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SUBJECTIVE AMNESIA IN DISSOCIATIVE IDENTITY DISORDER

A Dual Path Model Drawing on Metacognitive Beliefs Related to Self and Memory Functioning

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The clinical feature of dissociative identity disorder (DID) that has most fascinated observers, is the presence in one individual of seemingly different identities which are experienced as having their own characteristic personality traits and sense of self (APA, 2022; Reinders, Nijenhuis, Paans, Korf, Willemsen, & Boer, 2003). Yet the perceived amnesia often noted between dissociative identities is what makes DID so arresting and provocative. In one identity, the person may engage in actions, interactions and mentations while experiencing an array of complex feelings and sensations of which, in another identity, the person reports having no awareness (i.e., the latter identity reports amnesia for what has occurred). In addition, in one identity the person may report no awareness of another identity, and indicates having no knowledge of the other identity's autobiographical memory, nor perceives any benefit from their procedural memories. For example, while in one identity state, the person can *snow ski* and *speak Japanese*, such abilities are not felt to be part of the repertoire of skills available in an other identity state. Thus, the inter-identity amnesia reported in many cases of DID subjectively severs the connection between dissociative identities and provides a sharp felt boundary between them. Conceptually, the distinct identity states are different aspects of the one person forged out of the psychological necessity to adapt to adverse environmental circumstances (see 'Etiological & developmental considerations' section, this volume) in individuals who have specific genetic/biological vulnerabilities (see Dalenberg et al., 2012; Dell, Chapter 14 this volume).

Reports of inter-identity amnesia have been an identifiable clinical feature of DID since the disorder was first described in the medical literature. The description of the famous American case of Mary Reynolds (1793–1854), as documented through the oral history of those who knew her and immortalized in the medical literature by Dr S. L. Mitchill (1816) and Dr S. W. Mitchell (1888), is centrally organized around memory retrieval deficits across identities. For example, "in her old state she possesses all her original knowledge; in her new state only what she has acquired since [this identity has been present]. If a gentleman or lady be introduced to her in the *old* state, she will not know that person in the *new* state…In the *old* state she possesses fine powers of penmanship; while, in the *new*, she writes a poor and awkward hand" (Mitchill, 1816, p. 186, italics in original). It is also noted that Mary herself was not aware (at least initially; see Mitchell, 1888, p. 18) of her other identity; "She is as unconscious of her *double* character as two distinct persons are of their respective separate natures" (Mitchill, 1816, p. 186, italics in original).

The amnesia between identities was so conspicuous it led Mitchell (1888, p. 14) to note that "[t]he two lives which Mary Reynolds lived for many years were thus entirely separate; each was complete in itself…[e]ach state had its mental accumulations. The thoughts and feelings, the likes and dislikes, of the one state did not in any way influence or modify those of the other." Yet, as her nephew pointed out, she was still able to speak and reason in the new identity state, so had not completely lost access to her memory, with semantic memory associated with language still accessible to her (Mitchell, 1888). In addition, the skills of reading and writing in her second identity developed quickly: "The next lesson was to re-teach her the arts of reading and writing. She was apt enough, and made such rapid progress in both, that *in a few weeks*, she had readily re-learned to read and write" (Mitchell, 1888, p. 5, italics in original). This suggests that procedural memory and perceptual representations available and accessible to the original identity were utilized in her second identity state.

Morton (2017) tested pairs of identities in three DID patients reporting inter-identity amnesia. One participant showed no indication of recognizing word stimuli learned one week earlier in another identity and similar results were

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found in two other identities reporting amnesia for each other. Thus, the subjective experience of amnesia was also evident objectively. In another participant, who was tested across multiple pairs of amnesic identities and with multiple perceptual (i.e., word, faces, doors) and episodic (i.e., scenes) tasks, there was no evidence that different identities could recognize the information learned in another identity. The exception to this was the identity "Lorna", who experienced recognition of the stimuli learned by "Denise." In the final participant, as with "Lorna", there was no indication of amnesia, with recognition of word stimuli encoded in another identity the previous week, despite feeling that such information was outside retrieval ability. Thus, there was variation across individuals with DID as to whether they appeared to have access to information experienced by an identity for whom there was reported amnesia. Some did not retrieve learned material, while in others the amnesia was more subjective.

The results of this study investigating inter-identity amnesia were mixed and thus require replication in group studies. Case studies are hypothesis-generating rather than hypothesis-testing and do not provide the same level of evidence or generalizability as well-designed group studies. The body of evidence employing controlled group studies suggests that procedural and perceptual representations, as well as other non-autobiographical memories, are not subject to inter-identity amnesia, with skills and percepts learned in one identity affecting an amnesic other identity (e.g., Huntjens et al., 2002; see Dorahy & Huntjens, 2007). These studies are important as they indicate that the amnesia reported by one identity for what is procedurally, perceptually or non-autobiographically learned in another identity, is more perceived than actual. That is, the non-autobiographical content from one identity actually influences the experience of another identity that perceives their self as amnesic or unaware of such content. In that sense, amnesia in DID has a similar 'actual vs perceived' disjunctive quality that is characteristic of many psychiatric disorders. For example, weight perception in anorexia nervosa in which the person perceives their body as overweight when it is actually underweight.

Studies have also found evidence of access to memory representations for non-autobiographical semantic and episodic information from an identity for whom amnesia was reported (e.g., Huntjens et al., 2003, 2007). Kong, Allen, and Glisky (2008) asked DID participants in two dissociative identities (A & B) to each *listen* to a different list of neutral words. In identity B, who reported amnesia for the learning episode and learned material of identity A, they then performed a recognition test answering 'yes' or 'no' to *visually* presented words composed of those heard in each identity state as well as distractor words heard in neither identity state. Having participants hear the words during the learning phase but see the words during the test phase reduced the impact of implicit processes acting on recognition ability (e.g., implicitly having a word primed in identity B because it perceptually looked identical to a word seen by identity A). Thus, any recognition evident across identities was thought to reflect explicit retrieval processes. This non-autobiographical episodic memory task showed that in identity B, participants were just as likely to recognize visually presented words heard from identity A's word list as those heard from their own word list. All seven DID participants showed recognition of words they reported amnesia for learning. Kong et al. (2008) note their "findings suggest that amnesia barriers between identities may not be as impermeable as subjectively perceived by patients" (p. 689).

Yet, what markedly characterizes patients with DID is not reported retrieval difficulties for perceptual, procedural, and non-autobiographical semantic memories but, rather, autobiographical experiences that are semantic and episodic in nature. Studies of autobiographical memory transfer across identities are fewer in number (e.g., Bryant, 1995), but the evidence likewise suggests a pattern of intact retrieval capability despite subjective reports of amnesia. For example, assessing semantic autobiographical memory Huntjens, Verschuere and McNally (2012) found that, despite an identity reporting no awareness of autobiographical details associated with another identity, they had slower reaction times to the presentation of the latter identity's stimuli compared to previously unseen stimuli, suggesting evidence for recognition. In addition, the reaction time for their own autobiographical stimuli did not differ from the stimuli associated with the identity for which they reported amnesia.

