles of affective judgment in spatial context, and observe how they self-organize depending on the spatial configuration of hotspots and the continuous updating of individual affective fields based on the position of ingroup and outgroup agents. This kind of model could provide an upgrade of older models simulating, for example, how social segregation emerges and stabilizes (Clark, 1991; Schelling, 1969), and usefully participate in the emerging field of social spatial cognition (Dorfman et al., 2021) in humans.

A final key point is that the insights from affective judgment in physical spatial context may extend to other types of space. As for physical places, people's affective judgment of social targets stems from intrinsic features (e.g., physical attractiveness, personality), but also extrinsic ones derived from the social ties to other persons. Balance theory, for example, predicts that a stranger should appear unfriendlier if she seems socially close to a disliked social group (Heider, 1958; Walther & Weil, 2012). Conversely, and in line with affective polarization of space, cognitive consistency requires that if she is socially distant from the disliked social group, then she appears friendlier (Heider, 1958). Assuming that the brain processes social distance like physical distance, which neurological and experimental evidence suggests (Bar-Anan et al., 2007; Bottini & Doeller, 2020; Matthews & Matlock, 2011; Parkinson et al., 2014; Tavares et al., 2015), the basic predictions of balance theory could be extended by taking into account the notions of gradient of influence, spatial frame of reference, integration of intrinsic and extrinsic properties, etc. Other things equal, we should perceive a social target more positively if she is the most socially distant from a disliked hotspot-person in the frame of reference. A different

Affective Judgment in Spatial Context

prediction is that social targets that are socially close to disliked social groups may be shielded if they are socially close to someone that is associated with the self.

Extending affective judgment in spatial context to abstract social space raises also unprecedented questions. It is clear that the impact of a hotspot-person on the surrounding social space (i.e., assimilation or contrast) should depend on social distance. Yet, whereas physical distance is readily perceived, people must infer social distance from cues (e.g., physical proximity: Bogardus, 1925, Hall, 1966; language: (Bogardus, 1925; P. Brown & Levinson, 1987; Hall, 1966; Shepard et al., 2001). In order to map and compare social distances in abstract social space, how do people develop a common social distance metric from vastly qualitatively different cues? A different question concerns the notion of influence. Intensely positive or negative hotspot-persons should have more perceived impact on the surrounding social space (Latané, 1981). However, what properties of hotspot-persons cause differences in gradients of influence? In the eyes of an observer, does higher status confer to the hotspot-person an influence that decreases less with each unit of social distance? Does ingroup status do so, too?

In any case, to get along and get ahead, people routinely develop cognitive representations of social networks in an abstract social space (Janicik & Larrick, 2005; E. B. Smith et al., 2020). To orient adaptively within that type of space, people should, as for physical space, map affective fields based on some specialized version of affective judgment in spatial context. The unique properties of abstract social space raise exciting new avenues for future research.

Conclusion

Affective Judgment in Spatial Context

1
2
3 In conclusion, affective judgment in spatial context is a new field of research that
4
5 studies how people map affect onto space. It fills an important gap in understanding
6
7 how people navigate among people and things in physical space and how they self-
8
9 regulate their distance toward these. In the future, it could take into account
10
11 individual and cultural differences, merge individual and collective levels of
12
13 analysis, and naturally extend to other domains of social psychology or psychology
14
15 at large. To achieve full maturity, the theory needs the further interest of the
16
17 community, which I hope I was able to awaken with this review of our current work.
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Affective Judgment in Spatial Context

References

- Alicke, M. D., & Sedikides, C. (2009). Self-enhancement and self-protection: What they are and what they do. *European Review of Social Psychology*, *20*(1), 1–48.
<https://doi.org/10.1080/10463280802613866>
- Anderson, N. H. (1981). *Foundations of information integration theory*. Academic Press.
- Bar-Anan, Y., Trope, Y., Liberman, N., & Algom, D. (2007). Automatic processing of psychological distance: Evidence from a stroop Task. *Journal of Experimental Psychology: General*, *136*(4), 610–622. <https://doi.org/10.1037/0096-3445.136.4.610>
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, *5*(4), 323–370.
<https://doi.org/10.1037/1089-2680.5.4.323>
- Baumeister, R. F., Vohs, K. D., DeWall, C. N., & Zhang, L. (2007). How emotion shapes behavior: Feedback, anticipation, and reflection, rather than direct causation. *Personality and Social Psychology Review*, *11*(2), 167–203.
<https://doi.org/10.1177/1088868307301033>
- Bechara, A., Tranel, D., Damasio, H., & Damasio, A. R. (1996). Failure to respond autonomically to anticipated future outcomes following damage to prefrontal cortex. *Cerebral Cortex*, *6*(2), 215–225. <https://doi.org/10.1093/cercor/6.2.215>
- Beggan, J. K. (1992). On the social nature of nonsocial perception: The mere ownership effect. *Journal of Personality and Social Psychology*, *62*(2), 229–237.
<https://doi.org/10.1037/0022-3514.62.2.229>
- Blaison, C. (2019). *Affective judgment in spatial context: A simulation with artificial neural networks* [Poster presentation]. ICPS 2019, Paris.
https://www.researchgate.net/publication/331586293_Affective_Judgment_in_Spatial_Context_A_Simulation_with_Artificial_Neural_Networks
- Blaison, C. (2021, November 3). *Affective judgment in spatial context: Orienting within*

Affective Judgment in Spatial Context

physical spaces containing people and things [Paper presentation]. virtual EASP symposium: "Psychology of Places."

