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# Place and the self: An autobiographical memory synthesis

Igor Knez

*In this article, I argue that the relationship between place and self can be accounted for by recent theoretical work on autobiographical memory. The link between place and self is conceptualized as a transitory mental representation that emerges as a “place of mine” (personal autobiographical experience) from a “place” (declarative knowledge). The function of “place of mine” is to guide personal memory and self-knowing consciousness of periods of our lives. I combine inquiries of memory, self, and place in a triadic relationship, a synthesis, suggesting a conceptual model for the phenomenon of place-related self as a sub-system of the self. This is formed by a causal progression from a physical place across time via emotional and cognitive bonds, components of the autobiographical information grounding the self, apportioned across declarative memory. Finally, using the methods of factor analysis and structural equation modeling, I show that the proposed model accounts for previous and new data on place-related identity.*

**Keywords:** Memory; Place; Self

## 1. Introduction

The first-person epistemological question of “how we come to know who we are and what we are” (Klein, German, Cosmides, & Gabriel, 2004, p. 461) is, in fictive literature, frequently related to physical places of “birthing and growing, loving and warring, learning and praying, resting and dying” (Kimmel, 1997, p. 143). Thus, the presence and the permanence of human experience and memory are often linked to a physical place. In the words of Hemingway, “there were many words you could not stand to hear and finally only the names of places had dignity.... Abstract words such as glory, honor, courage or hallow were obscene beside the concrete names of villages” (1929, p. 165).

I argue that the link of place and self can be accounted for by recent theoretical work on autobiographical memory. First, by conceptualizing the link of place and self as a transitory mental representation (Conway & Pleydell-Pearce, 2000), a knowledge

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structure (Klein & Loftus, 1993), that emerges as “place of mine” (personal autobiographical experience; “I *remember* that place”) from “place” (declarative knowledge; “I *know* what a place is or I *know* of that place”). Second, and in the self-memory system (SMS; Conway, 2005), the transformation of “place” (general fact) to “place of mine” (personal fact) necessitates the conducts of place-related attachment/closeness (Knez, 2005), place and self-related coherence and correspondence (Conway, Singer, & Tagini, 2004), reflection, agency, and temporality (Klein et al., 2004); that is, components of the autobiographical information grounding the self, apportioned across declarative memory. I suggest, thus, that the function of “place of mine” is to guide episodic recollection (Tulving, 1983) and self-knowing consciousness (Tulving, 1985) of periods of our lives, as illustrated by Hemingway’s words above. Accordingly, this synthesizes historically separate subfields of psychological inquiry of place identity (Twigger-Ross, Bonaiuto, & Breakwell, 2003), self (Sedikides & Brewer, 2001), and self and memory (Beike, Lampinen, & Behrend, 2004).

This article has five aims. I first review the research on declarative and autobiographical memory. I then review the research on self and memory. These areas of research are at the heart of my reasoning, since I am arguing for a synthesis of place, self, and memory. Third, I review work on the psychology of physical places. Fourth, I combine these three previous areas of inquiry in a triadic relationship, a synthesis, suggesting a conceptual model for the phenomenon of place-related self. Finally, using the methods of factor analysis and structural equation modeling, I show that the suggested model accounts for previous and new data on place-related identity.

## 2. Declarative Memory

In 1972, Tulving drew a distinction between semantic and episodic long-term memory. Later, Tulving (1983, 1985) refined these concepts as yielding two distinct but overlapping mind-brain systems (Buckner, 2007; Klein, 2007; Schacter & Tulving, 1994) involving conscious recollection of facts, experiences, and events. Hence, human long-term memory was assumed to contain two declarative, “knowing that” (Ryle, 1949; Squire, 1992), explicit systems of semantic and episodic memory that separate along the demarcation line of knowing and remembering. This division has also been indicated in clinical psychology by the method of double dissociation (Schacter, 1989), suggesting a semantic (Hodges & Graham, 2001) and an episodic (Vargha-Khadem, Gadian, & Mishkin, 2001) amnesia, respectively.

Analogous with the ancient Greek philosophy of consciousness ('noeses' as ways of knowing), Tulving (1983) proposed that the operations of knowing (semantic, factual memory) and remembering (episodic, experiential memory) were related to a noetic and an autonoetic consciousness, respectively. Accordingly, for example, my semantic memory declares that Sweden is a Nordic European country. I apparently “know” that *general* fact; that is, I am noetically, knowingly, conscious of it. In addition, my episodic memory declares that I have grown up in Sweden.

I evidently “remember” that *personal* fact; that is, I am autonoetically, *self-knowingly*, conscious of my Swedish youth.

Given this, I can mentally travel back (Suddendorf & Corballis, 2007; Wheeler, Stuss, & Tulving, 1997) and relive episodes from, for example, my teenage years, such as my first girlfriend (her name, how she looked, how and where we met, etc.). Thus, by activating the processes of self-biographical remembering and understanding, I can recollect parts of my life story (Habermas & Bluck, 2000) uncovered as a narrative (Brewer, 1999) and containing specific and concrete details (Rubin, 1996). All of this signifies the central feature of episodic memory, namely, its phenomenological dimension (Tulving, 2002a) of remembering and self-knowing. We self-knowingly recollect personal episodes (as Marcel Proust did when he dipped a Madeleine biscuit into his tea) by projecting ourselves (Buckner & Carroll, 2006) into earlier selves, relations, situations, and places, as well as imagining, projecting ourselves into the future (D’Argembeau & Van der Linden, 2004).

### 3. Autobiographical Memory

The phenomenological element of long-term declarative memory concerned with our capacity to recollect our lives is, in contemporary cognitive psychology, labeled as autobiographical memory. Its main functions (Bluck, Alea, Habermas, & Rubin, 2005) are to give an experiential foundation for the self (Conway, 2005) and its social position (Neisser, 1988) by sharing memories with others (“do you remember our trip to Paris when we incidentally bumped into Smiths . . .?”), as well as to direct current and future behaviors and solve problems (Pillemer, 2003).

#### 3.1. Components of Autobiographical Memory

Conway and Pleydell-Pearce (2000) proposed a model, the self-memory system (SMS), accounting for the autobiographical memory phenomenon, which was further elaborated by Conway et al. (2004) and Conway (2005). The SMS is not a permanent, hard-wired, “encapsulated” system/module (Carruthers, 2006; Fodor, 1983), but a transitory mental representation, a type of mental model or cognitive state. It emerges when two fundamental elements of SMS, the *autobiographical knowledge base* and the *working self*, interact and form a long-term self. The autobiographical information grounding the self is apportioned across declarative memory as personal reminiscence, self-related conceptual knowledge, episodic memories, and working self.

*Personal reminiscence* is an experiential, autobiographical knowledge sketched out as a narrative and linked to the mental travel phenomenon and noesis of self-knowing. For example, I remember when, where, and how I took my PhD degree. Therefore, I am aware of “me” as a PhD.

*Self-Related conceptual knowledge* is factual, autobiographical knowledge composed as a self-image or a conceptual self. It comprises self-related semantic structures of

schemas, scripts, values, attitudes, and beliefs that modulate memory (Kihlstrom, Beer, & Klein, 2003), meaning that “both goals and conceptual self-knowledge act as control processes or as the source for such processes in the everyday regulation of memory” (Conway, 2005, p. 597). For example, I know that I am a PhD without remembering the specific experiential details of when, where, and how. Therefore, I am aware of “I” as being a PhD linked to the noesis of knowing (Klein, 2001).