Regarding episodic autobiographical memory, Marsh et al. (2021) assessed intentional retrieval in DID patients for neutral episodic self-referential and autobiographical experiences had in their own identity (identity A) and different experiences had in an identity for which they reported amnesia (identity B). All patients were in therapy and able to move between identities upon request, so had a degree of control over their dissociation. Results from the DID group were compared with actors taught to simulate DID with amnesia between two identities. In addition, two groups from the general population were recruited: One group were given the same experiences as the DID and simulator participants in their identity A, but were not exposed to the experiences of identity B, so truly had no awareness of those experiences (i.e., no awareness group). The other controls had the same experiences as both identity A and identity B, so allowed examination of memory retrieval for episodic experience when no amnesia was present.

Results from the self-referential and autobiographical tasks were similar. The DID sample showed significantly more recognition of their own experiences (i.e., identity A) than those had in identity B, similar to the simulator and no awareness samples, and similar to what is found in state dependent memory research where participants retrieve more

information in the emotional or physiological state in which they encoded the material than in a different state (e.g., Forgas & Eich, 2012). However, DID participants recognized more of the experiences had in identity B than either the simulator or no awareness groups. This suggests that some experiences for which the DID sample reported having amnesia were actually recognized. Thus, results indicate that the DID performance profile was not accounted for by feigned amnesia or having no awareness of the stimuli, lending support to the idea that reported amnesia may be an impairment that is more perceived than actual.

A study taking a more indirect objective assessment of nonintentional memory retrieval across amnesic identities that did not rely on self-report strategies used the autobiographical Implicit Association Test (aIAT) for self-referential experiences emotionally laden with embarrassment (Marsh et al., 2018). The aIAT uses a reaction time procedure to assess the degree to which an experience is regarded as having happened to oneself. Identity A and identity B are exposed to different experiences and the degree to which participants in their identity A state respond to stimuli associated with both experiences is assessed as to whether it reflects an autobiographical event. This allows retrieval of identity B's experiences by identity A to be indirectly assessed and compared to retrieval of identity A's own experiences. While the DID group reported amnesia for what was experienced by identity B, results suggested that in identity A, they responded to these experiences as if they were autobiographically their own. That is, they showed a similar pattern of reaction times for the embarrassment-laden self-referential experiences of identity A and identity B. Results suggest that, while DID participants believe they cannot access, and therefore report a lack of awareness for, autobiographical experiences in identities for which they report amnesia, the memory representations are actually available and accessible for retrieval. This raises the question of how to account for such findings.

Feigning amnesia does not seem to provide an empirically supported explanation (e.g., Huntjens et al., 2014; Marsh et al., 2021). Results from multiple studies support the empirically-driven conclusion of Eich, Macauley, Loewenstein, and Dihle (1997), "interpersonality amnesia is more than simply a matter of deliberate response suppression" (p. 421). Rather, an account is needed that; 1) treats the clinical phenomena (i.e., subjective experience of amnesia in the absence of objective amnesia) as legitimate, similarly to the legitimacy accorded to a depressed patient bemoaning having few happy memories in their life or a patient with anorexia nervosa experiencing their emaciated body as fat (though neither reflect objective reality); and 2) draws on cognitive and/or metacognitive mechanisms to provide guidance.

But what are the clinical phenomena that this chapter seeks to explain? Simply framed, with respect to experiences 'belonging' to another identity, during the course of therapy a DID client may report:

1. No retrieval of experiences because they do not 'search' for any memory representations associated with this identity (e.g., reflexively saying "I don't know" when asked about the experiences of the other identity).
2. No retrieval of experiences even after engaging in initial 'search' (preliminary exploration) of the other identity's experience (e.g., reflective saying "I don't know, I can't remember" when asked about the experiences of the other identity).
3. Retrieval of the other identity's experiences but with a felt sense they do not belong to the retrieving identity (e.g., saying "I recall that [a memory associated with another identity] but it doesn't feel it belongs to me").
4. Retrieval of the other identity's experiences and a felt sense such experiences are actually their own (e.g., saying "I recall that [a memory associated with another identity] and I now know that happened to me").

This chapter seeks to provide an account for the clinical phenomena outlined in 1 and 2, with an understanding from the empirical literature that the experiences of the other identity are available and accessible for retrieval. Thus, it seeks to account for subjective amnesia across dissociative identities, whereby a person with DID reports no retrieval of memory representations experienced by another identity even though those memory representations are accessible. The framework provided draws on metacognitive beliefs about self (associated with self-schemas) and memory, and metamemory processes associated with the 'feeling of knowing' that something can or cannot be retrieved. Based on that appraisal, a search may or may not be initiated, and any retrieved memory representations for which there is a pre-reflective feeling of lack of ownership are ignored.

Metacognition and Metamemory

Putnam (1997) noted the importance of metacognitive processes in the development of an integrated sense of self. Deficits in metacognitive integration result in insufficiently integrated "state-dependent senses of self" (p. 164) and an impaired sense of self-continuity. This is "one of the critical differences between the contextual "selves" of normal individuals and the dissociated "selves" of MPD [DID] patients" (p. 164). This lack of integration of different subjectively

experienced self-states evident in DID is substantiated by more recent neuro-imaging studies. The results of Reinders and colleagues (2003), for example, indicated different patterns in localized brain activity consistent with alterations in subjective sense of self in different dissociative identities (see Dorahy et al., 2014; Reinders & Veltman, 2021). A second metacognitive process deemed important and more recently described, is metamemory. Huntjens et al. (2002, 2006) first argued for an explanation of inter-identity amnesia in DID in terms of metamemory processes. The account of subjective amnesia in DID in this chapter draws on both types of metacognitive beliefs, namely, specific metacognitions about the self and metamemory.

Metamemory and Feeling of Knowing/Not Knowing

> "Metamemory itself involves monitoring an underlying memory system, but then metamemory processes in turn can act on the memory system. Put differently (and in rather general terms), memory influences metamemory, and metamemory influences memory… Accordingly, they act together to decide the fate of learning, *retrieval*, and long term retention."
>
> *(Dunlosky & Bjork, 2008, p. 17, italics added)*

Metamemory, a specific type of metacognition, refers to knowledge, control and monitoring of one's memory (e.g., encoding, retrieval) and learning (Dunlosky & Bjork, 2008), reflecting what people know about their own memory processes (Koriat, 2007). In DID, for example, a dissociative identity's belief that they have no access to the memory content of another identity may reflect a metamemory appraisal about one's memory. Metamemory signifies judgments, reflections and processes associated with internal representations, where cognitions like memories operate at a representational (object) level and metamemory processes operate on such representations at a monitoring and control (meta) level. Thus, meta-level modelling provides higher-order meta-representations and control over memory representations (Metcalfe, 2008). Here the meta-level receives information from the object level to build a (meta)representation of the current state of the object level, and also contains goals as well as knowledge and strategies for regulating object level content and function (Nelson, 1996). As Van Overschelde (2008) clarifies, "the metacognitive model consists of upper-level metacognitive processes that monitor, dynamically model, and control lower-level cognitive processes in an attempt to attain a goal" (p. 48).

One of the control processes activated at the meta-level is the initiation, maintenance, termination and kind of search processes that scour memory for retrieval of (conscious or non-conscious) goal-directed target material (e.g., the answer to a quiz question; Nelson & Narens, 1990). Thus, the meta-level representation strongly influences judgement and decision making (Van Overschelde, 2008), which includes determining the type of search made of object level representations (i.e., memory) to assist retrieval, as well as the initiation and termination of search strategies.