Blaison, C., Fayant, M.-P., & Hess, U. (2017). Contrast effect in spatial context: Robustness and practical significance. *Journal of Experimental Psychology: Applied*, 23(4), 474–483. <https://doi.org/10.1037/xap0000135>

Blaison, C., Gebauer, J. E., Gollwitzer, M., Schott, F., Kastendieck, T. M., & Hess, U. (2018). On the combined influence of attractive and unattractive locations on the surroundings. *Environment and Behavior*, 50(9), 947–974. <https://doi.org/10.1177/0013916517722178>

Blaison, C., Gollwitzer, M., & Hess, U. (2017). Effects of "hotspots" as a function of intrinsic neighborhood attractiveness. *Journal of Environmental Psychology*, 51, 57–69. <https://doi.org/10.1016/j.jenvp.2017.03.005>

Blaison, C., & Hess, U. (2016). Affective judgment in spatial context: How places derive affective meaning from the surroundings. *Journal of Environmental Psychology*, 47, 53–65. <https://doi.org/10.1016/j.jenvp.2016.05.005>

Blaison, C., Kastendieck, T. M., Ramadier, T., & Hess, U. (2019). Hotspots and borders interact in people's attitude toward the environment. *Journal of Environmental Psychology*, 65, 101337. <https://doi.org/10.1016/j.jenvp.2019.101337>

Bless, H., & Schwarz, N. (2010). Mental construal and the emergence of assimilation and contrast effects: The inclusion/exclusion model. In M. P. Zanna (Ed.), *Advances in experimental social psychology*, Vol 42 (pp. 319–373). Academic Press. [https://doi.org/10.1016/S0065-2601\(10\)42006-7](https://doi.org/10.1016/S0065-2601(10)42006-7)

Bogardus, E. S. (1925). Measuring social distance. *Journal of Applied Sociology*, 9, 299–308.

Bonam, C. M., Taylor, V. J., & Yantis, C. (2017). Racialized physical space as cultural product. *Social and Personality Psychology Compass*, 11(9), e12340. <https://doi.org/10.1111/spc3.12340>

Bottini, R., & Doeller, C. F. (2020). Knowledge across reference frames: Cognitive maps and

Affective Judgment in Spatial Context

1
2
3 image spaces. *Trends in Cognitive Sciences*, 24(8), 606–619.

4
5 <https://doi.org/10.1016/j.tics.2020.05.008>

6
7 Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: The self-assessment manikin and
8 the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry*,
9 25(1), 49–59. [https://doi.org/10.1016/0005-7916\(94\)90063-9](https://doi.org/10.1016/0005-7916(94)90063-9)

10
11
12
13
14 Brown, J. S. (1948). Gradients of approach and avoidance responses and their relation to
15 level of motivation. *Journal of Comparative and Physiological Psychology*, 41(6),
16 450–465. <https://doi.org/10.1037/h0055463>

17
18
19
20 Brown, P., & Levinson, S. C. (1987). *Politeness: Some universals in language usage*.
21 Cambridge University Press.

22
23
24 Burris, C. T., & Branscombe, N. R. (2005). Distorted distance estimation induced by a self-
25 relevant national boundary. *Journal of Experimental Social Psychology*, 41(3), 305–
26 312. <https://doi.org/10.1016/j.jesp.2004.06.012>

27
28
29
30 Carbon, C.-C., & Hesslinger, V. M. (2013). Attitudes and cognitive distances: On the non-
31 unitary and flexible nature of cognitive maps. *Advances in Cognitive Psychology*,
32 9(3), 121–129. <https://doi.org/10.5709/acp-0140-y>

33
34
35
36 Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: Evidence
37 and implications. *Psychological Bulletin*, 135(2), 183–204.
38 <https://doi.org/10.1037/a0013965>

39
40
41
42 Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect:
43 A control-process view. *Psychological Review*, 97(1), 19–35.
44 <https://doi.org/10.1037/0033-295X.97.1.19>

45
46
47
48 Carver, C. S., & Scheier, M. F. (2001). *On the self-regulation of behavior*. Cambridge
49 University Press.

50
51
52
53 Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective
54 responses to impending reward and punishment: The BIS/BAS Scales. *Journal of*
55 *Personality and Social Psychology*, 67(2), 319–333. [https://doi.org/10.1037/0022-](https://doi.org/10.1037/0022-3514.67.2.319)
56
57
58
59
60 3514.67.2.319

