

Exploring Cognitive Processes Used by Mediums During Alleged Communication with the Deceased¹

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Abstract: *Objectives:* This study aimed to gain some understanding regarding the type of self-reported cognitive strategies involved in the mediumistic process. *Method:* Semi-structured interviews were conducted with 19 Spiritualist medium tutors and the content was analyzed using a reflexive Thematic Analysis (TA) approach. *Results:* This analysis identified three main themes: focused attention and inhibition of distractions, multitasking behaviors, and memory-related phenomena, which could be associated with components of executive functions. *Conclusion:* These themes suggest that mediums may use specific cognitive processes to initiate and maintain alleged communication with discarnate personalities. The implications of such findings are discussed.

Keywords: Spiritualist, mediumship, medium, executive function, cognition, thematic analysis

Highlights

- Three self-reported medium cognitive strategies were identified: focused attention and inhibition of distractions, multitasking behaviors, and memory-related phenomena.
- The cognitive strategies were associated with three core executive functions: inhibitory control, cognitive flexibility, and working memory.
- There were three sub-components to focused attention and inhibition ability: focusing attention, avoiding eye contact, and handling external distractions.
- The sub-components to multitasking behaviors were: switching between multiple discarnate personalities, switching back to the recipient, and being self-aware.
- The sub-components to memory-related phenomena were: experiencing tip-of-the-tongue, associating memories to the discarnate personality, and gaining information from the discarnate personality.

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Mediumship typically, though not always, involves three individuals: the medium who receives the ostensible anomalous information, the recipient who validates or rejects the information conveyed by the medium, and the discarnate personality, the alleged source of such information (Rock, 2014). The claims of spiritualist mediums to ostensibly communicate with the deceased have been a topic of research and debate for over a century, notably commencing with the formation of the Society for Psychical Research (SPR) in 1882, which in turn led to the founding of other societies around the world (Alvarado, 2002).

Historically, most investigations with mediums have been proof-oriented, seeking to confirm whether the communications can be verified in terms of accuracy and support claims of discarnate survival (Irwin & Watt, 2007; Roe, 2012; Wiseman & Morris, 1995). This type of research has produced a growing body of evidence suggesting that the information conveyed by mediums is often considered highly relevant by the intended recipient of the communication (Beischel & Schwartz, 2007; Roy & Robertson, 2001; Schwartz et al., 2003). However, despite recent studies being designed to eliminate conventional explanations (e. g., cold reading) and telepathy as explanations for the information received (Beischel & Schwartz, 2007) or other paranormal explanations such as super-psi (Tressoldi et al., 2021), the debate continues regarding the nature and source of this information (Beischel & Rock, 2009; Braude, 1992, 2014; Sudduth, 2009). Nevertheless, the conclusion from two recent quantitative meta-analysis reports supports the growing body of literature suggesting that accurate information can be obtained by the mediums (Bastos Jr et al., 2015; Sarraf et al., 2021) and proposes that some individuals in certain circumstances may be able to intentionally obtain information about a deceased personality through means unknown by the researchers. Such findings have led others to explicitly declare that the logical conclusion of such results is that "...in some cases, the sources of the information are the deceased themselves..." (Tressoldi et al., 2021, p. 1).

A complementary method to mediumistic research that may offer new insights takes a more process-oriented approach that involves researchers shifting their emphasis away from examining the veracity of any communications to how this information is obtained and what psychological processes may be involved (Beischel & Rock, 2009). For example, Alvarado (2010) suggested that research with mediums should include examining the various cognitive processes involved, as this may help provide additional insight into the psychological components involved in mediumship.

Cognitive processes include essential functions of memory, attention, and perception. The term executive function encompasses a sub-set of higher-order cognitive processes that include the ability to attend to a chosen task while inhibiting distractions, cognitive flexibility to adjust to changing demands, and working memory to hold and manipulate information in the mind (Diamond, 2013). Importantly, all these executive functions contribute to an individual's everyday functioning (Cristofori et al., 2019; Friedman & Miyake, 2017) and are essential for healthy cognitive, social, and psychological development (Lunt et al., 2012).

Despite knowledge of the existence of the various components of executive functions, there remains to be clarity regarding the mechanisms surrounding the control processes involved in regulating these cognitive subprocesses (Monsell, 1996). This has led to models of executive functions being largely dependent on the researcher's definition and perceived relation between cognition and behavior (Alvarez & Emory, 2006). For example, Luria (1973) proposed that executive functions were a collection of frontal lobe structures and components necessary for effective problem-solving behavior. On this basis, he proposed a model that resulted in the identification of three distinct components necessary for effective problem-solving behavior: (1) arousal motivation, (2) information receiving, processing, and storing; and (3) programming, controlling, and verifying, which also has executive control over the other components.



Later, Lezak (1982) saw executive functions as a collection of mental capabilities required to plan and implement the behavior necessary to achieve the desired objective. This led to the suggestion that three components would be necessary to fulfill this behavior; (1) shifting between the task of mental sets, (2) inhibiting irrelevant automatic responses, and (3) updating mental representations held in working memory.