Yet, the meta-level representation does not have a monopoly on providing a true or perfect representation of cognition at the object level and may contain errors, potentially in the service of higher-level *goals* or *beliefs* (see Solinski, Chapter 46, this volume). Thus, there may be discrepancies "between what the individual believes is cognitively occurring and the empirical reality of what is actually occurring" (Nelson, 1996, p. 106). As Koriat (2007) summarizes, the empirical data that show a dissociation between metamemory and memory "clearly speak against the notion that metacognitive judgments rest on privileged access to the contents of one's own memory" (p. 303). Extrapolating to DID, the belief that experiences of another identity are not retrievable does not necessarily mean that those experiences are inaccessible. Thus, dissociative identities may not realize what they know (i.e., they don't know what they know).

If a metacognitive goal or belief is incompatible with data at the cognitive level (i.e., memories), it will not always be the goal or belief that is altered. Rather, in order to preserve self-coherence (e.g., a consistent view of self in the moment and across time), typically the higher-order process will be maintained and influence the metamemory modelling of the object level by ignoring or dismissing inconsistent data, or not hunting for them (e.g., Van Overschelde, 2008). Beliefs and goals are themselves both forms of internally-generated constraint and part of the metacognitive system. They influence metacognitive modelling and the type of control, or strategy, applied to the object level (Van Overschelde, 2008). As Van Overschelde (2008) notes, not all information at the object level can be monitored, and metacognitive beliefs and goals allow filtering so that relevant information is modelled and other information is ignored.

For example, a depressed individual with a metacognitive self-appraisal of uselessness or defectiveness will model and search out memories consistent with that belief and ignore inconsistent memories. When manic and grandiose beliefs about the self dominate, the same person will privilege memories of triumph over memories of failure (Harvey, Watkins, Mansell, & Shafran, 2004; Putnam, 1997). Such memories reinforce the (meta) belief, whilst the belief guides the retrieval of coherent memories, producing a sustained cycle that constrains other thinking.

Thus, in DID an identity may form from a meta-view of self (i.e., self-schema), a metamemory model based on the belief that, if they have not been abused, they are safe (e.g., Huntjens et al., 2022; Kluft, 2007). Accordingly, when cued, accessible but inconsistent details are either filtered out or not searched for as a way of coping with their abuse history. Instead, details that are consistent with the belief/model are searched for, and the retrieval of consistent memories maintains the belief and promotes ongoing searches for related memories.

The reflective processes inherent in metacognition/metamemory allow greater control over memory acquisition and retrieval (Metcalfe, 2008). Reflective control supports self-agency by providing "some freedom and flexibility in regulating actively… cognitive processes during learning and remembering" (Koriat, 2007, p. 292). As Putnam (2016) argues in exploring meta level function associated with dissociative processes, "metacognition presumes that there is a higher system of observing and monitoring in the human mind that can draw upon acquired knowledge to modify a person's current emotional state, thinking and behavior" (p. 182). With respect to memory, this allows a degree of evaluation and regulation of what is and is not retained and recalled, with the most conscious and controlled manifestation being retrieval avoidance or a failure to reflect on a memory that is elicited by a cue. For example, a traumatized person may say to their therapist before shifting focus: "I don't want to talk about that anymore. It brings up painful memories I don't wish to think about." However, metamemory processes are often more subtle and automated, and can operate outside of awareness (i.e., non-reflective; Koriat, 2007).

Metamemory consists of two broad processes; i) those that *monitor* memory and make judgements of one's ability to learn, to know it has been learned/experienced and to retrieve it; and ii) those that *control* activities like allocating resources to learning, searching for memories thought to exist, or terminating such search efforts (Nelson & Narens, 1990). Monitoring creates a (meta) representation of memory that enables reflection/introspection relating to memories, while control processes operate to regulate the acquisition and retrieval of memories. The monitoring process of most importance to this chapter is 'judgements of feeling of knowing' (FOK).

FOK refers to judgments made about one's ability to recognize or retrieve experiences currently not accessed (e.g., 'I don't remember that presently, but will be able to in the future – I know it is in there') (Nelson & Narens, 1990). Thus, it reflects a subjective state of confidence as to whether a memory currently not accessed is accessible (Hertzog, Fulton, Sinclair & Dunlosky, 2014). FOKs can either be positive (e.g., "I have the feeling I can retrieve that memory"), which has been the focus of most empirical work, or negative (i.e., the feeling of not knowing; e.g., "I have the feeling I didn't experience that"). FOKs are metamemory appraisals about the memory system (Thomas, Lee & Hughes, 2016) and are essential to retrieval or non-retrieval of experience, as they determine whether, and to what degree, an active self-directed search is made of long-term memory to recall that experience (Koriat, 2007; Nelson & Narens, 1990).

That is, monitoring processes such as FOK affect control processes such as search (Thomas et al., 2016). As Hart (1965) initially pointed out, if the FOK indicates "that an item is not in store, then the system will not continue to expend useless effort and time at retrieval" (p. 214). Thus, in the presence of a cue to retrieve an experience (e.g., being asked a question requiring autobiographical memory retrieval such as: 'Did your school day start with a morning prayer when you were a teenager'?), a metacognitive appraisal involving a preliminary FOK assessment is made about whether memories related to this question/cue are retrievable (Reder & Ritter, 1992) and therefore whether a search should be initiated (Thomas et al., 2016).

Preliminary FOK assessment leads to two outcomes (see Nelson & Narens, 1990). In the first, a preliminary FOK appraisal produces a negative response (e.g., "I can't retrieve any memories associated with that cue"), and a search is not initiated or quickly terminated (Thomas et al., 2016). Thus, a person with DID may not search for experiences that their preliminary FOK assessment concludes are not relevant to them or not part of their autobiographical library in a specific identity. In the second outcome, the preliminary FOK appraisal results in a positive response, and a search for experiences associated with the cue is automatically initiated by, for example, looking for specific episodes, or associated memory cues (Koriat, 2007).

If this *initial* search reveals an output of relevance (i.e., an experience or elements of it are remembered that were associated with the initial cue), a 'confidence' appraisal is made regarding the accuracy of the information (i.e., whether it matches the goal that initiated the search) and whether it is one's own (as noted below, this is a pre-reflective process). If the felt sense is 'no' or the *initial* search was not successful (e.g., because accessible details were not owned so ignored as irrelevant), a further appraisal is made as to whether to continue the search based on possible changes in FOK appraisals. If they diminish (negative FOK appraisal; e.g., "I thought I'd remember that, but on further reflection I don't think I can"), active search for that 'target' is terminated. In this case, a person with DID has access to memories associated with another identity, but on initial search feels no pre-reflective ownership of them and therefore they are not accessed as congruous with the self-directed search goals. Consequently, amongst the many memory representations accessible during search they are ignored as irrelevant outcomes and further search is terminated or shifted in other directions.

The following is illustrative of the two paths in normal psychological functioning. Imagine being with a group of friends reminiscing about old times, when one asks: "Do you remember that trip we took to…?" If your preliminary FOK in the absence of direct memories was based on the belief you were on that trip, you may start to search for cues to memories associated with it. These cues might come from listening to what others are saying about the event (external memory cues) to see if they trigger your own specific memories of the event, or you may rustle through associated memories or internal cues to retrieve what you recall from that experience. In short, you will make initial active efforts to search for memories based on your sense of actually being on that trip (i.e., your FOK).