Affective Judgment in Spatial Context

- 1
2
3 Clark, W. A. V. (1991). Residential preferences and neighborhood racial segregation: A test
4
5 of the schelling segregation model. *Demography*, *28*(1), 1–19.
6
7 <https://doi.org/10.2307/2061333>
8
9 Clore, G. L., Gasper, K., & Garvin, E. (2001). Affect as information. In *Handbook of Affect*
10
11 *and Social Cognition* (pp. 121–144). Lawrence Erlbaum Associates Publishers.
12
13 Clore, G. L., & Schnall, S. (2005). The influence of affect on attitude. In D. Albarracín, B. T.
14
15 Johnson, & M. P. Zanna (Eds.), *The Handbook of Attitudes* (pp. 437–489). Lawrence
16
17 Erlbaum Associates Publishers.
18
19 Crawford, L. E., & Cacioppo, J. T. (2002). Learning where to look for danger: Integrating
20
21 affective and spatial information. *Psychological Science*, *13*(5), 449–453.
22
23 <https://doi.org/10.1111/1467-9280.00479>
24
25 Crawford, L. E., Margolies, S. M., Drake, J. T., & Murphy, M. E. (2006). Affect biases
26
27 memory of location: Evidence for the spatial representation of affect. *Cognition and*
28
29 *Emotion*, *20*(8), 1153–1169. <https://doi.org/10.1080/02699930500347794>
30
31 Damasio, A. R. (1994). *Descartes' error: Emotion, reason, and the human brain*. Putnam.
32
33 Dorfman, A., Weiss, O., Hagbi, Z., Levi, A., & Eilam, D. (2021). Social spatial cognition.
34
35 *Neuroscience & Biobehavioral Reviews*, *121*, 277–290.
36
37 <https://doi.org/10.1016/j.neubiorev.2020.12.023>
38
39 Frijda, N. H., Ortony, A., Sonnemans, J., & Clore, G. L. (1992). The complexity of intensity:
40
41 Issues concerning the structure of emotion intensity. In *Emotion* (pp. 60–89). Sage
42
43 Publications, Inc.
44
45 Galak, J., Kruger, J., & Rozin, P. (2007). *Not in my backyard: The influence of arbitrary*
46
47 *boundaries on consumer choice* (SSRN Scholarly Paper ID 1698345). Social
48
49 Science Research Network. <https://doi.org/10.2139/ssrn.1698345>
50
51 Gawronski, B., Bodenhausen, G. V., & Becker, A. P. (2007). I like it, because I like myself:
52
53 Associative self-anchoring and post-decisional change of implicit evaluations. *Journal*
54
55 *of Experimental Social Psychology*, *43*(2), 221–232.
56
57 <https://doi.org/10.1016/j.jesp.2006.04.001>
58
59
60

Affective Judgment in Spatial Context

- 1
2
3 Greve, A., Cooper, E., Tibon, R., & Henson, R. N. (2019). Knowledge is power: Prior
4 knowledge aids memory for both congruent and incongruent events, but in different
5 ways. *Journal of Experimental Psychology. General*, *148*(2), 325–341.
6
7
8 <https://doi.org/10.1037/xge0000498>
9
10
11 Hall, E. T. (1966). *The hidden dimension*. Doubleday.
12
13 Havekes, E., Bader, M., & Krysan, M. (2016). Realizing racial and ethnic neighborhood
14 preferences? Exploring the mismatches between what people want, where they
15 search, and where they live. *Population Research and Policy Review*, *35*(1), 101–
16 126. <https://doi.org/10.1007/s11113-015-9369-6>
17
18
19
20
21 Hebl, M. R., & Mannix, L. M. (2003). The weight of obesity in evaluating others: A mere
22 proximity effect. *Personality and Social Psychology Bulletin*, *29*(1), 28–38.
23
24 <https://doi.org/10.1177/0146167202238369>
25
26
27
28
29 Hehman, E., Flake, J., & Calanchini, J. (2017). Disproportionate use of lethal force in
30 policing Is associated with regional racial biases of residents. *Social Psychological*
31 *and Personality Science*, *9*, 194855061771122.
32
33 <https://doi.org/10.1177/1948550617711229>
34
35
36
37 Heider, F. (1946). Attitudes and cognitive organization. *The Journal of Psychology*, *21*(1),
38 107–112. <https://doi.org/10.1080/00223980.1946.9917275>
39
40
41 Heider, F. (1958). *The psychology of interpersonal relations* (pp. ix, 326). John Wiley & Sons
42 Inc. <https://doi.org/10.1037/10628-000>
43
44
45 Heise, D. R. (1979). *Understanding events: Affect and the construction of social action*.
46 Cambridge University Press.
47
48
49 Heise, D. R. (2007). *Expressive order: Confirming sentiments in social actions*. Springer.
50
51 Helbing, D. (Ed.). (2012). *Social self-organization: Agent-based simulations and experiments*
52 *to study emergent social behavior*. Springer-Verlag. <https://doi.org/10.1007/978-3->
53 [642-24004-1](https://doi.org/10.1007/978-3-642-24004-1)
54
55
56
57 Hendricks, M., & Bootzin, R. (1976). Race and sex as stimuli for negative affect and physical
58 avoidance. *The Journal of Social Psychology*, *98*(1), 111–120.
59
60

Affective Judgment in Spatial Context

<https://doi.org/10.1080/00224545.1976.9923372>

Higgins, E. T. (1996). Knowledge activation: Accessibility, applicability, and salience. In *Social psychology: Handbook of basic principles* (pp. 133–168). The Guilford Press.

Higgins, E. T., & Nakkawita, E. (2020). Motives working together: Value, truth, and control in goal selection and pursuit. In A. M. Van Lange & E. T. Higgins (Eds.), *Handbook of basic principles* (3rd ed., pp. 85–105). Guilford Press.

Hull, C. L. (1932). The goal-gradient hypothesis and maze learning. *Psychological Review*, 39(1), 25.