Building upon Lezak's model, Stuss and Benson (2019) proposed another executive function model that incorporated Luria's components with the inclusion of an additional component to initiate behavior to accompany the planning, sequencing, and organization components. At the same time, holding on to the commonly held belief that these components are functions residing primarily in the frontal lobe (Stuss, 2011). However, functional neuroimaging studies have started to challenge this idea. Although the frontal lobe is strongly implicated in the participation of executive function, it is now agreed that without input from other cortical structures the performance of executive functions would be severely impaired. Therefore, it may be more appropriate to conceptualize executive functions as macro-construction of neurological structures working together to solve problems (Alvarez & Emory, 2006).

Executive function-related behaviors associated with neurological structures have given rise to the notion that any individualized differences in these behaviors due to trauma or genetics are consequently considered a dysfunction of executive functions (Elliott, 2003). Models with a clinical bias have been proposed (Mateer, 1999). One such clinical model used in the observation and assessment of patients suspected of some executive dysfunction (Sohlberg & Mateer, 2017) consists of six components of impairment in the individual's ability in: (1) initiation of the cognitive system, (2) response inhibition to stop automatic tendencies, (3) task persistence to maintain task behavior to completion, (4) organizing and sequencing of information necessary to complete the



task, (5) generative thinking necessary for flexible thinking, and (6) awareness to monitor one's behavior.

More recently, executive functions have also been seen in a broader context. Although they are still associated with the prefrontal cortex, they are now proposed to be a set of cognitive control mechanisms necessary for individual control and self-regulation of behaviors and thoughts (Mischel et al., 2011; Moffitt et al., 2011). This context led Miyake et al. (2000), Miyake and Friedman (2012), and Friedman and Miyake (2017) to suggest that three components would be required for individual self-regulation and control: (1) Inhibition, responsible for attentional control of thoughts and behavior while overriding impulses from intrinsic or extrinsic sources; (2) updating, involving working memory and included holding and working with information held in mind; and (3) shifting, which opposes rigidity of thought and behavior by supporting the ability to multitask, changing perspectives, thoughts, and demands for mental resources.

Considering the first of these three components of executive functions (inhibition), mediumship may also necessitate an ability by mediums to attend to their internal sensory stimuli (discarnate personality) while inhibiting distracting stimuli such as the medium's thoughts and external noises (Stanford, 1993). Therefore, it seems reasonable to speculate whether mediums use specific cognitive strategies in mediumship and whether these cognitive strategies demonstrate the use of specific components of executive functions.

However, it is not the first-time executive functions have been implicated in the reception and processing of anomalistic information. Honorton (1974) proposed that "psi impressions," such as mental images received by participants in psi research studies, are relatively weak compared to sensory input from the participants' sensory organs. This suggested that participants in psi research need to have significant executive functioning

ability to intentionally reduce sensory noise processing while increasing awareness of their internal processes and feelings (Braud, 1975).

Further, the importance of executive functions in the reception of anomalous information is again implicated in the ethnographic account given by spiritualist medium David Wilson (2015). He describes his experiences while attending a development circle at Portobello Spiritualist Church in Edinburgh, UK, and recounts the importance of various cognitive processes in demonstrating mediumistic communication. Pointing out that there is some knowledge within the practice of mediumship that Wilson refers to as insider understanding that is not commonly understood or known outside the spiritualist community. This *insider understanding* details how individuals who desire to develop any mediumistic ability must learn to enter a sustained and focused state; otherwise, the individual becomes intermittently unproductive in conveying the alleged communication from a discarnate personality (Wilson, 2015).

Although the role of executive functions has been implied in psi and mediumship research, no formal published research has focused specifically on the role of executive functions in mediumistic communication. This represents an underexplored area that may provide fruitful insights into mediumship phenomena and the mediumistic process. Such knowledge may help understand how mediums obtain and discern ostensible discarnate information. Furthermore, identifying which, if any, executive functions may be helpful during mediumistic communications raises the additional question of whether trained mediums would exhibit distinct differences in these functions compared to non-mediums. This study aims to explore which, if any, components of executive function are utilized within mediumistic communication.

Method

Participants

A snowball sampling approach was adopted to identify potential participants. Because currently there is no legal statute in the UK, USA, or other European countries for individuals who refer to themselves as being a medium and offer mediumistic services to have undergone any training or assessment of competence (Greenfield et al., 2012), only mediums accredited and recognized by a spiritualist organization, such as the Spiritualists' National Union in the UK and the National Association of Spiritualist Churches in the US, as having mediumship ability of a standard accepted by the organization and able to tutor others in mediumship were invited to participate. Further, it has been suggested that when collecting qualitative data rapport must be established between researcher and participant to ensure that participants are suitably empowered to give a full and frank account of their experience (Smith, 1995). For this reason, initial contact was made with participants within the UK Spiritualist community and known by the principal researcher (CC), who is himself a member of the Spiritualist religion, before snowballing to other participants that met the study selection criteria.