If an experience from all those accessible during search is retrieved as a possible match, an appraisal of confidence will be made in the accuracy of the representation in terms of fitting the search parameters and one's own experience (e.g., "I remember…we also did…while we were there" versus "I remember…and am sure it's related to that trip" versus "I remember…, but actually think it was associated with another trip we took to…" versus "I remember…but think it was my brother who was telling me about it"). If what is retrieved is deemed relevant, it will support further FOK confidence and further search (i.e., post-search FOK). If your preliminary FOK was that you were not on that trip and you engage in searches for corroboration (e.g., "I think I was at a conference and couldn't make it"), active searches for cues associated with that trip or memories of you being on it will not be engaged and you may listen to the ensuing conversation with interest, whilst thinking the trip is not autobiographically relevant to you. Or you may tune out and focus on other things (i.e., not engage in search). If, however, during this time, a friend comments: "You were there, remember we…", then active search may be instigated as FOK is reinvigorated and efforts are made to recall the trip. These two paths (preliminary and post-search FOK) are relevant to subjective amnesia in DID and will be elaborated below.

Feeling of Knowing and its Accuracy

Hart (1965) initiated work to determine if a felt sense of knowing accurately predicted actual knowing. That is, does having a feeling of knowing translate into having the memory encoded and accessible. He asked participants to recall answers to general knowledge questions (e.g., 'what planet is the largest?', 'who wrote "The Tempest"?'). For those they could not answer, they made FOK appraisals before being given a recognition test assessing whether they recognized the correct answer. FOK predicted accurate responses on a recognition task. In clinical and non-clinical participants the feeling of knowing correlates with an inability to voluntarily retrieve an encoded memory *at that time* (e.g., Bacon, Pillot, Izaute, & Schwartz, 2018; See Thomas et al., 2016 for review). This lead Dunlosky and Bjork (2008, p. 22) to ask: "How can we know that a memory exists when we don't have access to it?" Although the answer to that question is not directly relevant to this chapter, the findings from DID research prompt the converse question: How can participants with DID feel like a memory does not exist, when it is accessible to them? Or, put differently, how can participants with DID seemingly have access to memories they feel don't exist?

The proposed answer to this question rests in part on the findings that FOKs are influenced by beliefs, are not perfect predictors of memory, and that metamemory monitoring (e.g., FOKs) influences control strategies. Hence, if FOKs are negative (e.g., 'No, I don't think that ever happened to me'), then search strategies are unlikely to be initiated, or initiated but then terminated if any accessible content is not experienced as one's own (Thomas et al., 2016). Thus, in a dissociative identity in which the person has the belief they are unable to speak a foreign language, they are likely to have an immediate negative FOK appraisal when asked if they speak German and not search for German words or memories of them speaking the language. Alternatively, if they start a search, any memories related to speaking German that are accessible during search may be ignored as not relevant to meta-beliefs about self because they are not autobiographically owned (e.g., "*I* can't speak German").

What Determines Feeling of Knowing?

Memory researchers had believed that FOK appraisals were based on availability of direct access to the memory that was unable to be retrieved (Thomas et al., 2016). However, data suggests that FOKs are not based on access to the memory itself (Koriat, 2007; Nelson & Narens, 1990; Thomas et al., 2016). Rather, FOKs primarily relate to: 1) how familiar the retrieval cue feels (e.g., "Does the question [i.e., cue] address something I feel I know or feels familiar to me?"; cue familiarity hypothesis); and 2) the specific retrievable properties or contextual information associated with the memory (e.g., "Can I recall pertinent details like what was the sound associated with that memory"; the accessibility hypothesis) (Isingrini et al., 2016). Thus, FOKs are operative at different times and are influenced by inferences based on heuristics/rules; familiarity with the retrieval cue, or recollection of associated aspects or contextual details of the target memory,

predict whether the memory itself will be retrievable (Nelson & Narens, 1990; e.g., "Given I remember being on holiday when that happened, I will be able to remember it").

People's beliefs and knowledge about themselves, and the inferences drawn from them is such that familiarization with a topic will lead to stronger FOK appraisals (Thomas et al., 2016). To exemplify cue familiarity FOKs, in a dissociative identity who believes they were molested, albeit without recalling specific incidents, the person will likely make a preliminary positive FOK appraisal when asked if they were intentionally hurt by another person as a child. Alternatively, in a dissociative identity who believes they were kept safe as a child, the person is more likely to have a negative preliminary FOK (feeling of not knowing) appraisal to the same question, as it is incongruous with what they believe about themselves. Thus, even if such memories are part of the person's autobiographical history, the likelihood that their FOK appraisal is negative is in keeping with their inference that they did not experience such things.

The cue-familiarity and accessibility hypotheses are not mutually exclusive. Rather, they may operate at different times to influence FOK judgments which, in turn, heavily influence metamemory actions like the initiation and termination of search activities (Koriat, 2007). To reiterate, FOK appraisals can be made at two time points, namely, prior to any retrieval attempt (preliminary FOK), or after search has been initiated and retrieval of the specific memory has failed (post-initial search FOK) (Liu, Su, Xu, & Chan, 2007; Van Overschelde, 2008). Whilst cue familiarity is more operative *before* retrieval attempts, accessibility of target-related material is a driver of FOK appraisals *after* an initial search attempt, (Koriat, 2007; Thomas et al., 2016). Thus, a sense of familiarity, based on presented cues, that a memory is retrievable (preliminary FOK) may then prompt efforts to search for (recollect) related features associated with the memory (post-initial search FOK; Koriat & Levy-Sadot, 2001; Isingrini et al., 2016).

Overview of Model Proposed in This Chapter

Research shows that global metamemory deficits do not characterize psychiatric disorders. Rather, different and specific metamemory deficits are found in different disorders (Bacon et al., 2018; Izaute & Bacon, 2016). In this chapter it is proposed that subjective amnesia in DID may be accounted for by specific metamemory monitoring and control deficits underpinned by a lack of felt memory ownership. These are associated with two related but distinct paths which involve negative FOK appraisals: 1) *before* memory search and involving memory cue familiarity; or 2) *after* search and involving access to some aspects of the memory (see Fig. 40.1).