Janicik, G. A., & Larrick, R. P. (2005). Social Network Schemas and the Learning of Incomplete Networks. *Journal of Personality and Social Psychology*, 88(2), 348–364. <https://doi.org/10.1037/0022-3514.88.2.348>

Jones, C. R., Fazio, R. H., & Olson, M. A. (2009). Implicit misattribution as a mechanism underlying evaluative conditioning. *Journal of Personality and Social Psychology*, 96(5), 933–948. <https://doi.org/10.1037/a0014747>

Kastendieck, T., Blaison, C., & Hess, U. (2019). *Affective judgment in spatial context: Laboratory results for self-report and psychophysiological measures* [Poster presentation]. ICPS 2019, Paris. https://www.researchgate.net/publication/331703848_Affective_Judgment_in_Spatial_Context_Laboratory_Results_for_Self-Report_and_Psychophysiological_Measures

Kerkman, D. D., Stea, D., Norris, K., & Rice, J. L. (2004). Social Attitudes Predict Biases in Geographic Knowledge*. *The Professional Geographer*, 56(2), 258–269. <https://doi.org/10.1111/j.0033-0124.2004.05602009.x>

Kim, H., Shimojo, S., & O'Doherty, J. P. (2006). Is avoiding an aversive outcome rewarding? Neural substrates of avoidance learning in the human brain. *PLOS Biology*, 4(8), e233. <https://doi.org/10.1371/journal.pbio.0040233>

Krysan, M., Couper, M. P., Farley, R., & Forman, T. A. (2009). Does race matter in neighborhood preferences? Results from a video experiment. *American Journal of Sociology*, 115(2), 527–559. <https://doi.org/10.1086/599248>

Affective Judgment in Spatial Context

- 1
2
3 Latané, B. (1981). The psychology of social impact. *American Psychologist*, 36(4), 343–356.
4
5 <https://doi.org/10.1037/0003-066X.36.4.343>
6
7 Leknes, S., Berna, C., Lee, M. C., Snyder, G. D., Biele, G., & Tracey, I. (2013). The
8
9 importance of context: When relative relief renders pain pleasant. *Pain*, 154(3), 402–
10
11 410. <https://doi.org/10.1016/j.pain.2012.11.018>
12
13 Lewicka, M. (2011). *Place attachment: How far have we come in the last 40 years?*
14
15 <https://doi.org/10.1016/J.JENVP.2010.10.001>
16
17 Lewin, K. (1951). *Field theory in social science: Selected theoretical papers (Edited by*
18
19 *Dorwin Cartwright.)* (pp. xx, 346). Harpers.
20
21
22 MacKay, D. G., & Ahmetzanov, M. V. (2005). Emotion, memory, and attention in the taboo
23
24 Stroop paradigm. *Psychological Science*, 16(1), 25–32.
25
26 <https://doi.org/10.1111/j.0956-7976.2005.00776.x>
27
28
29 Marsh, H. W., Kong, C. K., & Hau, K. T. (2000). Longitudinal multilevel models of the big-
30
31 fish-little-pond effect on academic self-concept: Counterbalancing contrast and
32
33 reflected-glory effects in Hong Kong schools. *Journal of Personality and Social*
34
35 *Psychology*, 78(2), 337–349. <https://doi.org/10.1037//0022-3514.78.2.337>
36
37 Masuda, T., Ellsworth, P. C., Mesquita, B., Leu, J., Tanida, S., & Van de Veerdonk, E.
38
39 (2008). Placing the face in context: Cultural differences in the perception of facial
40
41 emotion. *Journal of Personality and Social Psychology*, 94(3), 365–381.
42
43 <https://doi.org/10.1037/0022-3514.94.3.365>
44
45
46 Masuda, T., & Nisbett, R. E. (2001). Attending holistically versus analytically: Comparing the
47
48 context sensitivity of Japanese and Americans. *Journal of Personality and Social*
49
50 *Psychology*, 81(5), 922–934. <https://doi.org/10.1037/0022-3514.81.5.922>
51
52
53 Matthews, J. L., & Matlock, T. (2011). Understanding the link between spatial distance and
54
55 social distance. *Social Psychology*, 42(3), 185–192. [https://doi.org/10.1027/1864-](https://doi.org/10.1027/1864-9335/a000062)
56
57 [9335/a000062](https://doi.org/10.1027/1864-9335/a000062)
58
59
60 Mawson, A. R. (2005). Understanding mass panic and other collective responses to threat
and disaster. *Psychiatry*, 68(2), 95–113. <https://doi.org/10.1521/psyc.2005.68.2.95>