In total, 19 participants (14 female, five males; mean age 58.6 years, $SD = 10.2$ years; range: 40 – 81 years) consented to participate in the study. Of these, 13 were based in the UK; three in the USA, two in Australia, and one in Germany. Each participant had worked publicly as a medium for between eight and fifty years ($M = 23.5$ years, $SD = 10.2$) and regularly conducted private sittings or public mediumship demonstrations monthly where evidential information would be presented in a public forum, such as a church or meeting center ($M = 19.5$ /month, $SD = 19.1$ /month; range: 1-60 per month). All participants were members of Spiritualist organizations that had accredited their ability as either a medium or mediumship tutor, with some holding multiple accreditations for their chosen

discipline: Ordained Ministers = 10; Demonstrator (medium) = 17; Public Addresses (philosophy) = 16; Teaching = 15; Healing = 10.

Materials

An online survey was used containing demographic questions (e. g., age, sex) and questions to capture the participants' mediumship experience consisting of the number of years of experience (*"How many years have you been publicly demonstrating your mediumship?"*), the average number of demonstrations of mediumistic communication given in a public forum, e. g. church, in a typical calendar month (*"On average, how many demonstrations in a single calendar month would you expect to do (including private sittings)?"*) and details of accreditations held as a medium, tutor or other discipline recognized by the spiritualist organization, e. g., minister, public speaking, and spiritual healing.

Procedure

The study consisted of two phases. First, participants meeting the selection criteria were contacted through email with a summary explanation of the purpose of the study and asked if they were interested in finding out more. The study was explained to all the participants as an explorative investigation to understand further the psychological processes used by mediums to facilitate a demonstration of evidential mediumship. All participants responded positively to participating in the study so they were sent an email directing them to an online Qualtrics survey which gave full explanations of the study. Participants who consented to participate in the study were then requested to complete a series of demographic questions, identifying their accreditations with a spiritualist organization and how long they had been practicing publicly as a medium.

In the second phase, all those who had previously agreed to participate were contacted for a face-to-face interview conducted online using Zoom; participants

consented to have the interview recorded. Interview questions were prepared (see Appendix A), and the study adopted a semi-structured interview methodology, with the direction being very much led by the participant. Each question was designed to elicit the participants' thoughts on how their mediumship functions, based on their memory of past occasions of communicating with a discarnate personality. Once the participant had completed responding to the interview questions and had nothing further to add, consideration was given to bring the interview to a particular question or expand on something said earlier by the participant. Once all the questions had been asked, the recording was stopped, and the participant was debriefed. This study had ethical approval from the Canterbury Christ Church University Faculty of Science, Engineering, and Social Sciences Ethics Panel (Ref: ETH2121-0119).

Data Analysis

The audio from each interview was uploaded to a web-based audio-to-text transcription service (www.otter.ai). The transcribed text file was checked by listening to the audio file and correcting transcription errors. Each interview was then imported into Nvivo 12 to enable text coding and theme generation.

Braun and Clarke (2006) provide a clear framework to enable researchers to conduct a Thematic Analysis (TA) within psychology, detailing six phases from: (1) becoming familiar with the data, (2) coding, (3) generating, (4) reviewing, and (5) defining the themes, to (6) writing up the findings. Adopting a reflexive TA approach allows for different orientations and approaches, including deductive, semantic, latent, realist (critical), and constructionist methods of analyzing the data (Braun & Clarke, 2019). The flexibility of thematic analysis as a tool in qualitative data analysis made this an appropriate method for this study. Therefore, to address the research aim, this study adopted a deductive TA approach but limited the analysis, coding, and theme development to identifying components of executive functions within the text.

To generate relevant themes, full familiarization of the text and coding was conducted at a rate of one interview per day to reduce the potential bias in coding from previously remembered generated codes. An iterative process followed with generated codes being reviewed along with the associated sections of text before being grouped to form several distinct themes, each containing several sub-themes. Adopting an iterative process to theme generation, as Braun and Clarke (2006) recommend, each theme was further reviewed to ensure each code's applicability and only when the analysts were satisfied was the theme name finalized.

Results

Thematic Coding and Themes

Analysis of the interviews resulted in the generation of three main themes: focused attention and inhibition of distractions, multitasking behaviors, and memory-related phenomena, each with three sub-themes, as shown in Table 1.

Table 1

Generated Themes and Sub-Themes

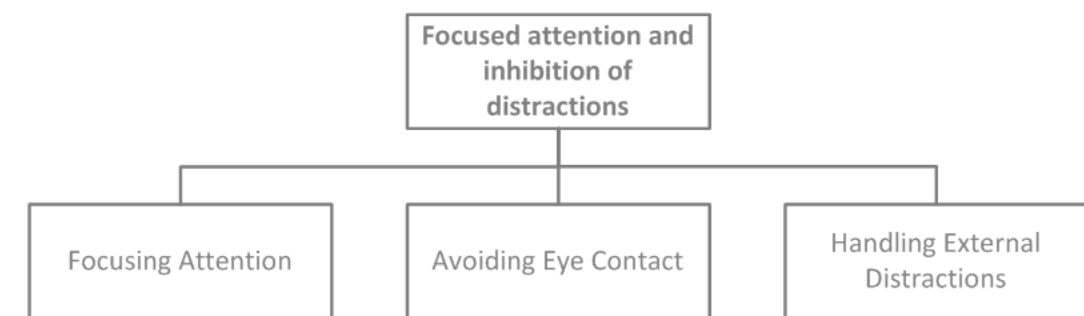
Theme	Sub-theme
Theme 1: Focused Attention and Inhibition of Distractions	1.1 Focusing Attention
	1.2 Avoiding Eye Contact
	1.3 Handling External Distractions
Theme 2: Multitasking Behaviors	2.1 Switching between Multiple Discarnate Personalities
	2.2 Switching back to the Recipient
	2.3 Being Self-Aware
Theme 3: Memory-Related Phenomena	3.1 Experiencing Tip-of-the-tongue
	3.2 Associating Memories to the Discarnate Personality
	3.3 Gaining Information from the Discarnate Personality