This condensed knowledge can also be more event specific involving themes (e.g., education); periods of one’s lifetime (e.g., student years) that last for years and which are based on my personal experiences, governed and interpreted by shared cultural norms (Belli, 1998); and general events generated from lifetime periods involving common episodes measured in months, weeks, and days (“we students at Uppsala university used to get together in places such as . . .”).

*Episodic memories* are recollective events that are accompanied by imagery or detailed material of perceptual and contextual quality (“I’ll never forget when one of my PhD student friends recommended the Andrei Tarkovsky film *Nostalgia*—one of the best films ever, she said”). Conway’s (2002, 2007, 2009) reworking of Tulving’s (1972) concept suggests that the episodic memory is akin to a short-term goal-processing unit. It operates in an adaptive way with detailed sensory perceptual knowledge of recent experiences related to the self experienced as the “I” (in Conway’s terms, the working self, the experiencer), as opposed to the autobiographical memory containing knowledge across a lifetime related to the long-term self experienced as the “me” (in Conway’s terms, the autobiographical self, an outcome of the experiencer). Thus, “the self is both the experiencer and the product of the experiences” (Williams, Conway, & Cohen, 2008, p. 37). Neuroanatomically, episodic memory and conceptual autobiographical knowledge are predicted to represent different brain regions, and remembering as a recollective experience is hypothesized to occur when autobiographical memory provides a context for the episodic memory.

*Working self.* Akin to Craik’s (1943) notion that when we cogitate, we exploit internal representations of the world, the working self (*current self*—Markus & Nurius, 1986) is a control mechanism of the SMS. This also alludes to the concepts of working memory (Baddeley, 1986) and mental models (Johnson-Laird, 1983), involving a set of control processes and a goal hierarchy that manage autobiographical retrieval. Hence, the working self “provides the individual with access to the relevant self-knowledge (beliefs, attitudes, memories) that is needed in a given context or situation” (Stopa, 2009, p. 144).

Finally, Klein (2001) suggested two “memory-based sources” of knowledge grounding the self, one related to the conceptual self and one to episodic memory (in Tulving’s terms, semantic and episodic memory, respectively). This distinction is, generally speaking, based on findings from amnesia research showing that in spite of their inability to recall memories of their personal past, amnesic patients can indeed recall conceptual knowledge about themselves (Klein, Rozendal, & Cosmides, 2002).

#### 4. Self and Memory

Descartes tried to establish an unconditional certainty when he uttered his famous slogan, “I think, therefore I am” (*Cogito, ergo sum*). This phrase, conducted from a first-person epistemological perspective, illuminates a fundamental duality of the self, and thus raises the everlasting question of how to distinguish the knower (“I”) from the known (“me”); in Metzinger’s words (2009, pp. 1–2), “who is the feeler of your feelings and the dreamer of your dreams? Who is the agent doing the doing, and what is the entity thinking your thoughts?” Also, as elegantly formulated by Kant:

Through inner *experience* I am conscious of *my existence* in time (consequently also of its determinability in time), and this is more than to be conscious merely of my representation. It is identical with the *empirical consciousness of my existence*, which is determinable only through relation to something which, while bound up with my existence, is outside me. This consciousness of my existence in time is bound up in the way of identity with the consciousness of a relation to something outside me, and it is therefore experience not invention, sense, not imagination, which inseparably connects this outside something with my inner sense. (Kant, 1787/1929, p. 34–35])

Following on from Kant, James suggested that the self

involves a stream of thought, each part of which as “I” can 1) remember those that went before, and know the things they knew; and 2) emphasize and care paramountly for certain ones among them as “me,” and *appropriate to these* the rest . . . . This me is an empirical aggregate of things objectively known. The I which knows them cannot itself be an aggregate. (1950, p. 400)

Similarly, Frege conjectured that “it seems absurd to us that a pain, a mood, a wish should rove about the world without a bearer, independently. An experience is impossible without an experient. The inner world presupposes the person whose inner world it is” (1918/1967, p. 27).

In consequence, psychological theories and empirical research on the (elusive) self have, over the years, emanated from these two perspectives of the knower (“I”—ontological perspective) and the known (“me”—epistemological perspective). This fundamental experience of being someone is sometimes dissociated in people suffering from mental disorders leading, for example, to several distinct selves. In posttraumatic stress disorders (PTSD), “patients frequently describe the experience of having lost the ‘self’ that they were before trauma, or, more graphically, claim that their old self has ‘died’” (Luke & Stopa, 2009, p. 16).

In trying to clarify what the self is per se, scholars within the ontological perspective have addressed a range of self-related phenomena, such as free will, homunculi (McGinn, 1991), and relations between self-awareness and sensation (Humphrey, 1992, 2006). Some have, however, articulated that there is no such personal entity as the self: “contrary to what most people believe, nobody has ever *been or had a self*” (Metzinger, 2009, p. 1). What Metzinger means is that there is no ontological “I,” only a representational phenomenon of, in his words, “ego tunnel.” The epistemological perspective, on the other hand, has focused on the self as, for

example, a cognitive representation (Kihlstrom & Cantor, 1984), an implicit self (Devos & Banaji, 2003), a self-regulating agent (Banaji & Prentice, 1994), and a tripartite of individual, relational, and collective self (Sedikides & Brewer, 2001).

Leary and Tangney (2003) categorized five overlapping domains of the self and identity research including both epistemological and ontological perspectives, namely: (1) content, structure, and organization of the self; (2) agency, regulation, and control; (3) evaluation, motivation, and emotion; (4) interpersonal aspects of the self; and (5) phylogenetic and ontological development. This article refers to the first three partitions of this classification, given that the transformation of “place” (general fact) to “place of mine” (personal fact) necessitates the conducts of place-related attachment/closeness (Knez, 2005), place and self-related coherence and correspondence (Conway et al., 2004), reflection, agency, and temporality (Klein et al., 2004). However, basically related to the study of self and memory (Beike et al., 2004; Singer, 2005) and the motto “we *are* what we remember” (Conway & Holmes, 2004; Kihlstrom & Klein, 1994; Wilson & Ross, 2003), Kihlstrom et al. very directly state their view that:

The self is a mental representation of oneself, including all that one knows about oneself. The *I* who knows the *me* is the same *I* who knows everything else, and the mental representation of this knowledge is no different, except perhaps in intimacy and richness, than is the mental representation of anything else I know. (2003, p. 69)

Conceptualizations of the autobiographical memory as a knowledge structure, a mental state resulting in a personal experience, stem from a long-standing philosophical view of memory as grounding the self. In pronouncing his answer to the question of how humans acquire knowledge, Locke takes a stand on the relation of self and memory:

To this I answer, in one word, From experience; in that all our knowledge is founded, and from that it ultimately derives itself. Our observation, employed whither about external sensible objects, or about the internal observations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking. These two are the foundations of knowledge, from whence all the ideas we have, or can naturally have do spring. (1849, p. 75)

What Locke suggests is that knowledge about ourselves, like all other knowledge acquired by us, is a *replay* of the past, akin to a recorder (tape, video, digital) in modern terms. This is a view that many subsequent memory accounts have essentially shared (Atkinson & Shiffrin, 1968; Ebbinghaus, 1885/1913).