Affective Judgment in Spatial Context

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- McCall, C., Blascovich, J., Young, A., & Persky, S. (2009). Proxemic behaviors as predictors of aggression towards Black (but not White) males in an immersive virtual environment. *Social Influence*, 4(2), 138–154.
<https://doi.org/10.1080/15534510802517418>
- Mehrabian, A. (1968). Relationship of attitude to seated posture, orientation, and distance. *Journal of Personality and Social Psychology*, 10(1), 26–30.
<https://doi.org/10.1037/h0026384>
- Miller, N. E. (1944). Experimental studies of conflict. In *Personality and the behavior disorders* (pp. 431–465). Ronald Press.
- Mishra, A., & Mishra, H. (2010). Border bias: The belief that state borders can protect against disasters. *Psychological Science*, 21(11), 1582–1586.
<https://doi.org/10.1177/0956797610385950>
- Mooney, K. M., Cohn, E. S., & Swift, M. B. (1992). Physical Distance and AIDS: Too Close for Comfort?1. *Journal of Applied Social Psychology*, 22(18), 1442–1452.
<https://doi.org/10.1111/j.1559-1816.1992.tb00959.x>
- Mussweiler, T. (2003). Comparison processes in social judgment: Mechanisms and consequences. *Psychological Review*, 110(3), 472–489.
<https://doi.org/10.1037/0033-295X.110.3.472>
- Nadel, L. (2013). Cognitive maps. In D. Waller & L. Nadel (Eds.), *Handbook of spatial cognition* (pp. 155–171). American Psychological Association.
<https://content.apa.org/doiLanding?doi=10.1037%2F13936-009>
- Newman, O. (1978). *Defensible space: Crime prevention through urban design*. Collier.
- Nieuwenhuis, S., Heslenfeld, D. J., von Geusau, N. J. A., Mars, R. B., Holroyd, C. B., & Yeung, N. (2005). Activity in human reward-sensitive brain areas is strongly context dependent. *NeuroImage*, 25(4), 1302–1309.
<https://doi.org/10.1016/j.neuroimage.2004.12.043>
- Parducci, A. (1965). Category judgment: A range-frequency model. *Psychological Review*, 72(6), 407–418. <https://doi.org/10.1037/h0022602>

Affective Judgment in Spatial Context

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- Parkinson, C., Liu, S., & Wheatley, T. (2014). A common cortical metric for spatial, temporal, and social distance. *Journal of Neuroscience*, *34*(5), 1979–1987.
<https://doi.org/10.1523/JNEUROSCI.2159-13.2014>
- Payne, B. K., Vuletich, H. A., & Lundberg, K. B. (2017). The bias of crowds: How implicit bias bridges personal and systemic prejudice. *Psychological Inquiry*, *28*(4), 233–248.
- Pryor, J. B., Reeder, G. D., & Monroe, A. E. (2012). The infection of bad company: Stigma by association. *Journal of Personality and Social Psychology*, *102*(2), 224–241.
<https://doi.org/10.1037/a0026270>
- Riddle, T., & Sinclair, S. (2019). Racial disparities in school-based disciplinary actions are associated with county-level rates of racial bias. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, *116*(17), 8255–8260.
<https://doi.org/10.1073/pnas.1808307116>
- Rozin, P., Millman, L., & Nemeroff, C. (1986). Operation of the laws of sympathetic magic in disgust and other domains. *Journal of Personality and Social Psychology*, *50*(4), 703–712. <https://doi.org/10.1037/0022-3514.50.4.703>
- Rozin, P., & Nemeroff, C. (2002). Sympathetic Magical Thinking: The Contagion and Similarity “Heuristics.” In T. Gilovich, D. Griffin, & D. Kahneman (Eds.), *Heuristics and Biases* (1st ed., pp. 201–216). Cambridge University Press.
<https://doi.org/10.1017/CBO9780511808098.013>
- Rozin, P., & Royzman, E. B. (2001). Negativity Bias, Negativity Dominance, and Contagion. *Personality and Social Psychology Review*, *5*(4), 296–320.
https://doi.org/10.1207/S15327957PSPR0504_2
- Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, *76*(5), 805–819. <https://doi.org/10.1037/0022-3514.76.5.805>
- Sadalla, E. K., Burroughs, W. J., & Staplin, L. J. (1980). Reference points in spatial cognition. *Journal of Experimental Psychology: Human Learning and Memory*, *6*(5), 516–528. <https://doi.org/10.1037/0278-7393.6.5.516>

Affective Judgment in Spatial Context

- 1
2
3 Schelling, T. C. (1969). Models of Segregation. *The American Economic Review*, 59(2),
4
5 488–493.
6
7
8 Schmader, T., & Sedikides, C. (2018). State Authenticity as Fit to Environment: The
9
10 Implications of Social Identity for Fit, Authenticity, and Self-Segregation. *Personality*
11
12 *and Social Psychology Review*, 22(3), 228–259.
13
14 <https://doi.org/10.1177/1088868317734080>
15
16 Schwarz, N., & Bless, H. (1992). Constructing reality and its alternatives: An
17
18 inclusion/exclusion model of assimilation and contrast effects in social judgment. In L.
19
20 L. Martin & A. Tesser (Eds.), *The construction of social judgments* (pp. 217–245).
21
22 Lawrence Erlbaum Associates, Inc.
23
24 Schwarz, N., & Clore, G. (1983). Mood, misattribution, and judgments of well-being:
25
26 Informative and directive functions of affective states. *Journal of Personality and*
27
28 *Social Psychology*, 45, 513–523. <https://doi.org/10.1037/0022-3514.45.3.513>
29
30 Shepard, C. A., Gilles, H. G., & Lepoire, B. A. (2001). Communication accommodation
31
32 theory. In W. P. Robinson & H. G. Gilles (Eds.), *The new hand-book of language and*
33
34 *social psychology* (pp. 33–56). Wiley.
35
36
37 Sherif, M., & Hovland, C. I. (1961). *Social judgment: Assimilation and contrast effects in*
38
39 *communication and attitude change* (pp. xii, 218). Yale University Press.
40
41 Slovic, P., Finucane, M. L., Peters, E., & MacGregor, D. G. (2007). The affect heuristic.
42
43 *European Journal of Operational Research*, 177(3), 1333–1352.
44
45 <https://doi.org/10.1016/j.ejor.2005.04.006>
46
47
48 Smith, E. B., Brands, R. A., Brashears, M. E., & Kleinbaum, A. M. (2020). Social networks
49
50 and cognition. *Annual Review of Sociology*, 46(1), 159–174.
51
52 <https://doi.org/10.1146/annurev-soc-121919-054736>
53
54 Smith, E. R., & Conrey, F. R. (2007). Agent-based modeling: A new approach for theory
55
56 building in social psychology. *Personality and Social Psychology Review*, 11(1), 87–
57
58 104. <https://doi.org/10.1177/1088868306294789>
59
60 Tajfel, H., & Wilkes, A. L. (1963). Classification and quantitative judgement. *British Journal of*