Theme 1: Focused Attention and Inhibition of Distractions

This theme consisted of codes that identified the importance for mediums to have the capability to focus their attention upon a chosen stimulus but also to hold awareness of that stimulus from among competing stimuli. This theme generated three sub-themes: focusing attention, avoiding eye contact, and handling external distractions, see Figure 1.

Figure 1

Focused Attention and Inhibition of Distractions Theme



1.1 Focusing Attention

The mediums frequently spoke of the need to focus their attention on a distinct stimulus. Depending upon the purpose and intention, this was referred to in several ways: "energy", "the spirit world", and "the power". It was evident from the context in which these terms were used that they represented a real and tangible reality for these mediums, relating to mental space, a feeling or object that mediums may be aware of by focusing their attention on it.

"And I give them my whole attention till I successfully build that bridge to their loved one. And I don't become distracted by anything else or anyone else." – Medium 1.

"And then again, I move my mind to that, to that world. And, erm, I feel the connection between that world and myself." – Medium 4.

"...so I feel that my primary attention is with spirit.." – Medium 15.

"...because I focus very much on the energy to take me there. And as soon as I make the connection, I just, it's almost as if I imagine Spirit are so close they become me if that makes sense." – Medium 18.

1.2 Avoiding Eye Contact

Mediums also spoke of the desire to avoid eye contact with the recipient. Many felt this could distract them from the discarnate personality ("...spirit world") from where the information is alleged to originate. Hence, they were peripherally aware of the recipient, focusing mainly on the discarnate personality. Medium 13 went further and explained how they felt eye contact with the recipient could influence the communication they received from a discarnate personality with their own thoughts and prejudices.

"...we say we're aware of the spirit world in our peripheral. Well, I'm not I'm aware of the people on the peripheral. They're secondary to me..." – Medium 1.

"And what happens that is I try not to be in direct eye contact with somebody at that point. Because I don't want my own information coming in, I don't want my own prejudices or thoughts coming in, at that moment of time, most of the time, I can handle that..." – Medium 13.

"I try not to look at people sometimes. Because sometimes I just go above their head because sometimes you get that pull..." – Medium 17.

1.3 Handling External Distractions

Eight mediums expressed concern about external distractions impacting their ability to remain focused on the discarnate personality, three of whom recalled that during their early mediumistic development, they needed to communicate with a discarnate personality while their tutor deliberately created distractions around them. They later used this exercise themselves as tutors with students within their development groups.

"...one of the exercises I used with my students when I was teaching mediumship development in person, I would literally make students stand up in front of the class, I would literally have two or three students walking back and forth between the congregation or the group, and the medium delivering the message" – Medium 11.

"So when we were in development, there would be purposely noises put into the group into the class, windows opened doors open whatever it happened to be, so we could learn to focus and, that was a great lesson." – Medium 13.

"So early on, when I was, hardly knew what I was doing, and he was doing his development classes, he always made us practice being in that space, no matter what was going on around us. And I didn't understand until more recently; how that helped me be a stronger medium. He would walk in front of us and make noise and make us keep going with the message." – Medium 15.

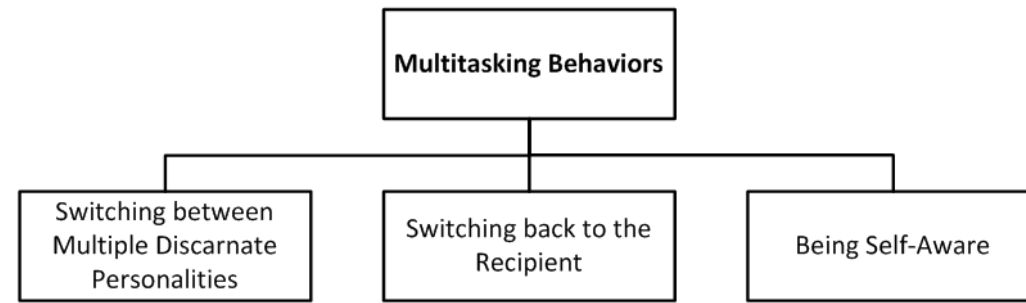
Theme 2: Multitasking Behaviors

The mediums interviewed recalled three specific circumstances that would typically occur during a mediumship demonstration, which necessitated the need for the mediums to adopt a multitasking behavior. These included the need to maintain their awareness of the target discarnate personality while attending to other multiple

discarnate personalities, switching back to the recipients ,and being self-aware, see Figure 2.