Hume, another British empiricist, questioned Locke’s view that self exists as a result of a posteriori processes of memory; that is, reversely, that what we do *not* remember is *not* part of ourselves. Hume (1967), on the contrary, suggested that memories (“ideas,” mental representations) are bleached reproductions of our experiences (“impressions”), meaning that memory does not replay one’s identity but reproduces it and, in addition, extends (constructs) it beyond our experience.

For this reason, Hume was a forerunner of the psychological accounts addressing the (re)constructive memory (Bartlett, 1932; Schacter & Addis, 2007), due to several imperfections in human memory (“sins”—Schacter, 2001; “alterations of memory”—James, 1950).

#### 4.1. Components of the Self

Analogous with the theory of truth in classical philosophy and modern science, Conway et al. (2004) incorporated the concepts of correspondence and coherence into SMS as two psychological competitors in human memory grounding the self. In classical literature and generally speaking, correspondence is linked to the real world (empirical accuracy) and coherence to the understanding (rationality) of that world (Bradley, 1914; Hammond, 2007). This suggests that the self is reciprocally molded by two psychological forces of representing the world in a correspondingly and “accurate” way as it is experienced, and retaining this knowledge “rationally” as to cohere with the self. For that reason, the main function of the working self is twofold, to “conservatively” (Greenwald, 1980) maintain self-related coherence in the goal system as well as to correspond accurately (adaptively) with the world. In addition, Klein et al. (2004) emphasized that a healthy and stable self has to encompass self-related reflection (ability to reflect over my inner world), agency (thoughts and memories in my head are mine) and temporality (ability to relive my experiences in a subjective mental time travel).

All the above coincide with James’ reasoning about the self involving the “elements” of self-related awareness, agency, continuity, coherence, and time as an indication linked to “every act of memory” (1950, p. 650). Thus, according to a long-standing philosophical view of memory as grounding the self and recent psychological accounts, the first-person epistemological experience of how *I* (the knower) ground *me* (the known) requires that: (1) I represent me over time as a *coherent* self; (2) appropriately *corresponding* to the immediate ongoing reality; and (3) that I am *reflective* upon and (4) aware of me as *possessing* my inner world in a (5) *time-related* unfolding of my experiences. All this is done within the context of a transient (“online”), goal-driven, autobiographical representation of the self.

### 5. Psychology of Physical Places

According to physics (classical mechanics), the world comprises three dimensions of space (Euclidean geometry: 3D space perceptions) and one dimension of time (the so-called fourth dimension). Kant (1787/1929) defined space (and time) as a basic a priori format of the human mind, meaning that there cannot be any perceptions or internal representations of the external world without that set-up. Space is thus, according to Kant, one of the two organizing and structuring formats for our inner and outer ongoing experiences. Thus, the world *appears* through space (and time). Akin to Kant’s view, in his theory of intelligence, Piaget defined space as

a conceptual, rather than a perceptual, property of the mind, constructed over the life course (Brainerd, 1978).

Both Fechner (1860/1966) and James (1950), on the other hand, linked the properties of space to the basic physiology of the senses (psychophysics). Later, Brunswik (Hammond & Stewart, 2001) and Gibson (1979) addressed the concept of space in terms of ecology; the former in the vocabulary of representative design and causal links of the organism and environment transactions, and the latter in terms of optic array structures that originate the uncovering of the environmental texture elements. How we learn, represent, use, and behave in geographic space has also over the past 40–50 years been addressed, especially by cognitive mapping research (Kitchin & Blades, 2002) referring back to the work of, for example, Tolman (1948) and Kaplan (1973).

### 5.1. Person and Place

Folk psychology, furthermore, tells us that across time, we evolve ties to spaces, physical *places*, where we were born and brought up, where we live and work—types of “born and bred narratives” (Taylor, 2010). The concept of space refers to an abstract geometrical entity, “indifferent with respect to any human activity” (Bechtel & Churchman, 2002, p. 108), whereas place involves experiential connotations, a “lived space” (Bollnow, 1967) constructed in “our memories and affections through repeated encounters . . . it is where one knows others and is known to others, it is one’s own” (Relph, 1976, p. 16). This means that physical places are geographies (on a spatial scale from home, neighborhood to planet via settlement, nation, and continent) that comprise, for us, meaningful, autobiographical information by which we share personal chronicles, collective traditions, and social rituals. In the words of Schama, “landscape is the work of mind. Its scenery is built up as much from strata of memory as from layers of” (2004, p. 7).

Accordingly, a place includes not only physical and spatial parameters but also psychological, social, historical, and religious connotations; *genius loci*, a spirit of the place, as Romans believed (Norberg-Schulz, 1980). The concept of space, a physical place, has thus been reclassified to amalgamate both psychological and social aspects of the human space experience (Canter, 1997; Graumann, 2002; Knez, Thorsson, Eliasson, & Lindberg, 2009). As lyrically formulated by Tymieniecka, “individualizing life not only extends through spacing, through multiple interactions with the external forces that together form the conundrum of what we call the ‘world’, but foremost forgoes for itself its own place, its own dominion” (1997, p. xi).

### 5.2. Person-Place Ties

Two types of bonds accounting for the psychology of place have been previously indicated, namely, place attachment (Scannell & Gifford, 2010) and place identity (Droseltis & Vignoles, 2010). The former denotes an emotional link to a place (Giuliani, 2003) resulting in a tendency to maintain closeness to such a place (Hidalgo & Hernandez, 2001). This is consonant with attachment theory in general,

and especially with the Ainsworth, Blehar, Waters, and Wall (1978) concept of the “secure” type of attachment involving the dimension of *closeness*. The latter bond extends the psychological concept of identity to include the physical world: “what is true of self-identity is also generally true of its sub-structure, place identity” (Proshansky, Fabian, & Kaminoff, 1983, p. 60). Hence, generally speaking, a place-related attachment refers to an emotional appraisal (emotional bond) to a place, and a place-related identity to a cognitive categorization (cognitive bond) of that place.