Affective Judgment in Spatial Context

- 1
2
3 *Psychology*, 54(2), 101–114. <https://doi.org/10.1111/j.2044-8295.1963.tb00865.x>
4
5 Tavares, R. M., Mendelsohn, A., Grossman, Y., Williams, C. H., Shapiro, M., Trope, Y., &
6
7 Schiller, D. (2015). A map for social navigation in the human brain. *Neuron*, 87(1),
8
9 231–243. <https://doi.org/10.1016/j.neuron.2015.06.011>
10
11 Taylor, S. E., & Fiske, S. T. (1978). Salience, attention, and attribution: Top of the head
12
13 phenomena. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol.
14
15 11, pp. 249–288). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60009-X](https://doi.org/10.1016/S0065-2601(08)60009-X)
16
17
18 Thorndyke, P. W. (1981). Distance estimation from cognitive maps. *Cognitive Psychology*,
19
20 13(4), 526–550. [https://doi.org/10.1016/0010-0285\(81\)90019-0](https://doi.org/10.1016/0010-0285(81)90019-0)
21
22 Tobler, W. R. (1970). A computer movie simulating urban growth in the Detroit region.
23
24 *Economic Geography*, 46, 234. <https://doi.org/10.2307/143141>
25
26 Tolman, E. C. (1948). Cognitive maps in rats and men. *Psychological Review*, 55(4), 189–
27
28 208. <https://doi.org/10.1037/h0061626>
29
30 Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987).
31
32 *Rediscovering the social group: A self-categorization theory* (pp. x, 239). Basil
33
34 Blackwell.
35
36
37 Tversky, B. (2003). Structures of mental spaces: How people think about space.
38
39 *Environment and Behavior*, 35(1), 66–80. <https://doi.org/10.1177/0013916502238865>
40
41 Tversky, B. (1993). Cognitive maps, cognitive collages, and spatial mental models. In A. U.
42
43 Frank & I. Campari (Eds.), *Spatial information theory: A theoretical basis for GIS* (pp.
44
45 14–24). Springer. https://doi.org/10.1007/3-540-57207-4_2
46
47
48 Volkman, J. (1951). Scales of judgment and their implications for social psychology. In J. H.
49
50 Rohrer & M. Sherif (Eds.), *Social psychology at the crossroads; the University of*
51
52 *Oklahoma lectures in social psychology* (pp. 273–298). Harper.
53
54 Walther, E. (2002). Guilty by mere association: Evaluative conditioning and the spreading
55
56 attitude effect. *Journal of Personality and Social Psychology*, 82(6), 919–934.
57
58 <https://doi.org/10.1037/0022-3514.82.6.919>
59
60 Walther, E., & Weil, R. (2012). Balance principles in attitude formation and change: The

Affective Judgment in Spatial Context

1
2
3 desire to maintain consistent cognitions about people. In B. Gawronski & F. Strack
4 (Eds.), *Cognitive consistency: A fundamental principle in social cognition* (pp. 351–
5 368). Guilford Press.
6
7

8
9 Wänke, M., Bless, H., & Igou, E. R. (2001). Next to a star: Paling, shining, or both? Turning
10 interexemplar contrast into interexemplar assimilation. *Personality and Social*
11 *Psychology Bulletin*, 27(1), 14–29. <https://doi.org/10.1177/0146167201271002>
12
13

14 Wertheimer, M. (1922). Untersuchungen zur Lehre von der Gestalt. *Psychologische*
15 *Forschung*, 1(1), 47–58. <https://doi.org/10.1007/BF00410385>
16
17

18 Wilkowski, B. M., & Robinson, M. D. (2007). Where danger lies: The spatial priming of
19 negative affect. *Basic and Applied Social Psychology*, 29(1), 85–90.
20
21 <https://doi.org/10.1080/01973530701331213>
22
23

24 Wnuk, A., Oleksy, T., Toruńczyk-Ruiz, S., & Lewicka, M. (2021). The way we perceive a
25 place implies who can live there: Essentialisation of place and attitudes towards
26 diversity. *Journal of Environmental Psychology*, 75, 101600.
27
28 <https://doi.org/10.1016/j.jenvp.2021.101600>
29
30

31 Word, C. O., Zanna, M. P., & Cooper, J. (1974). The nonverbal mediation of self-fulfilling
32 prophecies in interracial interaction. *Journal of Experimental Social Psychology*,
33 10(2), 109–120. [https://doi.org/10.1016/0022-1031\(74\)90059-6](https://doi.org/10.1016/0022-1031(74)90059-6)
34
35