The first path (associated with a negative FOK *before* search) is based on the unfamiliar feeling associated with the retrieval cue/question (e.g., does not feel consistent with beliefs about self-experience), and the resulting failure to initiate an examination of memory for encoded relevant memories (i.e., failure to search after preliminary negative FOK). The second path (associated with FOKs *after* initial search) results in a felt sense that the retrieved properties and contextual details associated with the memory are not one's own; a negative FOK appraisal is made, any related accessible memories, including the target memory itself, is bypassed (or filtered out) as irrelevant, cues to the memory are therefore ignored and search is terminated. Unlike the traditional account of dissociative amnesia (i.e., memory trace and related cues are inaccessible due to dissociative barriers/processes), it is *not* argued that details related to the target memory representation or the memory representation itself are inaccessible. This second path posits that, although the related details are accessed (and the memory itself is accessible), the retrieved cues are not *experienced* as relevant to the self and are ignored. These paths are outlined as follows:

1. The preliminary FOK appraisal is negative based on cue familiarity (i.e., "No, the themes/topics in that question don't feel like things I've experienced") and search is not initiated. A person with DID may not search for experiences that their preliminary FOK assessment concludes are not relevant to them in a particular identity state or not part of their autobiographical history: "That could not have happened to me, so why look." Thus, their negative FOK appraisal falsely reflects that they can't access specific memories associated with another identity.
2. Initial search is instigated and accessible representations are combed through with retrieved details not felt to be owned by, relevant to, or accuratly represent, oneself. Thus, a negative FOK appraisal is made (based on not owning and therefore ignoring[1] cues so any related memories, including the accessible target memory, are bypassed as autobiographically irrelevant) and exploration of memory is discontinued. In short, whilst a person with DID has access to events experienced by another identity, retrieved cues to those events are ignored as not related to their self: "Those details are not relevant to me, so why give them and anything like them further space and energy?"

Figure 40.1 provides a schematic representation of the proposed model with its two paths to subjective amnesia.

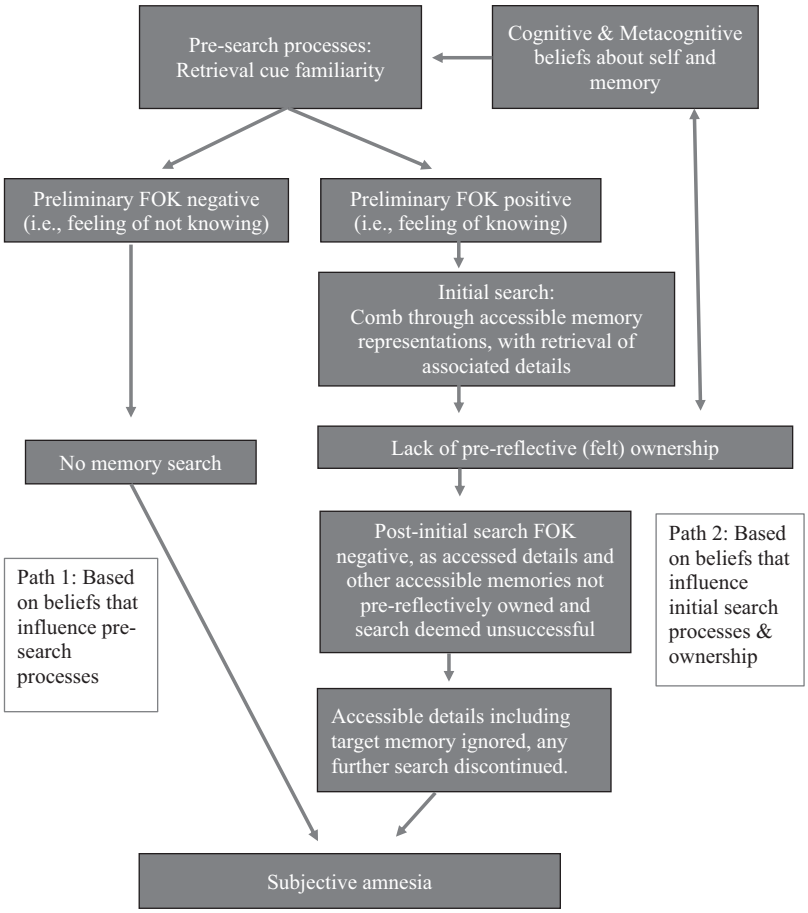

FIGURE 40.1 Dual path model of subjective amnesia in DID

Given the proposed pertinence of the cue-familiarity and accessibility hypotheses for FOK judgments in explaining subjective amnesia in DID, their role in each path warrants further exploration.

Path One: Cue Familiarity

Cue familiarity is based on a subjective familiarity with the cue (e.g., "The topic matter in this question [cue] is familiar to me") rather than on memory processes that prompt a search for target-related details (Koriat, Nussinson, Bliss, & Shaked, 2008; Reder, 1987; Reder & Ritter, 1992). It is thought to rest on a strongly felt conviction that one knows or has the answer based on the familiarity of stimuli in the memory cue (e.g., The familiarity of words in this question: "Did you say a morning prayer at school?"). Such appraisals, made prior to any memory search (Metcalfe, Schwartz, & Joaquim, 1993; Reder & Ritter, 1992; Thomas et al., 2016), are based on a subjective felt sense of knowing (Koriat, 2007). Thus, the sense that the elusive memory is available and accessible is based on a strong subjective experience of knowing drawn from heuristic processes (e.g., "I went to a religious-based school, we must have prayed"; Koriat, 2007), and include beliefs that are associated with a sense of self (e.g., "*I* have prayed before;" "*I* went to a religious-based school"). According to Koriat et al. (2008) this is a two-stage process. In the first stage there is a "rise in a sheer subjective feeling" based on beliefs and other indicators, whilst the second stage involves the use of that "feeling as a basis for memory predictions" (p. 118). Thus, a person with a Pixar animated film fascination in a child dissociative identity, will likely feel a rise in a subjective sense of knowing when asked who Buzz Lightyear's girlfriend was, but cannot immediately recall. This rise in subjective knowing will prompt a positive FOK appraisal which indicates that they know the answer and a search will be initiated.[2]

Alternatively, in response to a cue (e.g., question from therapist) that does not prompt a positive FOK appraisal, a person with DID will make a negative FOK judgment and memory will not be probed for relevant content. Consequently, a negative preliminary FOK appraisal will not lead to search efforts to retrieve a memory (e.g., in a specific dissociative

identity, the person will have a negative FOK appraisal for material in autobiographical memory that, in principle, is accessible, but for which no search is made).

Negative preliminary FOK appraisals in particular appear to be associated with familiarity of retrieval cues. For example, Liu et al. (2007) asked participants to make FOK judgments about retrieval ability immediately after seeing a cue word previously paired with another (target) word. They were then asked to rate their confidence in identifying the target word if presented in a list with other words. Some of the cues were more familiar to participants and some targets were more easily retrievable (because they had more practice retrieving them). Participants who made negative FOK appraisals were more likely to base them on how familiar they were with the cue stimuli (whereas positive FOK appraisals were based on partial recovery of the nonrecalled targets). This suggests that if the cue stimuli do not seem familiar (e.g., words/concepts in the question do not feel recognizable due, for example, to beliefs a person has about themselves), they will make a negative FOK appraisal, limiting the likelihood of engaging search/retrieval efforts (Bacon et al., 2018; Reder & Ritter, 1992). For example, a DID client reporting no domain knowledge or theme awareness associated with the combined key terms in the cue: "Did your father hurt you sexually as a child?," will feel a lack of familiarity with key signifiers in the question, and experience a negative FOK.