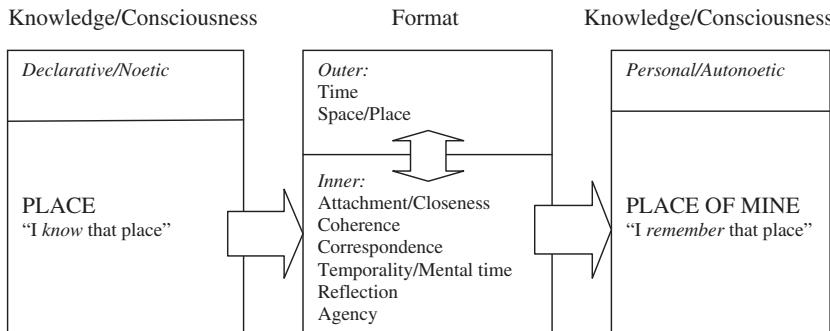
Others, too, have argued that human identity must be interconnected with physical places, suggesting *continuity* as one of the basic processes accounting for the construction of a place-related identity (Twigger-Ross et al., 2003). It maintains consistency in oneself over time, and involves two types of self-processes that refer to coherence and correspondence (Conway et al., 2004): “I live in a rural place because it reminds me of my childhood places” (past = referent continuity; coherence) and/or “I live in a rural place because I value an open-air-way-of-living” (present = congruent continuity; correspondence). In sum, compatible with the Kantian position, the physical milieu has been indicated as one of the fundamental contexts for the human experience; as formulated by Husserl:

In this unique world, everything sensuous that I now originally perceive, everything that I have perceived and which I can now remember or about which others can report to me as what they have perceived or remembered, has its place. Everything has its unity in that it has its fixed temporal position in this objective world, its place in objective time. (1948/1997, p. 163)

## 6. Conceptual Model of Place and the Self

The literature reviewed indicates that a psychological formation of a place-related self necessitates the elements of time, space, attachment, coherence, correspondence, temporality (mental time), reflection, and agency. To date, however, these concepts have not been integrated in a theoretical framework accounting for the relation between place and the self.

As can be seen in Figure 1, I suggest a conceptual model comprising two basic components (outer and inner format) that combine in producing the autobiographical, first-person epistemological experience of “place of mine” (an event/memory: “owned as part of my experience” in James’ words) emerging from the declarative concept of PLACE. Consequently, for example, when the concepts of PARIS (capital of France) and HOUSE (building made for people to live in) transform into a personal form such as *my* trip to Paris and home of *my* childhood, they will henceforth operate not only as a declarative but also as personal autobiographical knowledge. This is generally in accordance with the phenomenologists who proposed that we inhabit the world as our “habitat” (Merleau-Ponty, 1945/1962; Relph, 1985), implying that any place (e.g., building, street, settlement, region, or nation) might operate as an organizational “place of mine” structure (overarching theme) in the



**Figure 1** A Transformation of Declarative Fact “a Place” to Personal Fact “a Place of Mine” with Accompanying Noetic and Autonoetic Consciousness, Respectively, Via Outer and Inner Formats.

autobiographical memory; for example, as a chapter in a life story (see section 6.1 below).

The *outer format* involves the “Kantian” basic elements of time and space (physical place) and the *inner format* involves the psychological capacities of attachment and self-related coherence, correspondence, reflection, temporality (mental time), and agency; components of the autobiographical information grounding the self, apportioned across declarative memory.

### 6.1. Outer Format

*Time and place.* Kant regarded the properties of time and space as *the* organizing and structuring formats, as “the necessary condition of the existence of all things” (Kant, 1787/1929, p. 89). In a similar vein, 200 years later, Kimmel pointed out that:

There is, in the life of a person and in the history of a people, a convergence and integration of time and place, however tenuous, such that the significance of meaningful time and place is requisite to the human character of life. The denial of either diminishes or eliminates, fully or marginally, human life and community. (1997, p. 141)

Correspondingly, Knez (2005) showed that time (residential time, accommodation period) plays a significant role in the course of constructing a place-related identity, meaning that extending one's stay at a place incorporates that place as a part of oneself. Also, supporting the suggestions of Giuliani (2003) and Twigger-Ross et al. (2003) that a place-related attachment might precede a place-related identity, Knez (2005) reported that across time, we first emotionally process, and then cognitively categorize, a place as being a part of ourselves. This is also in line with some previous research indicating that storage in episodic memory will be enhanced by the emotional context of the information to be remembered (Canli, Zhao, Brewer, Gabrielli, & Cahill, 2000; Christianson, 1992).

Thus, Knez's (2005) findings suggest that both time and place (space) as the outer/inner organizing frames are essential for the mental *temporality* (Tulving, 2002b) of personal memories (Klein et al., 2004). Additionally, Knez (2006) showed that physical places across time may operate as thematic pathways (top-down processes), directing the modes of personal memory and the accompanying self-knowing consciousness. This works in a similar vein to overarching themes in a life narrative by the organizing and triggering of personal reminiscence (Fivush, 2011; McAdams, 2001; Williams et al., 2008) and mental time travel (Suddendorf & Corballis, 2007; Tulving, 2002a, 2002b; Wheeler et al., 1997). Accordingly, the concept of place in a self and autobiographical memory context suggests that:

- (1) We are contextually located in space and time (Kant, 1787/1929; Merleau-Ponty, 1945/1962). Psychologically, this means that we: (a) across time evolve "a sense of belonging and an identity as a person *of* that place" (Taylor, 2010, p. 22), and (b) are self-projected (Buckner & Carroll, 2006) into past selves and situations via "places of mine" (Knez, 2006), because place is "where one knows others and is known to others, it is one's own" (Relph, 1976, p. 16).
- (2) Personal memories are hence grouped around an autobiographical overarching theme of "place of mine" ("one's own" in Relph, 1976). Their main function is to activate, in a top-down cyclical manner (Knez, 2006), recollections of self-defining, personal, social, and cultural experiences as part of a coherent life story (Conway et al., 2004; Fivush, 2011; McAdams, 2001; Singer & Salovey, 1993), involving self-knowing consciousness (Kihlstrom et al., 2003; Rathbone, Moulin, & Conway, 2008; Tulving, 1983).
- (3) Accordingly, the place (a) incorporates "constituents of person-place transactions" (Canter, 1997, p. 118) that gradually evolve across improved conceptualizations of the personal, social, and cultural world (Nelson & Fivush, 2004) and knowing of the self (Welch-Ross, 2001), and (b) operates as a reminder of personal as well as of earliest childhood memories (Wang, 2006).
- (4) The transformation of "place" (general fact) to "place of mine" (personal fact) indicates, consequently, an alteration from a general concept, signifying a physical location, to an overarching theme involving personal, social, and cultural person-place transactions.
- (5) Finally, as previously indicated (Knez, 2005, 2006), place as an overarching theme in autobiographical memory is extended in time. It may, thus, operate as a *chapter* in the life story (Thomsen, 2009; Thomsen & Berntsen, 2008), clustering specific memories of life time periods, themes, and/or general events (Williams et al., 2008) measured in years, months, weeks, and/or days (an example of this will be presented in section 6.3).

In sum, in James' words:

A general feeling of the past direction in *time* [emphasis added], then, a particular date conceived as laying along that direction, and defined by its name or phenomenal contents, an event imagined as *located* [emphasis added] therein, and *owned as part of my experience* [emphasis added],—such are the elements of *every* [emphasis added] act of memory. (1950, p. 650)

## 6.2. Inner Format

**Attachment.** The impact of the caregiver-infant relationship on infancy and early childhood has been addressed by attachment theory, indicating that the quality of this relationship may be fundamental for the child's development of a self-concept and for his or her socialization (Sedikides & Skowronski, 2003). The concept of attachment cannot, however, be carried over analogously from the caregiver-infant relationship to the environmental psychology context, because the latter indicates a *one-way closeness* (Low & Altman, 1992; Scannell & Gifford, 2010) between a person and a place as opposed to the former (Bowlby, 1988) which designates a dynamic reciprocal connection between an infant and a caregiver.