36 Ye, Y., & Gawronski, B. (2016). When possessions become part of the self: Ownership and
37 implicit self-object linking. *Journal of Experimental Social Psychology*, 64, 72–87.
38
39 <https://doi.org/10.1016/j.jesp.2016.01.012>
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Tables

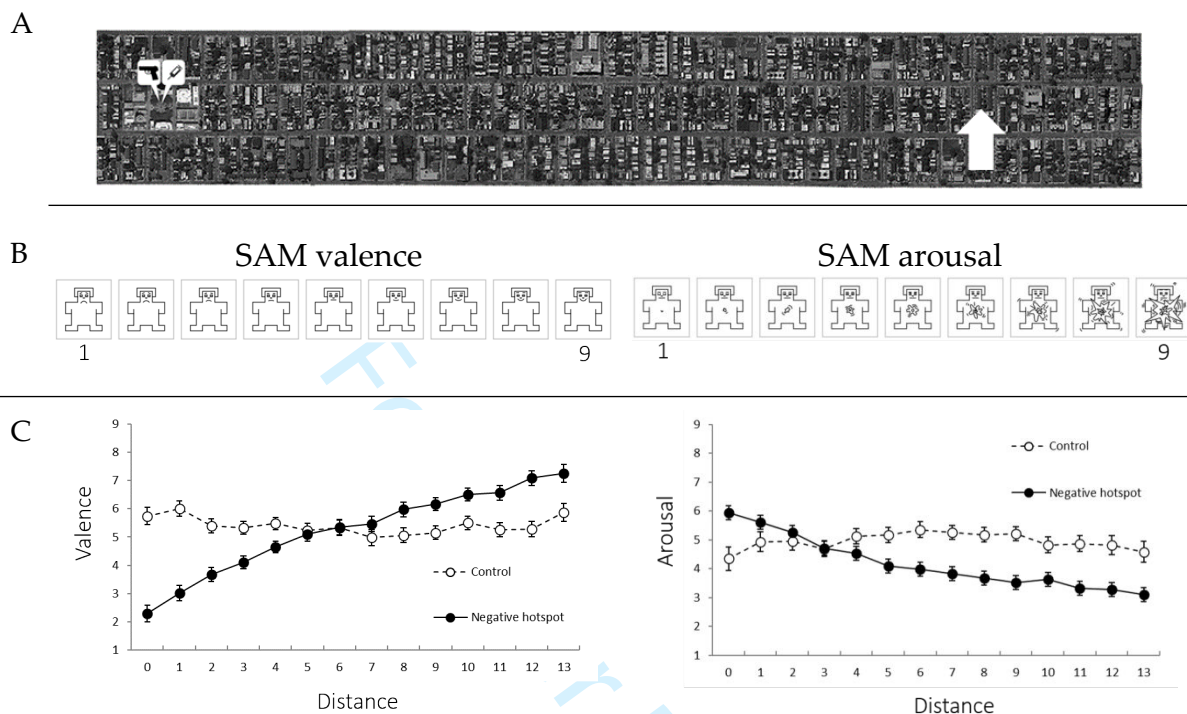
Table 1*Glossary*

Concept	Definition	Example
Affective field	A subjective representation that maps the changing affective properties of a space. Constructed according to the rules specified by affective judgment in spatial context.	When entering the subway, people may construct the affective field of the subway car to decide where to sit. When buying a new place, people may construct the affective field of the neighborhood.
Affective information integration	Process by which people merge multiple sources to judge the affective value of an element	Judging the affective value of a subway seat that is located equidistant from a likable and a unlikable person.
Affective judgment	Judgment about the affective value of an element on affective dimensions like valence or arousal.	Rating a park as evoking a positive feeling with low arousal.
Affective polarization of space	The fact that the influence of a hotspot elicits an assimilation effect on surroundings that are closer and a contrast effect on surroundings that are farther away.	Someone with a contagious disease making the closer surroundings feel affectively negative and the distant ones affectively positive.
Assimilation effect	When a hotspot subjectively causes the surroundings to take on a similar affective value as the hotspot.	The home of a celebrity lending a positive affective value to the neighboring homes on sale.
Border effect	Between two places equidistant from a negative hotspot, the tendency to prefer the one that is behind a border, even though the border is permeable to the influence of the negative	At equidistance from a crime hotspot, preferring to live in the district not containing the hotspot even though the objective level of crime is the same.

Tables

	hotspot.	
Contrast effect	When a hotspot subjectively causes the surroundings to take on the opposite affective value of the hotspot.	A dubious looking person sitting at the rear of the bus that makes the seats at the front feel affectively positive. An animated and exciting city that makes a remote area feel dull.
Extrinsic value	Affective value of an element derived from its position relative to a hotspot.	A place feeling nice for being located close to a park.
Gradient of influence	Subjective rate at which the perceived influence of a hotspot decreases with increasing distance to the hotspot	All things being equal, a nuclear power plant has a shallower gradient of influence than a crime ridden housing block.
Hotspot	Affectively salient element that influences the affective value people subjectively lend to the surroundings.	A dubious looking individual in the subway; a nice park in a neighborhood; a crime ridden neighborhood in a city; an autocratic state in a certain region of world.
Intrinsic value	Affective value of an element derived from properties belonging to the element.	A place feeling nice because it is a park.
Spatial frame of reference	The size of the spatial context that is taken into account when forming affective judgments.	When judging how a place feels, taking into account just the close neighborhood or rather the whole city.