Hence, core schemas – beliefs people have about themselves and beliefs they have about what they know – influence cue familiarity. A person in a dissociative identity state organized around a positive view of their father with happy memories and loving affection is likely to find the question: "Did your father hurt you sexually as a child" (i.e., memory cue) totally at odds with their image of, or belief about, their father (i.e., unfamiliar cue). They are therefore likely to make a negative preliminary FOK appraisal about abuse memories and are unlikely to engage in search efforts for representations consistent with the unfamiliar cue. Similarly, if a client with DID believes they know nothing about (e.g., cannot access) particular incidents that make up the autobiographical experience in another identity state, they may reply with a preliminary negative FOK (i.e., feeling of not knowing), reducing the likelihood of searching for memories they actually have available and accessible to them (i.e., they believe they cannot access the memory). Negative preliminary FOK appraisals in the study of Liu et al. (2007) did not uniformly translate to a failure to later recognize the target words; participants who reported negative FOKs at times recognized the stimuli they believed could not be recalled. This process may be similar to that seen in DID where, despite reports of amnesia for information in other identities, tests show that at least some information is available and accessible for retrieval.

In sum, it is proposed that one path to subjective amnesia in DID invokes beliefs about self or self-schema that characterize the person in a particular identity state, that are at odds with memory cues in questions or other retrieval prompts which produces: 1) a lack of familiarity with cues; and 2) a negative preliminary FOK appraisal which in turn fails to initiate memory search. This might be similar to a person not searching their own memory for an experienced past event because they believed, for example, that such an experience happened to their sibling.

Path Two: Accessibility of Related Details

The accessibility hypothesis is based on an initial search for and retrieval of memories associated with the target memory, which is slower and more deliberate than the cue familiarity pathway to FOK (Koriat & Levi-Sadot, 2001). Koriat et al. (2008) point out it allows an educated guess drawing on inferences from accessible information (e.g., contextual or related details) and on the deliberation involved in retrieving this information to determine whether one thinks they can access the memory (e.g., "I feel I have a memory of my mother being physically abusive, because I remember sitting uncomfortably at the dining table due to bruises on my back and bottom"). Retrieval of related at least some information can be associated with: 1) the encoding context; or 2) the target memory.

Retrieval of Encoding Context

The first route to FOK appraisals associated with accessibility is based on retrieval of contextual information about the original encoding experience (Hertzog et al., 2014; Isingrini et al., 2016). Thus, if a person remembers having a specific emotional response or having a particular thought when encoding the experience, they are more likely to report a higher FOK appraisal for currently non-accessible memories. Hertzog et al. (2014) asked participants to create an image for every word pair learned as a means of creating a unique encoding context for each stimulus set. FOK magnitude was improved when participants could either recall clearly or as a gist (i.e., general meaning/sense) the image associated with the encoding experience, even though they could not recall the target stimulus itself. This suggests that being able to retrieve some element of the context in which encoding took place facilitates FOK judgments. The ability to retrieve

encoding contextual information was impeded by memories that were more abstract (e.g., liberty-passion) than concrete (e.g., tick-spoon) because abstract stimuli are less amenable to the production of encoding imagery (Hertzog et al., 2014).

Retrieval of Target-Related Details

In addition to retrieving contextual information associated with encoding, FOK appraisals are also related to accessibility of partial information associated with the target. For example, a sense based on recollection that the first letter in the forgotten target 'Australia' is 'A,' or retrieval of details such as the target's location (in the Pacific Ocean), associated colors (e.g., green and/or gold) or some other related feature (Koriat, 1993). The greater the associated details available, the higher the positive FOK appraisal (Bacon et al., 2018; Isingrini et al., 2016). This was shown, for example, in those with schizophrenia and healthy controls, where positive FOK ratings increased (participants felt more confident they could retrieve the forgotten target) when they could remember more associated details (Bacon et al., 2018).

Contextual and memory-related details retrieved during *initial* search will then prompt a FOK based on their relevance to task goals and, therefore, relevance to the self. Retrieved details deemed irrelevant result in a negative FOK, a glossing over of other associated memories accessible during search, including the target memory itself, and termination of that particular search effort. Thus, ownership of what is initially retrieved is central to understanding subjective amnesia in DID, where access to memory representations associated with other identities are not *subjectively experienced* as accessible.

Ownership of Memories

The central distinguishing feature of DID is the presence of dissociative identities that each subjectively experience their own unique sense of self, with a distinct first-person perspective or self-consciousness that, with varying stability, captures the self in the moment and over time, and self-referentially processes experiences (e.g., Dorahy, Huntjens, Marsh, Johnson, Fox, & Middleton, 2021; Nijenhuis, 2015; See Nijenhuis, Chapter 38, and Frewen, Wong & Lanius, Chapter 19, this volume). Ownership of experience is central to having a sense of self (Klein, German, Cosmides, & Gabriel, 2004; other related processes include the ability to reflect on experience, to have agency over oneself, and a sense of continuity across time).

Ownership of a mental experience captures the *sense* of ownership and *judgments* of ownership. According to Gallagher (e.g., 2000, 2017), the sense of ownership is pre-reflective (non-reflective, non-observational), first-order and intrinsic to experience. As Klein (2015, p. 358) puts it: "What individuates a mental state as distinctly and exclusively my own is that I intuitively sense – without a need for intuition, inference, or reflection – that the content of that mental state is uniquely and infallibly my content." It is based on a *feeling* or *experience* of 'mineness' (e.g., a felt *sense* in the moment that this thought or feeling is mine; as Gallagher, 2017, p. 2, states, "an awareness of the [internal] experience as my own"; it is known by direct acquaintance; Klein, 2015; Prebble et al., 2013). This is distinct from a reflective, second-order *judgment* of ownership which is based on *beliefs* about self.

Reflective judgments of ownership may be influenced by the sense of pre-reflective ownership, but the two need not be coextensive. This is exemplified by the classic "not-me" experience characteristic of DID,[3] where the person accesses memories which lack a pre-reflective sense of 'mineness.' Nonetheless, the person may *believe the memories to be assignable to themselves* and acknowledge ownership *despite* a felt sense that the retrieved content does not belong to them (e.g., "I know that happened to me/it must have happened to me, but it doesn't feel like it did"). However, at issue in the current discussion, particularly relating to path 2, is the *lack of a pre-reflective sense of mineness* inherent in first-person subjective experience (Klein et al., 2015) for contextual and related details of memories associated with an 'amnesic' identity.

The identity with subjective amnesia in DID does not pre-reflectively experience *themselves* as the unique subject of the retrieved occurrences associated with the other identity, although they have accessed them and have access to more complete memories. This reflects a lack of a *sense* of experiential ownership. In path two of the proposed model, it is argued that the person (in the dissociative identity in which they present) experiences no pre-reflective ownership of elements of the memory associated with the other identity (i.e., they are not imbued with 'mineness' for that identity's first person perspective). Hence, these retrieved elements do not act as cues for further search, attention or focus, and are ignored.

In sum, path 2 argues that, for subjective amnesia in DID, representations reflecting experience, knowledge or skillsets associated with other identities are retrievable but not pre-reflectively felt to belong to one's personal experience so are not registered as recognizable or one's own. Thus, they are ignored and any cued representations associated with them (e.g., the target or related memories) are glossed over as self-referentially irrelevant, not discerned as autobiographical experiences and, like the myriad other representations available and

accessible for retrieval or being retrieved at any one moment, they are ignored as not subjectively salient, goal applicable, or personally relevant. Not being experienced as one's own reduces the likelihood of these accessed details acting as internal memory cues to prompt a positive FOK that brings more committed and focused search of memory. Instead, search is deemed unsuccessful, FOK is negative, and further search that might allow access to the target memory is discontinued. Subjective amnesia is experienced. Experiencing an inability to retrieve accessible memories then supports beliefs about amnesia which influence metacognitive beliefs about self (e.g., "*I* don't know what that other identity experienced") as well as FOK judgments which initiate and terminate current and future memory search efforts.