Attachments are hence “relationships . . . to particular *people* [emphasis added] whom we love . . . and sometimes to particular *places* [emphasis added] that we invest with some loving qualities” (Marris, 1982, p. 185). Correspondingly, in an autobiographical memory cross-cultural study, Wang (2006) showed that the earliest childhood memories across three cultures (European, American, and Asian) were cued by the words ‘mother’ and ‘surroundings’, indicating an early development of attachment/closeness to a person and a physical place. In sum, given the present context, we can only predict an attachment regarded as one-way closeness (thus not interdependence, as with the infant-caregiver link) between the self and a place.

**Coherence and correspondence.** Following on from James (1950) and Popper (1963), Swann (1999) argued that one of the basic facets of the self is its persistent search for regularities/coherence. We do that across time by maintaining and stabilizing, self-verifying, different self-views which are “invaluable means of . . . organizing experience, predicting future events, and guiding social interaction” (Swann, Rentfrow, & Guinn, 2003, p. 369). As reviewed above, the concept of coherence has been identified in concert with its parallel appearance of correspondence. The former refers to the self’s “rationality” (Hammond, 2007) or “conservatism” (Greenwald, 1980) in understanding itself, and the latter refers to the ongoing “accurate/adaptive” interplay of the self and the world.

In this article, the concepts of coherence and correspondence are related to James’ (1950) concept of continuity; in other words, to the processes of *past* referent continuity (coherence), for example “I live in a rural place because it reminds me of my childhood places” (Knez, 2005) and *present* congruent continuity (correspondence), for example “I live in a rural place because I value an open-air-way-of-living” (Knez, 2005). The former process indicates that the place coheres with a past self and the latter that the place corresponds with the current self (see Twigger-Ross et al., 2003 for a review).

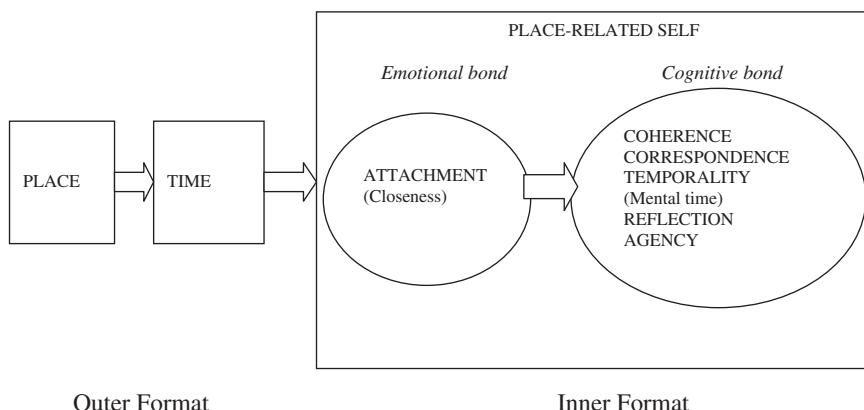
**Reflection and agency.** “We feel and act about certain things that are ours very much as we feel and act about ourselves” (James, 1950, p. 291). These words capture the two “necessary components” of the healthy self and its processes of autobiographical recollection as suggested by Klein et al. (2004); the third one is self-temporality. Thus, in order to coherently and correspondingly ground the self across time, the self must

also be aware of and reflect upon its mental states. These standpoints also coincide with Erikson's (1968) reasoning about the defining-and-meaningful-identity (the self) comprising components of inner continuity, consciousness, and agency across time. In the words of Kant, "through inner *experience* I am conscious of my *existence* in time" (1787/1929, p. 35).

### 6.3. Predictions of the Model

The relation of the components comprising the outer and inner formats outlined in Figure 1 are further dissected causally in Figure 2. According to this proposal, the place-related self (a subsystem of the self, comprising emotional and cognitive place-related bonds) is a product of the experience of place across time (Knez, 2005). The main function of this construct, emerging as a transitory cognitive state of "place of mine," is to thematically guide personal reminiscence and self-knowing consciousness of periods of our lives (Knez, 2006).

Accordingly, as an example, by revealing a piece of my academic chronicle (an "online" subset of self-representations), *I* who knows *me* have across *time* evolved an *attachment* towards the city of Uppsala, a *place* ("a place of mine") where *I* took my PhD, and with that, initiated my academic *self/identity* (conceptual and personal knowledge of *me* as a PhD). *Reflecting* upon these experiences (memories) of *mine* (*agency*) I remember (I'm *self-knowingly* conscious about this personal chronicle) the date and the time of the day (inner *temporality*) when *I* defended my PhD thesis (*coherence* in academic self). As a consequence of all of this, and at this precise moment, *I* am writing this article as part of *my* obligations and interests in my academic position/profession, being a professor (an accurate *correspondence* with the ongoing present).



**Figure 2** A Causal Link of Grounding a Place-Related Self (a Subsystem of the Self) from a Place Across Time Via Emotional Bond (Attachment/Closeness) to a Cognitive Bond (Coherence, Correspondence, Temporality/Mental Time, Reflection, Agency).

Taken together, a theoretical framework for understanding the phenomenon of place-related self is suggested, synthesizing the psychological inquiries of place, self, and memory. This account proposes (see Figure 1) that the transformation of “place” (declarative fact with accompanying noetic consciousness) to “place of mine” (personal fact with accompanying autonoetic consciousness) is due to an amalgamation of outer (physical place, time) and inner formats (attachment, coherence, correspondence, temporality, reflection, and agency).

More precisely, the place-related self is assumed to be a subsystem within the self, formed by a causal progression (see Figure 2) from a physical place across time via emotional (attachment/closeness) and cognitive bonds (coherence, correspondence, temporality/mental time, reflection, agency) to that place. All this also combines three relatively unrelated constructs from environmental psychology, namely place attachment (Giuliani, 2003), sense of place (Jorgensen & Stedman, 2001), and place identity (Twigger-Ross et al., 2003) into the construct of place-related self, as involving fundamental processes of place-related appraisal (emotional bond) and categorization (cognitive bond).

In sum, the first-person epistemological experience of how *I* (the knower), knowing *me* (the known), am tied to a particular physical place is managed by SMS, by which a physical place (Uppsala) operates as a thematic top-down cue guiding the personal reminiscence (“I remember when, where, and how I took my PhD degree”); or conceptual knowledge about myself (“I know that I am a PhD without remembering the specific experiential details of when, where, and how”); or episodic memory (“I’ll never forget when one of my PhD student friends recommended an Andrei Tarkovsky film *Nostalgia*—one of the best films ever, she said”), with accompanying types of consciousness (self-knowing and/or self-remembering).

## 7. Testing the Model

Data from Knez’s (2005) study on place-related attachment and identity (724 participants) and new data (604 participants) were used to test the model statistically.

**Sample.** A total of 600 households located within the city of Gothenburg, Sweden were sent a questionnaire about place-related issues. They were randomly identified from a register of population. The questionnaire was also sent to 600 persons working in the city, a stratified sample, selected from a register of companies located within the city. The questionnaire comprised questions about demographic variables, general and specific place-related attitudes and behaviors, etc.

**Response rate.** The response rate was 60.3% (724 responses). Of these responses, 47% (340) lived and 53% worked (384) in the city. The questions analyzed and reported in the present paper concerned only those living in the city; that is, individuals from the random sample plus those from the stratified sample that also were shown to live in the city.