Figure 2

Multitasking Behaviors Theme



2.1 Switching Between Multiple Discarnate Personalities

Mediums often recalled situations when giving information to a recipient from a discarnate personality; they would then become aware of a second discarnate personality they deemed to be interrupting the initial communication. In these situations, the mediums spoke of how they would often mentally communicate with the second discarnate personality in the same way they would if interrupted in a conversation with friends. By acknowledging them and then asking them to wait their turn. Conversely, some mediums spoke of how they would shift from one discarnate personality to the other, going between their respective recipients and giving communications and evidence to both.

The selection criteria for this study were designed to ensure that only experienced mediums participated. This was evident in the confidence the mediums reported having in their ability to maintain their awareness of the initial discarnate personality. Knowing that they would be able to move their awareness to the second discarnate personality once the original communication had been completed. Again, this sub-theme

demonstrates the perception of the mediums to accept discarnate personalities as physical objects occupying a physical reality. When interruptions occur, already-developed multitasking skills are used, arguably acquired from typical day-to-day interactions.

"... and then I realize I've got two communicators there. And sometimes, I've done both communicators. I've just said to one person, can you just wait? I think I've got two, and then I'll go to the one person, and then I'll go to the other, but sometimes I get a feeling inside whether I should go. Nope. This is purely for that person. And this is important, all of a sudden I'm like. Oh. Hang on a minute, I want to go to that person over there and that person over there.." – Medium 2.

"And so, in that they showed me while I could be with two people, there were two separate communicators. So, I don't know if that answers your question. It just showed me that I could hold the two different people to different recipients of messages. And they're two different family members and move between them." – Medium 11.

"...just deal with that, like I would in a room full of people. I just sort of in my thoughts. I speak to them. And I just say you're all very welcome. But I can only talk to one person at a time." – Medium 12.

2.2 Switching back to the Recipient

Mediums also recalled the need to be aware of the recipient *"to check in with them"* or to check if the communication being given was understood without losing their awareness of the discarnate personality. The mediums perceived sharing their awareness between the discarnate personality and the recipient, with most of their awareness placed upon the discarnate personality.

"I hold both, I would say, this is what I always tell my students probably 80 to 90, well, yeah, 80 to 90% of my focus is with the spirit world. And I have a small amount of focus on my recipient, just checking, just to check in with them." – Medium 8.

2.3 Being Self-Aware

Mediums spoke of developing an internal self-awareness that informed them of the correctness of the information conveyed. Many mediums perceived this as feedback between their awareness of the discarnate spirit and the recipient, from which they reported to energetically and intuitively sense if the information they were giving was correct. This feedback was happening while maintaining their awareness of the discarnate personality, checking in with the recipient, and managing possible interruptions from secondary discarnate personalities.

"But the main important thing for me is, I will go back to my if you want to call it the intuition, the sensing, and I will double-check between the energy of the communicator and myself if what I've got is totally correct. And there's, I can't describe it, it's very hard to describe, but there's a way that I will know, I will know without a shadow of a doubt that what I am perceiving is correct..." – Medium 12.

"And it's so clear that I know I'm not wrong... And then if I feel I'm not right, I'll just say, would anyone understand this?..." – Medium 2.

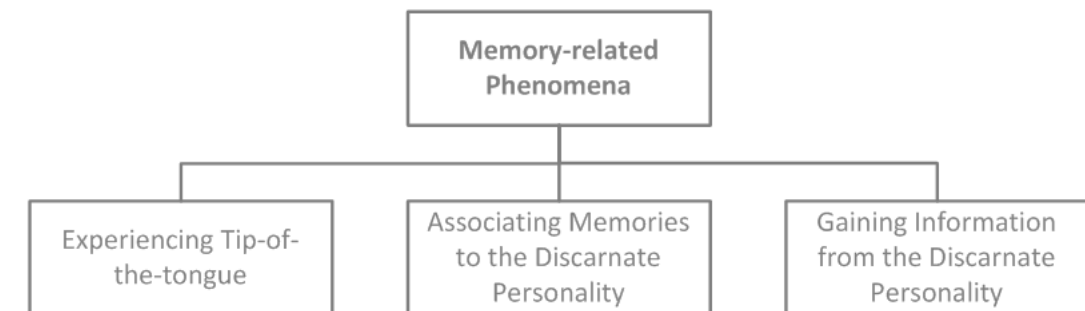
"... It's almost like it's more than a gut feeling because you rely on it. Because in our work, we rely on it, it becomes a part of us. And you feel that compatibility, you feel that it's almost like a rubber stamp of saying yes, I know I'm with the right person, or yes, I know that's right..." – Medium 4.

Theme 3: Memory-Related Phenomena

This theme described the memory-related phenomena used to convey accurate evidential information through mediums during a mediumship demonstration. Within this theme, three sub-themes were generated: experiencing tip-of-the-tongue, associating memories to the discarnate personality, and gaining memories from the discarnate personality (Figure 3).

