Individually Experienced Temperatures and Sense of Place: An exploration of the social construct and its relationship to personal heat exposure.
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Abstract
Sense of Place (hereafter SoP), a multidimensional construct of emotional and cultural attachment to a specific geographical location, can highly influence people’s behaviors and attitudes regarding the activities they carry out day by day. These activities determine time spent outside and can therefore affect personal exposure to heat, an excess of which can have adverse effects on health. The level of Sense of Place and the extent to which it influences IETs (Individually Experienced Temperatures) was studied in two neighborhoods in Phoenix: Thunderhill (TH), an Ahwatukee residential community, and Coffelt-Lamoreaux (CO), a public housing project in Central City South. IETs were analyzed and contextualized with qualitative Sense of Place data gathered through surveys and interviews. TH residents presented a high level of Sense of Place, while residents of CO had very low levels. In terms of IET, TH participants had lower average daily and all hours averages and CO participants recorded marginally higher average daily and all hours IETs. Data collected suggests that participants from both neighborhoods spend considerable amounts of time outdoors, thus increasing heat exposure, but the motive (leisure vs. necessity) behind exposure to heat makes a difference in whether those participants feel positively or negatively about the spaces they move through. These findings will help us further understand human–environment interactions, as well as social complexity in urban areas.

Methods
Thermochron iButton temperature sensors were distributed to participants in TH and CO and used to record air temperatures for a week in September 2014. Participants were asked to carry their iButtons at all times to measure IETs. In addition, participants were asked to fill out daily surveys regarding comfort levels and personal temperature experiences.

Results
For Sense of Place analysis, we found that residents of TH have a higher level of SoP, whereas in CO a very low SoP was present. IETs in TH were also slightly lower than the ones registered in CO (See Tables 1 and 2).

8 individuals participated; 4 from each neighborhood.

Conclusions
Sense of Place highly influences people’s decisions and attitudes towards heat exposure, as it becomes contextual; it becomes part of a positive or negative picture, depending on one’s regards for the environment in which one dwells. This observation brings a question of health and safety. A recent study has shown that people who live in isolation are more vulnerable to health risks than those who are actively social in their communities, as a network is created and might be available to help in times of stress. This attitude of isolation corresponds to a low SoP level, which several participants of this study presented. For reasons such as the aforementioned, a reasonable idea to propose to residential community developers would be to be aware of SoP-fostering drivers that would allow for healthy relationships among neighbors and with their physical environment. Periodical community meetings, recreational activities, collaborative heat mitigation and emergency response strategies, etc. would be some of the projects that could aid a neighborhood in its SoP growth.

Bibliography

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"It's a real close-knit neighborhood, we do stuff together [...]. Usually at some point somebody's out walking so they're watching out for each other." – TH resident

"It's the people, you know? They don't want to get along. We all live in the same community and they don't want to, like, help each other." – CO resident