**New data.** Similar questionnaires with similar procedures and response rates were used in another Swedish town, the city of Luleå, with 604 responses. These data have not previously been analyzed and reported.

### 7.1. Measures

Emotional and cognitive bonds (see Figure 2) were measured by 5 scales/statements ranging from 1 (strongly agree) to 5 (strongly disagree), derived from previous research on place-related attachment and identity.

**Emotional bond.** The statement “I am strongly attached to this part of town” (Knez, 2005; Twigger-Ross & Uzzell, 1996) was used as a measure of place-related attachment/closeness. Emotional connotations stored in the autobiographical knowledge base are “always reflected with respect to oneself and used for evaluating one’s position with respect to the environment” (Welzer & Markowitsch, 2005, p. 67).

**Cognitive bond.** The following statements were used as measures of place-related coherence (past self) and correspondence (current self), two psychological competitors in autobiographical memory grounding the self (Conway et al., 2004), derived from the place-related continuity classification (Knez, 2005; Twigger-Ross et al., 2003):

- (1) *Coherence* (scales/statements)—“this part of town reminds me of the environment of my childhood” and “the climate here is like the climate in the environment of my childhood”).
- (2) *Correspondence* (scales/statements)—“I would prefer to live in a place like the one where I live now” and “I want to live in a place with the same climate as here”).

The statement about climate was added because climate is one of the fundamental physical parameters defining a place (Eliasson, Knez, Westerberg, Thorsson, & Lindberg, 2007; Knez, 2005; Knez & Thorsson, 2006, 2008; Knez et al., 2009; Nikolopoulou, Baker, & Steemers, 2001; Zacharias, Stathopoulos, & Wu, 2001).

**Time.** Participants were asked to note their residential time (accommodation period), in years (Knez, 2005).

As hypothesized (see Figure 2), the parameters of physical place and time, as well as attachment/closeness (emotional bond), coherence, correspondence, temporality/mental time, reflection, and agency (cognitive bond) are involved in the formation of a place-related self. Regarding the empirical data to be analyzed, data on place (the cities of Gothenburg and Luleå), time, and emotional bond were available. Also, coherence and correspondence (parameters of cognitive bond) were directly measured, but not inner temporality, reflection, and agency. Thus, there were no explicit data on participants’ ability to mentally reflect and reminisce about their places in a subjective-time-travel manner.

However, in an autobiographical memory study, Knez (2006) has shown that people do indeed use physical places as cyclical top-down retrieval cues in guiding

**Table 1** Summary of the Total Variance Explained by the Solution to the Factor Analysis.

Total variance explained						
Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	1.693	42.316	42.316	1.693	42.316	42.316
2	1.048	26.203	68.519	1.048	26.203	68.519
3	0.699	17.483	86.003			
4	0.560	13.997	100.000			

Extraction method: Principal component analysis.

personal memory. Given this, relative to the present context, we may then reasonably assume that when asked to respond to questions/statements about a given place-related attachment/closeness and coherence-correspondence, subjects participating in the present study might have also reflected on that place in an inner temporality manner.

## 7.2. Results

*Descriptive statistics and exploratory factor analysis.* A factor analysis was performed to extract the latent variables of coherence and correspondence. It was hypothesized that the four scales/statements would group and load, two-by-two along these two concepts. Two descriptive statistics were checked for prior to proceeding with the factor analysis. Regarding the KMO measure of sampling adequacy (Kaiser, 1974) an acceptable level of 0.6 was shown as well as large statistics ( $p < 0.001$ ) for the Bartlett's (1954) test of sphericity, meaning that data are factorable for an analysis (Brace, Kemo, & Snelgar, 2006). An exploratory factor analysis showed that two factors accounted for 68.5 % of variance (see Table 1) and that the four scales/statements loaded, as hypothesized, along the latent variables of coherence and correspondence (see Table 2).

**Structural equation modeling.** Structural equation modeling was used (Maruyama, 1998) to test the associations predicted in Figure 2. Four main measures of fit to data were examined:

- (1)  $\chi^2$  values (low values indicate better fits), degrees of freedom, and  $p$  values.
- (2) RMSEA, values less than 0.06 indicate a good fit (Hu & Bentler, 1999) and above 0.08 a mediocre/weaker one (Steiger, 1994).
- (3) PCLOSE, a significant test of "close fit" (Browne & Cudeck, 1993) meaning that values higher than 0.05 (null hypothesis) indicate that model is confirmed ("close" to be).
- (4) CFI, value of 1.0 indicates a perfect fit and values  $>0.90$  represent a well-fitting model (Bentler, 1992), meaning that the latent variables are uncorrelated (Fan, Thompson, & Wang, 1999).

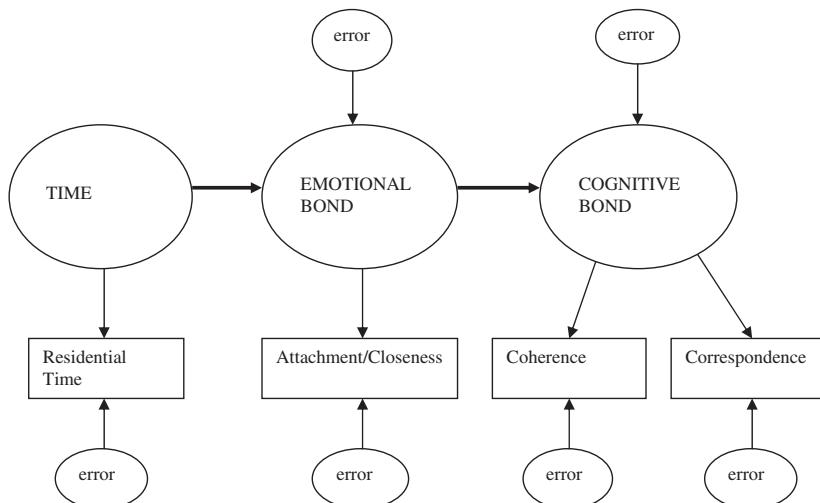
**Table 2** Loadings from a Rotated Component Matrix, Indicating Which Scale/Statement Loads Most Strongly on Which Factor.

Rotated component matrix <sup>†</sup>	Component	
	1	2
This part of town reminds me of the environment of my childhood. (Coherence)	0.068	0.828
The climate here is like the climate in the environment of my childhood. (Coherence)	0.127	0.803
I would prefer to live in a place like the one where I live now. (Correspondence)	0.818	0.119
I want to live in a place with the same climate as here. (Correspondence)	0.836	0.079

Notes: Extraction method: Principal component analysis.

Rotation method: Varimax with Kaiser normalization.

<sup>†</sup>Rotation converged in 3 iterations.



**Figure 3** A Path Diagram Representing a Latent Variable (Time, Emotional Bond, Cognitive Bond) Structural Equation Modeling for the Observed Variables of Residential Time, Attachment/Closeness, Coherence and Correspondence.

Figure 2 was re-sketched to Figure 3 in order to follow the instructions of the AMOS software (Byrne, 2010) and the data available, specifying how the observed and unobserved variables are related to each other, and residuals (error terms) specified. When modeling a latent variable structure, two types of models are performed: a measurement model that specifies relations between observed (measures, tests) and unobserved (theoretical, latent) variables; and a structural model that specifies relations between the unobserved variables. Figure 3 shows a path diagram stipulating the structural model for the four measures/tests.