Figure 3

Memory Use Theme



3.1 Experiencing Tip-of-the-Tongue (ToT)

Several mediums noticed that they would often experience a lapse of memory during a mediumship demonstration, akin to the tip-of-the-tongue phenomenon (Brown, 1991). During this period, the medium would typically experience the need to mention a particular object (e. g., the make of a car or to address by name a recipient in the congregation) but would find that, for a brief period, the word or name would fail to emerge from memory, even though they knew what it was they wished to say.

"This is the thing that happens to me very, very often, I know I need to speak to Chris. Chris is there in the audience, and I know Chris's name. Can I heck, like, remember it? And I'm looking at you, and I think, what do I do, and then people then assume I'm cheating or

play-acting. Because I know Chris, I can't get his name. It just won't come to me." – Medium 1.

"You can feel the blank canvas of your mind, and then you're searching around in the space. Sometimes the word isn't there." – Medium 2.

"I get the congregation to work it. Again, it's that relationship, just like, What's that? What's that old Ford car that used to be around in the 60s? I can't remember the name of it. Ford Anglia. Yep, that's it." – Medium 6.

"There's a lapse of memory in terms of I might be giving a, you know, a contact to someone who I know their name, but while I'm demonstrating, I cannot remember their name." – Medium 8.

3.2 Associating Memories to the Discarnate Personality

The mediums acknowledged that they were aware of their memories and experiences surfacing during a demonstration. They would interpret this as an attempt by a discarnate personality to symbolically suggest a specific item of evidence that needed to be conveyed to the recipient. For example, if the medium became aware of a memory of their father surfacing, they took this to mean that the relationship between the discarnate personality and the recipient could be that of a father and child. Likewise, memories of particular experiences belonging to the medium may also surface and serve as symbolic evidence to the recipient.

"I very much agree that our memories are the Spirit worlds library," – Medium 1.

"...but definitely on occasions where I might be taken into a memory a certain age living in a certain place. And then when that happens, I know that it's talking about experiences in that time of life or the sitter..." – Medium 12.

"...I do agree with that. And I'm, in part anyway, because I believe that they can, they use our memory banks in some sorts of ways and our experiences." – Medium 14.

A medium, recognized within the spiritualist community as capable of providing evidence containing specific dates relevant to the recipient, explained how they capitalized on knowing that their memories might sometimes be used in discarnate communication. The medium in question would often adopt a mental strategy of consciously giving the alleged discarnate personality a choice from their memory of notable dates, such as family birthdays and national holidays.

"Well, I've taught my students this, and I do this as well. ... So, you've obviously got your January to December. So, I put in all the public holidays in my mind's eye. Then I put all my family's birthdays and passing. And so, you've got quite a lot there. You know, and obviously, our bank holidays are different from yours, but I still know English ones, it's still in my mind. And so, then I say to the spirit world, you take me to a date that is one of them." – Medium 17.

3.3 Gaining Information from the Discarnate Personality

The mediums also stressed their belief that the communication between the discarnate personality and the medium was achieved through the cooperation of the medium, allowing their thoughts to be influenced by the discarnate personality. In this way, the discarnate personality could use the semantic and episodic memory of the medium to construct the desired communication. However, the mediums felt it was also necessary to develop their mediumistic ability to a point where the information gained from the discarnate personality is relevant to the recipient but considered outside the medium's current body of knowledge.

"...somewhere there has to be space for the intelligence of that communicating spirit. For example, a brain surgeon communicates, can he not? Can you not talk? Does that mean he can't talk about his brain surgery? You know, of course, he can. Though I may not understand what he's gonna say to my client." – Medium 6.

"...So, I mean, I've been a gay man, I felt as if I was a gay man dying [with AIDS] with all the lesions that they get on their body. His mother was sitting next to me. ... And afterwards, she said, I'm going to call you my daughter-in-law, he's told you more than he's ever told anybody. So, I could have no concept of what it was for a man to be a gay man, to have a sexual experience as a gay man, to feel these lesions on my skin." – Medium 7.

"...would say they give us far more than what we've got. I would probably say that in the early days, memories would be provoked, but in later days, far less so." – Medium 8.

Discussion

This study adopted a thematic design to determine the self-reported cognitive strategies used by mediums to communicate with discarnate personalities; and explored whether these strategies suggest using specific components of executive function. The results from the thematic analysis suggest that the self-reported cognitive strategies conveyed by the mediums interviewed could be grouped into three themes that relate to the task of mediumship. Further, analysis of these themes produced three separable components of executive function, as posited by Friedman and Miyake (2017) and Diamond (2013), shown in Table 2.

Table 2

Generated Themes and Executive Function

Themes	Executive Function	
	Friedman and Miyake (2017)	Diamond (2013)
Focused Attention and Inhibition of Distractions	Inhibition	Inhibitory Control
Multitasking Behaviors	Shifting	Cognitive Flexibility
Memory-related Phenomena	Updating	Working Memory

Inhibition involves suppressing internal and external stimuli to control our attention, behaviors, emotions, and thoughts (Diamond, 2013). This ability allows individuals to control their impulses to prepotent stimuli and permits the individual to selectively attend to the chosen stimuli (Diamond, 2013; Miyake et al., 2000). Neurological studies suggest the prefrontal cortex is the source of the inhibitory control of other brain regions (Tabibnia et al., 2011) and is supported by lesion studies on patients with observed impairment in inhibitory control (Stuss & Alexander, 2000).