Figures

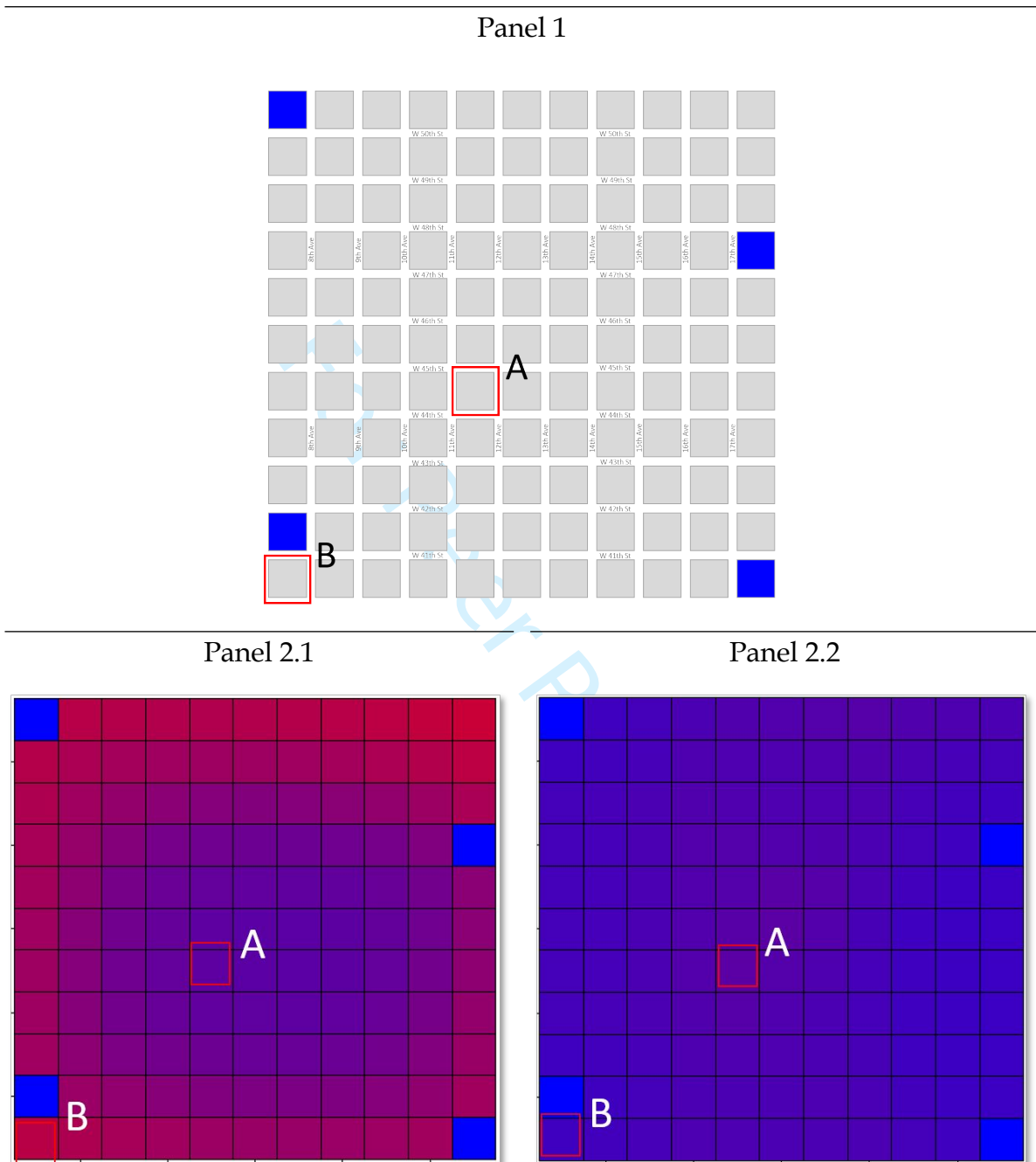
Figure 1*Affective polarization of space*

Note. The participants are shown a stimulus neighborhood, like in Panel A (from Blaison, Fayant et al., 2017). A negative hotspot is located on the left (e.g., a crime ridden housing block). Participants are asked to rate the location indicated by the arrow on the dependent variables depicted in Panel B. Panel B shows the valence and the arousal scale from the Self-Assessment Manikin scale (SAM; Bradley & Lang, 1994). Panel C shows the results for valence and arousal as a function of the distance to the hotspot located at Distance 0 and of the presence or absence (i.e., control condition) of the negative hotspot (from Blaison & Hess, 2016, Exp. 2).

Figures

Figure 2

Integration of assimilation and contrast effects stemming from multiple negative hotspots



Note. Panel 1 depicts a neighborhood with four crime ridden housing blocks (i.e., the blue squares). The locations A and B lie in a region where the hotspots potentially elicit assimilation as well as contrast effects. If people tally up assimilation and contrast effects, then the affective field should look like in Panel 2.1 (from red to blue: red = positive valence, blue = negative valence) (Blaison, 2019). In Panel 2.1, location B should be preferred to location A. If assimilation effects trump contrast effects, then the affective field should look like in Panel 2.2

Figures

(Blaison, 2019). In Panel 2.2, location A should be preferred to location B.

For Peer Review

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60