Directions for Research

The model proposed here requires empirical investigation and multiple initial foci are possible in this endeavor. These include assessing FOK appraisals for experiences reported in another identity, exploring pre-reflective ownership appraisals for retrieved memories, scrutinizing the association between beliefs about self within an identity and ownership of experiences that are not consistent with such beliefs, and examining metacognitive beliefs about memory in DID. In line with this last direction, Huntjens, Dorahy, Read, Middleton, and van Minnen (2022) developed a 16-item questionnaire indexing dissociation-related metamemory beliefs, the Dissociation-related Beliefs about Memory Questionnaire (DBMQ). Four subscales were identified and labelled: 1) Fragmentation (e.g., "I believe I can remember distressing events in parts, but not as a whole"); 2) Positive beliefs about amnesia (e.g., "I believe I should not think about the bad things that have happened in my life"); 3) Lack of self-reference (e.g., "I believe that some of the memories which come back to me about distressing things in my life actually happened to someone else rather than me"); and 4) Fear of losing control (e.g., "I believe that if I would allow myself to remember, my memories would overwhelm me").

A sample of DID patients (n = 19) scored significantly higher on the DBMQ total scale and each of the subscales compared to healthy controls (n = 41). Each group showed significant correlations between dissociation-related memory beliefs and: 1) dissociative symptoms; 2) posttraumatic avoidance; and 3) posttraumatic arousal. Dissociative experiences were the strongest predictor of dissociation-related memory beliefs. Given the small patient sample size, the results should be interpreted cautiously. However, this scale may be utilized in future work to examine the degree to which metamemory beliefs are associated with memory performance in experimental work.

A second avenue for future research is the etiology of metamemory beliefs in DID. The model proposed here is a model of maintenance, explaining how beliefs about self and memory functioning influence initiation of memory search and memory ownership which may, in turn, reinforce these beliefs. However, the model does not explain the etiology of overarching metamemory beliefs in DID nor the different beliefs that people may develop and hold in different identity states. Discrete psychological structures (i.e., dissociative identities) may underpin such metamemory and metacognitive beliefs. Alternatively, the development of metamemory and metacognitive beliefs around fragmentation may foster a person's perception that they have dissociative identities. Whether these beliefs precede or follow the structure inherent in DID and how they interact with other dissociative symptoms require further empirical investigation.

Finally, accounts of interidentity amnesia in DID have often drawn on findings from state or mood dependent memory research (Dorahy, 2001). This work shows that, regardless of a memory's emotional valence, it is less likely to be recalled if the person's state or mood at encoding differs from that at retrieval attempt (Eich & Metcalfe, 1989). Certain factors increase the likelihood of differential recollection across states. For example, there is less retrieval when people are required to 1) generate their own memories rather than being asked to memorize stimuli and 2) use internal strategies (cues) to retrieve the desired memory rather than relying on external prompts. As Eich (1995) notes: "In general… it would seem that the more one must rely on internal resources, rather than on external aids, to generate both the target events themselves and the cues required for their retrieval, the more liable is one's memory for these events to be mood dependent" (p. 71).

Thus, mood dependent memory effects (e.g., having less retrieval of happy memories when in a sad mood) tend to be more evident in free recall tasks (where a person relies on internal cues) than in tasks of cued-recall (where related cues are provided), recognition (where actual memory representations are typically provided) or when indirect/implicit retrieval techniques are used (Eich, 1995; Forgas & Eich, 2012). In mood dependent memory using the free recall task, the person does not access memories that are accessible to them, with this access evident in the cued recall/recognition task findings (where they do access the memory representations). Further ecologically valid research on inter-identity amnesia in DID could assess retrieval across identities for internally-generated memories (which do not only contain a representation of external events but also associated internal events like those connected with elaboration, evaluation/appraisal, imagination, reasoning and emotion; Beck & McBee, 1995). Such work might also prioritize internal cuing to assist any search for memories to ascertain whether the same results are evident with external cues that match or are

associated with target memories. Beyond external cuing that may be evident in their daily life (e.g., environmental triggers that match or resemble memories; a therapist's questions), those with DID (like anyone else) would tend to rely on a desire to search and on internal cues to guide that exploration should they ever wish to remember previous events experienced by another identity.

Implications for Treatment

At the heart of DID therapy is not the integration of "dissociated" memories but, rather, the development in a containing environment of a sense of self that integrates multiple self-representations into a more unified, fluid way of being (i.e., a metacognitive view of self as consolidated not divided). Different therapeutic perspectives have different starting points and key therapeutic tasks. These include increasing self-processes like reflection on ownership of and agency over internal experiences. They may also include expanding metacognitive beliefs and reflections beyond specific identities to consider the person as a whole, which may foster search for experiences beyond those felt to belong to a dissociative identity that, in turn, alter appraisals about inter-identity amnesia. This work is designed to assist in the accommodation and assimilation of experiences represented as memories in different identity states which are then reflected on and owned (i.e., 'me' experiences), rather than subsumed by the perceived agency and ownership of other dissociative identities (i.e., 'not-me' experiences). Thus, beliefs about what the person may have and has experienced are likely to alter FOK appraisals, recognition of related retrieved details of target memory representations and the initiation or continuation of search efforts. Therapy assists search and retrieval of memories that can be owned and integrated within a widening self-construct and self-experience (i.e., metacognitive whole-person appraisals). Expansion and elaboration of beliefs about the self, beliefs about memory functioning, and beliefs about self-experience allow more retrieval of memories, and in turn, more positive FOK appraisals (e.g., "Yes, I believe I can access that memory"), greater search of the memory 'library' and increased ownership (rather than ignoring) of the found "records."

The ownership of memories previously experienced as autobiographically irrelevant and therefore ignored, will facilitate greater access to therapeutically beneficial affective experiences (e.g., grief, horror, rage, care for self) and a developing tolerance (and metabolizing) of feelings that limit access to deeper emotional processing, such as shame, humiliation, envy, and persecutory guilt.

With respect to the current model, as therapy progresses the therapist will often encourage DID clients from path 1 (where no search is engaged for particular memories) to path 2, by supporting them to initiate search activity. For example, when aware of a client's avoidance the therapist might say: "It's often been hard to entertain things that might have happened in your past, what if we had a closer look at some of the things it's hard to contemplate?" Or, when the client in a different identity quickly says: "I don't remember anything like that" in response to the therapist noting a topic from the last session, the therapist might reply: "If you take a moment to have a look inside and see what does come to mind from last session and then what other things you recall." Such interventions move the person from path 1 where no search is engaged to path 2 where search is initiated.[4]

The processes operating to facilitate path 2 (some accessible details but no pre-reflective ownership) will still have the client reporting no access to the memory representations. The therapist can then judiciously consider what is currently known about the client's internal resources and capacity to tolerate with discomfort, without overwhelming the reality of their internal world. The different possible outcomes of these appraisals will lead the therapist to choose a specific direction. For example, where a capacity to tolerate is deemed present the therapist might encourage the client to search further (by pressing toward further inspection; e.g., "What if we looked a little more deeply, what do you remember from our meeting last week?"). If fewer resources are deemed present, the therapist might shift the focus of exploration towards reflective abilities that engage metacognition around defenses to build further tolerance (e.g., "What do you think makes it hard to remember?" or "What do you imagine might happen if you could remember?").