Inhibitory control also manifests within individuals as the ability to *focus* and *maintain* their attention on their chosen stimuli to complete a task despite competing stimuli, some of which may be more interesting or rewarding. Without individuals being able to delay their immediate gratification, they would never be able to sustain their attention on a task for longer than the next interesting or compelling thought (Diamond, 2013).

Previous research has suggested that participants' success in psi studies may be linked to their ability to selectively attend to a target while inhibiting distracting information (Honorton, 1974; Stanford, 1993). Likewise in this study, mediums acknowledged the importance of focused attention and inhibitory control when communicating with a discarnate personality.

Further, it was apparent that there was concern amongst the mediums that becoming distracted could interrupt the process of discarnate communication. Hence, they would often take practical measures to limit potential distractions while demonstrating, such as not looking directly at the recipient. In addition, realizing the importance of maintaining attention and limiting distractions, the mediums interviewed actively sought to improve this ability during their training and recounted how distractions would be deliberately introduced into their environment while giving practice demonstrations in their early development. Furthermore, it can also be argued that seeking to avoid eye contact with the recipient has a secondary benefit of challenging the skeptics' claim that such alleged discarnate communication is achieved primarily through cold reading techniques; involving the medium being led by body language and facial expressions (Dutton, 1988; Hyman, 1981; Sarraf et al., 2021).

Significantly, this research also expands upon previous studies (Braud, 1975; Honorton, 1974; Wilson, 2015) by introducing two additional components of executive functions utilized by mediums: multitasking and memory-related phenomena. Multitasking, also referred to as task switching (Diamond, 2013) or shifting (Friedman & Miyake, 2017), represents the executive ability to switch between multiple complex tasks, mental sets, or operations (Monsell, 1996) and was reported by all the mediums interviewed. In particular, they shared experiences when they were consciously aware of multiple discarnate personalities vying for attention while communicating with a single discarnate personality. These situations required the mediums to multitask and switch

their awareness between multiple discarnate personalities, often emerging as interruptions, while simultaneously attending to one or more recipients.

When questioned why such interruptions would occur, the mediums suggested that the interruption was often a conscious act made by discarnate personalities competing for their attention. It was apparent from the interviews that this was a common situation that mediums would find themselves in, and they had developed simple strategies to overcome these situations. By treating discarnate personalities as physical person and requesting that they move aside or wait their turn, the mediums suggest they could switch their attention between the original discarnate, other interrupting discarnate entities, and the recipient. However, it is unclear if the mediums resolved the interruptions because of the cooperation of the discarnate personalities or whether acknowledging the interruption allowed time for the medium to reattend to the initial discarnate personality cognitively. Nevertheless, it does raise an interesting question about what processes enable a medium to differentiate between two or more discarnate personalities and is something that future research could pursue.

The mediums also shared reports of needing to be self-aware to assess the accuracy of the information given to them by the discarnate personality. This involved the medium multitasking attention between the discarnate personality and being self-aware of what was being conveyed. Doing this provided the mediums with an internal feedback loop that enabled them to assess whether their interpretation of the information conveyed to the recipient was correct. Many of the mediums reported that they would only give information received from a discarnate personality if their self-awareness verified its accuracy. Because of time constraints, this study did not have the opportunity to explore the possible mechanism behind this self-awareness. However, identifying this behavior within the mediumship process may encourage future researchers to further explore it.

The third theme involved memory-related phenomena and refers to the working memory component of executive function. Working memory is responsible for holding, updating, and monitoring mental sets and representations held in the mind (Friedman & Miyake, 2017; Miyake et al., 2000). This component of executive functioning constantly monitors and codes incoming information for its relevance to a task being performed, replacing old and irrelevant items from working memory with new relevant information sets (Morris & Jones, 1990). Working memory enables the individual to hold information in mind, incorporate new ideas, consider alternatives, see relations between individual items in mind, and, importantly, manipulate this information (Diamond, 2013).

As a subtheme identified under the theme of memory-related phenomena, experiencing tip-of-the-tongue refers to when an individual has retrieved the lexicon of a required word from memory but cannot retrieve the phonological label to that word (Brown & McNeill, 1966). Therefore, individuals often experience a feeling of knowing the word (Schwartz, 2008; Brooks et al., 2021) they cannot vocalize, leaving them silent as they try to retrieve the phonological label. Though not explicitly a component of executive function, the literature suggests ToT can be associated with deficits in executive functioning that impact the phonological loop access, leading to individuals experiencing ToT, as seen in individuals with mild cognitive impairments (Juncos-Rabadán et al., 2013) and with the decline of executive function performance due to aging (Juncos-Rabadán et al., 2010).

During the interviews with the mediums, it was not determined whether the tip-of-the-tongue experience that occurred while communicating with a discarnate personality was distinct from the type they would typically experience during a normal conversation. However, it is worth noting that tip-of-the-tongue occurrences often increase in older individuals (Brown & Nix, 1996; Ouyang, Cai & Yhang, 2020; Schmank & James, 2020). Therefore, it is plausible that the middle and older ages of the mediums who took part in this study could have contributed to the occurrences of the tip-of-the-tongue reported.