Thus, as can be seen in Figure 3, the latent (unobserved) variables of time, emotional bond, and cognitive bond were indicated (indirectly measured) by the

observed variables (tests) of residential time, attachment/closeness, and coherence and correspondence. Each arrow in the structural model represents a standardized estimate (regression coefficient). In addition, according to the logic of a measurement model, it is assumed that the latent variable (construct)

“causes” the measure because the measure assesses variability from that construct. The residual includes measurement error as well as true score unique variance. In other words, the measure is viewed as being made up of variability from the construct of interest plus other variability. (Maruyama, 1998, pp. 81–82).

Finally, the method of maximum likelihood was used to estimate models and evaluate their fit to data.

**Structural modeling of place-related self-testing four alternative models.** Following Figures 1 and 2, four conceptually relevant models were formulated (see Figure 4) to test which, if any, of these models fit the data best, and thus best account for the place-related self. As can be seen by comparing Figures 2 and 4, the predicted model was formulated as SM3. Given that time is assumed to affect the place-related self, the SM1 and SM2 tested the relationships of time reciprocally influencing emotional and cognitive bonds, differing in that emotional bond foregoes cognitive bond (SM1) or vice versa (SM2). SM3 tested from the conceptual model assumed relationship of time → emotional bond → cognitive bond, and SM4 tested the opposite direction of Bond succession, namely, time → cognitive bond → emotional bond.

As can be seen in Table 3, SM3 showed best fit statistics compared to the other three SMs: lowest  $\chi^2$  (15.44) and RMSEA (0.05; indicating a good fit) values; and highest PCLOSE (0.32; larger than ( $p$ ) 0.05 and by that indicating “close” fit) and CFI (0.90; nearest the value of 1.00 and by that representing a well-fitting model).

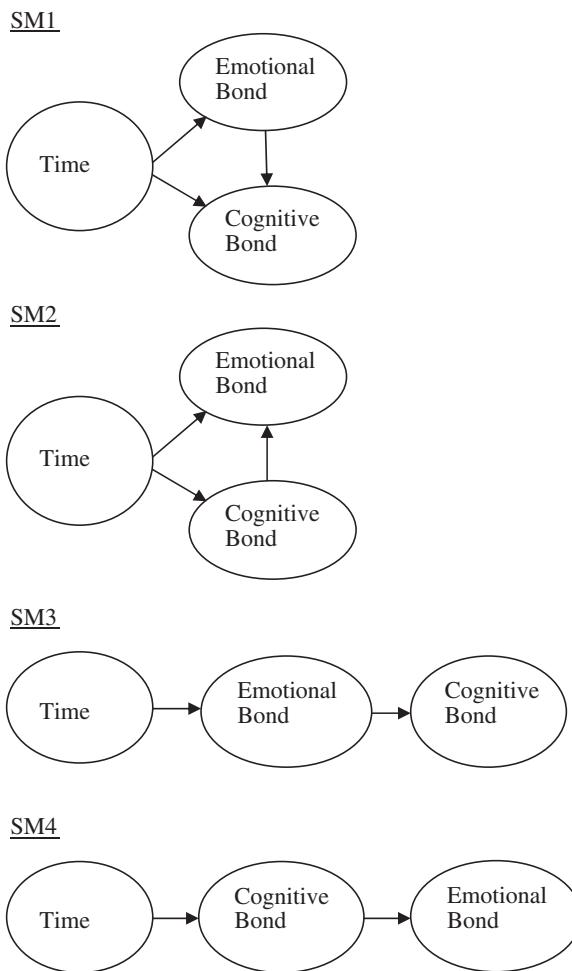
As can be seen in Table 4, the relations between latent variables (time → emotional bond, and emotional bond → cognitive bond) were significant.

Standard errors and critical ratios for these relations were also in good order, meaning that small standard values suggest accurate estimations (Byrne, 2010). Critical ratio values greater than 1.96 (as  $p$  values smaller than 0.05) indicate significance. In addition, as can be seen in Figure 5, the path between time and emotional bond was stronger than the path between emotional and cognitive bonds (0.97 versus 0.60). The relation between latent and observed variables of emotional bond and attachment was also stronger (0.98) than between time and residential time (0.28), and between cognitive bond and coherence (0.28) and correspondence (0.33).

In sum, the results suggest that prolonging one’s stay at a place amplifies one’s closeness (emotional bond) to that place, which in consequence grounds one’s place-related coherence and correspondence (cognitive bond) to that place.

## 8. Discussion

In agreement with the ontology of physics, classical mechanics, the idea that space and time reflect some of the basic categories of the human mind dates back, among



**Figure 4** Four (SM1–SM4) Conceptually Relevant Structural Models, Derived from the Proposed Model of Place-Related Self (see Figure 2).

**Table 3** Structural Modeling Statistics for the Four Models SM1–SM4 (see Figure 4).

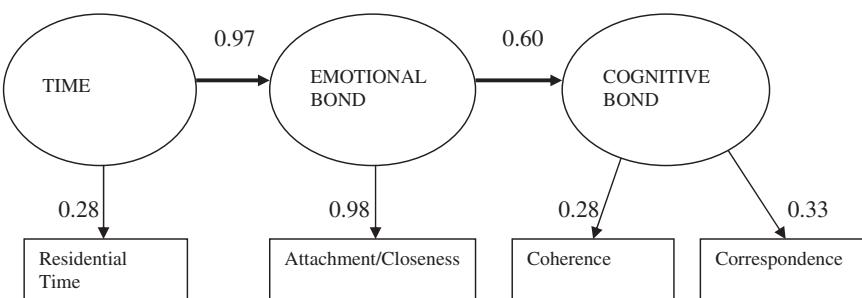
Structural model	$\chi^2$	df	<i>p</i>	RMSEA	CFI	PCLOSE
SM1	53.02	4	0.00	0.10	0.59	0.00
SM2	70.26	4	0.00	0.11	0.45	0.00
SM3	15.44	3	0.00	0.05	0.90	0.32
SM4	26.65	3	0.00	0.08	0.80	0.04

others, to Kant and Husserl. I synthesize this view with another ancient matter, that of the self and its link to memory, an issue dating back to Descartes, Kant, Locke, Hume, James, and others. Accordingly, I propose a conceptual model suggesting psychological relationships between physical places and times (outer format;

**Table 4** Unstandardized Regression Weights for SM3 (see Figure 4) with Standard Error (SE), Critical Ratio (CR), and *p* Values.

Relations	Estimate	SE	CR	<i>p</i>
Time → Emotional bond	0.28	0.04	7.73	0.00
Emotional bond → Cognitive bond	0.15	0.02	7.03	0.00
Time → Residential time*	1.00			
Emotional bond → Attachment*	1.00			
Cognitive bond → Coherence*	1.00			
Cognitive bond → Correspondence*	1.00			

\*To identify a regression model and to define a scale, according to AMOS, the path coefficients between latent and observed variables are fixed at 1.00. Consequently, no SE, CR, and *p* values are provided by AMOS for these paths.