In cases where the therapist assesses the client as having little psychological capacity to therapeutically tolerate further exploration of: 1) the specific memory representation (e.g., an abusive experience reported by another identity); or 2) a train of memories (e.g., an abusive relationship 'held' by another identity), they may shift focus and move search and exploration into other areas. Therapy work associated with path 2 acts as a therapeutic step for encouraging further exploration of accessible memory representations which moves the client toward accessing such memories while feeling they have no pre-reflective ownership of them[5]; the 'not me' experience so common in DID ('I remember that, but it doesn't feel like it happened to me). This 'not me' experience is foundational to further exploration of the memory itself and the search for related and associated memories that fosters pre-reflective ownership of memorial experiences; these are increasingly integrated and incorporated into a wider self-representation that, in turn, fosters pre-reflective ownership and self-referential processing of other previously disowned memories.

An illustration of changing initial FOKs, and the concomitant expansion of self-representations as therapy progresses may be helpful. A person with DID reporting no memory of paternal incest is asked during therapy whether their father ever sexually mistreated them. Their immediate FOK appraisal, consistent with their internal narrative, may be negative, inhibiting searches for experiences inconsistent with that FOK's appraisal and the narrative that underpins it (path 1). Alternatively, a search may be initiated but resulting retrieved target-related outputs are not pre-reflectively owned and, therefore, are ignored, offering no meaningful internal cues to promote further search or exploration efforts (i.e., this may reflect the knowing-not knowing phenomena common in DID; Brenner, 2009; Chefetz, 2015; path 2). Later in therapy, once that dissociative identity has expanded their self-beliefs to incorporate beliefs of being a victim of abuse, the same question may evoke a more positive FOK. This initiates automatic search strategies for experiences consistent with the fledging feeling of knowing based on the newly developed (self) beliefs and narratives, which brings a greater ownership when such memories or their related details are retrieved. At this point, the patient is confronted with knowing what they didn't want to know (see Baker, 2010 for a case example) and struggling with reflective ownership appraisals.

Kluft's (Chapter 43, this volume) patient Mariska demonstrates the anguish in beginning to recall and acknowledge what was desired to be forgotten. Square brackets in what follows are the current author's additions. In remembering abuse experiences relating to a former therapist and a friend of her father's, as well as her father's denial of the reality of that abuse [which fueled the (negative) FOK that such experiences did not happen], Mariska states in another dissociative identity: "After a few times [of trying to tell her father what his friend was doing to her] she gave up trying to convince him, and just convinced herself it couldn't be happening [initial knowing about such experiences was denied, and Feelings of Not-Knowing developed]. She returned to the usual Mariska, who cried: '*I guess I have always known this stuff and not known it'* [i.e., it was accessible but Mariska was unable to own it]. Parts of it *never left my mind*, but it seemed so unreal, so surreal, that it had to be a nightmare or fantasy" [i.e., ownership of its accuracy as a true autobiographical experience was doubted and ignored] (p.686, italics added).

Thus, memory integration includes expanding beliefs about self, others and self in relation to others. It also facilitates the retrieval of past experiences to promote FOKs that activate search and ownership of memories not previously pursued or retrieved and not pre-reflectively owned. Expanding a view of self that accommodates the memories and feelings assigned to different identities in order to confront and work through trauma-related experience is a key goal of DID therapy. Remembering previously unrecognized or un-searched-for-experiences is unlikely to be therapeutic if the person's belief about the self cannot begin to contemplate the autobiographical reality of that experience. Working to expand the beliefs about the self is more likely to foster FOKs that allow a search for, and develop ownership of, autobiographical experiences for which the person previously reported subjective amnesia. Subsequent therapeutic work requires processing the pain of remembering within a containing therapeutic relationship.

Conclusion

Nelson (1996) argues that "[e]mpirical investigations of metacognitive monitoring and its effect on individuals' metacognitive control can give us important clues about both what people know of themselves and why they choose to behave as they do" (p. 114). In studying inter-identity amnesia, empirical investigations of metamemory may elicit important clues about what people with DID do not know about themselves and their memory functioning, and why they have a subjective experience of amnesia. The model proposed here is designed to account for the clinical phenomena of a person reporting no awareness of memory representations to which they *actually have access*. Fundamental to the current theorizing is the relationship between the metamemory process of FOK, associated with pre- and post-memory search processes and: 1) beliefs about self-experiences; as well as 2) pre-reflective ownership of memory representations.

It is proposed that, rather than deficits being predominantly evident in the apparatus of memory processes (e.g., the mechanisms of memory retrieval), the experience of amnesia across identities in DID is related to metacognitive and self-processing issues associated with beliefs about memory, self and ownership (or lack thereof) of experience. Metacognitive beliefs and lack of ownership produce feelings that: 1) the person has no access to accessible memories (based on preliminary FOK and beliefs about self experience); or 2) accessed partial or related memories are not owned and hence they and related (e.g., target) memories are ignored as irrelevant to autobiographical experience and current goals (based on post-search FOK and a lack of pre-reflective sense of ownership). In the first path, search is not engaged. In the second path, search is initiated but terminated when what is immediately retrieved is not owned; accessible memories associated with it (including the full memory itself) are bypassed as irrelevant, a negative FOK results and search is terminated. Developing expanding beliefs about one's autobiographical experience transforms feelings of not knowing to feelings of knowing, which promote memory searches, greater access to accessible representations and

fledging experiences of personal ownership. Both the model overall, and its components, require empirical investigation to determine the nature of metamemory, metacognitive and self-processes in DID, and the degree to which they are implicated in subjective amnesia.

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Notes

1 The term 'ignoring' (implying lack of ownership) is used rather than 'discarding' (implying initial ownership).
2 The sense of familiarity is not based on recollecting related details of the experience that come after search is initiated, and therefore is not related to recollective processes such as 1) confidence judgments that retrieved details/events actually occurred (as opposed to being associated with a fantasy); and 2) reflect one's own experience (ownership). See Bastin et al. (2019) for discussion of different systems and brain regions associated with familiarity and recollection. The model proposed in this chapter is consistent with literature that differentiates states of knowing, such as recollection, "just knowing", and familiarity (Conway et al., 1997); the latter is relevant to path 1, while the former are implicated in path 2.
3 The concept of 'not-me' has been used as a central theoretical construct in understanding dissociative identities in DID and is often described phenomenologically by dissociative clients/patients (e.g., Baker, 2010; Beere, Chapter 17, this volume; Chefetz & Bromberg, 2004; Chefetz, 2015).
4 Clients, including those with PTSD, will often give the impression they are on path 2, "searching" for details of what is perceived to be an inaccessible event, but this is done in the same rigid way by repeating the same details of the same stories so other aspects of the experience are not cued or searched for and remain unaccessed.
5 In some areas of the dissociative literature, a lack of ownership and agency has been referred to as a lack of *personification* (e.g., Nijenhuis, 2015; Van der Hart, Nijenhuis & Steele, 2006; Van der Hart & Steele, Chapter 15, this volume)

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