**Figure 5** The Graphic Output of the SM3 Showing a Causal Link Proceeding from Time to Emotional Bond to Cognitive Bond, with Standardized Regression Weights (Higher Regression Coefficients Indicate Stronger Relationships).

see Figure 1) and the psychological agent (inner format; see Figure 1), resulting in a substructure of the self, classified as a place-related self (see Figure 2). More precisely, the model hypothesizes that the place-related self is a product of the experience of a physical place and time, modulated by two place-related psychological bonds.

The main function of these bonds is to emotionally appraise and cognitively categorize the physical places in our lives across time. In doing so, information is retained in the autobiographical knowledge base as a personal memory of a “place of mine,” retrieved and transiently cogitated by the working self within the SMS when, for example, recalled by its name (“Uppsala” for me). In other words, the “autonoetic ‘experiencing self’ or the ‘rememberer’ features the capacity to flexibly travel in mental time and space and a superior awareness of oneself as a person in a social (and biological) environment, with a past and a future” (Markowitsch & Staniloiu, 2010, p. 24). Consequently, a physical place may not only be a cue word method for personal memory retrieval (Galton, 1883), an overarching life theme (Conway & Pleydell-Pearce, 2000), a life script (Berntsen & Bohn, 2009), a thematic pathway for a top-down iterative reminiscence (Knez, 2006), or a commemorative act

(Winter, 2009)—but also, in Kant's and Husserl's terminology, one of the two (the other is time) organizing and structuring formats for the human agency. As insightfully pointed out by Casey:

Only consider how often a memory is either of a place itself... or of an event or person *in* a place; and, conversely, how unusual it is to remember a placeless person or an event *not* stationed in some specific locale. To be placeless in one's remembering is not only to be disoriented; it is to be decidedly disadvantaged with regard to what a more complete mnemonic experience might deliver. Place serves to *situate* one's memorial life." (2000, pp. 183–184)

Four conceptually relevant structural models (see Figure 4) were tested. Consonant with the predictions (see Figure 2) a structural equation modeling analysis (see Tables 3 and 4, and Figures 3 and 5) showed that the predicted model SM3 (see Figure 4) showed the best fit to data. Thus, a causal link was indicated from physical place to place-related cognitive bond (coherence, correspondence) across time and place-related emotional bond (attachment/closeness).

Accordingly, Table 3 and Figure 5 suggest that the basic assumptions of the model proposed are reasonably valid, meaning that prolonging one's stay at a place amplifies one's emotional appraisal of that place, which in turn enhances a long-term retention and recall of that place, grounding a phenomenon of the place-related self. In other words, we *first* mold physical places emotionally and *second* cognitively across time so as to be part of our selves, of our place-related self—a subsystem of the self.

### 8.1. Interplay of Emotional and Cognitive Bonds

Giuliani (2003), Knez (2005), and Twigger-Ross et al. (2003) have previously indicated that place-related attachment (emotional bond) might precede place-related identity (cognitive bond). However, Drostelis and Vignoles recently pointed out that "in reality," the interplay of emotional and cognitive bonds "will be bidirectional," and that using the method of structural equation modeling cannot untangle any true causal direction between the emotional and cognitive bonds because the method per se is correlational (2010, p. 32). It is, of course, most probable that in reality, the complex relation of emotion and cognition is bidirectional, and that a *true* causal relation of that directionality in every detail can, strictly speaking, only be shown by an experimental approach.

Hence, the prediction that the emotional bond might precede the cognitive one within the box of place-related self (see Figure 2) is *not* absolute. However, this hypothesized direction from emotion to cognition is based on previous research in emotion and cognitive psychology showing an intra- as well as an interdependence between these two constructs. That is, several findings have indicated independent neural systems for emotion and cognition (Gazzaniga, Ivry, & Mangun, 2002) as well as complex interactions between the two (Phelps, 2005; Power & Dalgleish, 1997).

More precisely, as related to the present context, emotion is indicated as having an adaptive role for the episodic memory, meaning that the storage of important

information for the episodic memory will be enhanced by the emotional context of that information (Canli et al., 2000; Christianson, 1992). Thus, we are prone to better remember events (in the present context, physical places) that are emotionally processed than those that are not. Riskind (1983) has also shown that when, for example, triggering of a positive emotion by a smile, we may be faster at recalling positive personal memories. Consequently, given that the emotion may modulate better retention in episodic memory, the prediction of Figure 2 was that the place-related emotional bond may precede the cognitive one because of its adaptive role in enhancing long-term memory retention and recall, formulated as SM3 (see Figure 4). Also, as can be seen in Table 3 and Figure 5, the best fit to the data was provided by SM3, demonstrating that personal memory of “place of mine” may be more easily recalled due to its emotional connotations stored in the autobiographical knowledge base (Welzer & Markowitsch, 2005).

### *8.2. Limitations and Future Research*

As noted earlier, no direct data on place-related inner reflection/possession and temporality were available for the present analyses. However, in line with the Knez (2006) results, I argued that these iterative top-down processes of reminiscence must have been at hand on occasions when participants were asked to cognitively exploit their personal place information. It is still important to point out that further examinations should aggregate some more specific data on subjects’ ability to reflect on their personal place-related thoughts and memories in a subjective time mental travel manner, in order to give greater confidence in the proposed model.

The tool of structural equation modeling (SEM) was used to test and estimate the causal relationships between the components of the model (see Figure 2). The strength of this technique is to construct and estimate structural relations between latent variables tapped by the observed ones. Caution must, however, be taken because SEM per se is correlational, meaning that future studies should employ an experimental design and method.

Although previously used (Knez, 2005), a single-item measure of attachment/closeness (place-related emotional bond) cannot capture the multifaceted character of this concept (Lewicka, 2011; Scannell & Gifford, 2010), meaning that future research should develop and use some more detailed measures of this construct. Finally, there is wide disagreement among methodologists on which fit indices to report and how to define unconditional cut-offs for these measures (Hu & Bentler, 1999; Marsh, Hau, & Wen, 2004). There is, however, some agreement in that one should *not* report all fit indices and that modeling should be used with respect to the psychological theory. This is precisely what the present paper has done, by suggesting a model (Figures 1 and 2) based on previous findings, and showing best fit to data for the proposed model (see SM3 in Figure 4 and Table 3) compared to the other three competitive ones (SM1, SM2, SM4; see Figure 4 and Table 3).

## 9. Conclusion

Alluding to Merleau-Ponty's statement that "we must avoid saying that our body is *in* space or *in* time. It *inhabits* space and time" (1945/1962, p. 139), I have argued that physical place and time are basic organizing categories for personal memory, and that the self and memory are two sides of the same coin—the psychological agent. A model of the phenomenon of place-related self was suggested, synthesizing historically separate accounts of place identity, self, and memory. The basic view of the model is that physical places and times *position*—anchor—one's reminiscence by forming psychological person-place ties, emotional and cognitive bonds that conduct the psychological agent towards physical place and time as *the* organizing formats for its personal memory. In other words, "where and when, place and time, are the conditions of existence.... Without being placed or located I would not be, and where I find myself implaced influences not just the fact of my being but also its nature" (Benson, 2001, pp. 4). A place-related self is, thus, assumed to be a substructure of the self emerging when we cogitate about our lives, when our self-representations are online, triggering streams of *noeses*—ways of knowing about ourselves.

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