Alternatively, it has been reported that individuals experience more tip-of-the-tongue events in anxiety-provoking situations, such as being observed and evaluated (Schmank & James, 2020). Unfortunately, this study did not ask the mediums on the anxiety levels they typically feel during a demonstration of mediumship. However, it is plausible that such public demonstrations, which involve being observed by large groups of people, could increase their anxiety levels. Therefore, it is reasonable to suggest that the mediums may also experience stress in such an environment, resulting in a noticeable increase in the occurrence of tip-of-the-tongue episodes. However, exploring this issue was not the focus of this study, and questions relating directly to perceived anxiety levels were not posed. Future research could fruitfully explore such a possible relation by manipulating the perceived stress level and assessing the number of TOTs.

Lastly, the mediums acknowledged that their demonstrations of discarnate communication often contained symbolic associations to memories from their own experiences. The notion that discarnate personalities may sometimes use the medium's memories to help relay information or messages is consistent with previous research (Roxburgh & Roe, 2013).

Further, this study also identified that the mediums interviewed considered discarnate communication involving the medium's memories as an indicator of the medium's experience level and mediumistic development. Suggesting that experienced mediums sought to ensure communication from an alleged discarnate personality should include information beyond the medium's current knowledge and experiences to illustrate that the information presented could only have come from the discarnate personality. However, this would only be achievable if the mediums had substantial experience and heightened mediumistic development. It should be remembered that participating mediums were selected based on their accreditation as mediums and also because they were recognized within the spiritualist community as tutors. Arguably, mediums that can guide others in their mediumistic development need to exhibit a high

degree of experience and mediumistic development. Differentiating between accredited mediums who are recognized tutors and accredited mediums who are not may also have implications for further research with them. If, as proposed by this study, mediums who tutor are considered to have a heightened mediumistic ability, it would suggest future researchers may need to consider whether their participants in medium research have the required level of ability to justify their participation. The importance of ensuring the quality of the medium used in research studies is discussed by Beischel (2007) and has led to the development of an extensive screening protocol for research participants. Based on the findings reported here, we would suggest that identifying whether the participant is a recognized tutor may add to the quality of the medium research used in future studies.

This study has identified that three components of executive functions may be used during a demonstration of mediumistic communication with a discarnate personality. Further, from the analysis of the interviews, it is evident that these components are required to work together to initiate and maintain this communication, suggesting that without these executive functions, such communication would likely be impaired or not attainable.

These findings also raise two related points that future research could fruitfully focus on to help shed light on the mediumistic process. First, given that mediumistic communication may, to some extent, be reliant upon these executive functions, are executive function performance in mediums distinct from that in non-mediums. Second, if mediums show a distinct profile of executive functioning compared to non-mediums, which could suggest that they play a causal role in the process, would cognitive performance training lead to improved cognitive strategies that would result in transfer effects during the alleged communication with discarnate personalities?

Conclusion

Semi-structured interviews were conducted with 19 Spiritualist medium tutors to explore the self-reported cognitive strategies and possible executive function use in demonstrating discarnate communication. These interviews were recorded, transcribed, and analyzed using a reflexive TA approach leading to the generation of three main themes: focusing attention and inhibition, multitasking behavior, and memory-related phenomena; each was suggested to relate to a distinct component of executive function. In some cases, the mediums also adopted techniques to enhance the performance of that component or develop strategies to overcome component weaknesses.

This study contributes to the literature exploring executive function in psi functioning (Honorton, 1974; Stanford, 1993) and extends Roxburgh and Roe's (2013) research that showed mediums acknowledge that discarnate communication often relies on symbolic associations to their memories. However, experienced mediums often strive to develop their mediumship ability so that information is beyond their current knowledge and/or understanding in an effort to provide clearer evidence of the veracity of the communication, as well as being more relevant to the recipient. Further, this study extends the literature on mediumship research by identifying the use of memory-related phenomena and multitasking processes when allegedly communicating with a discarnate personality.

Although the findings from this study show that experienced, well-trained mediums utilize three key aspects of executive functioning, it is appropriate to recognize potential limitations. As discussed, it could be argued that the stringent selection criteria to only accept mediums that hold accreditations with a Spiritualist organization limits the ecological validity of the findings to mediums with accreditations. On balance, this was deemed an acceptable limitation to ensure the study recruited participants recognized within the spiritualist community as genuine mediums with an accepted standard of

mediumistic ability. However, we acknowledge that these predominantly English-speaking mediums may not represent the wider global community of spiritualist mediums with varying levels of mediumship experience and cultural backgrounds. Nevertheless, our findings bolster the limited research on the psychological processes involved in mediumistic communication, represent a step in improving our understanding of the mediumistic process, and raise further questions worth pursuing.

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Appendix A: Semi-Structured Interview Questions

1. How easy is it for you to stop your mind from wandering or becoming distracted from other thoughts when you're demonstrating?
2. Do you find times when you are so focused that you forget where you are or get caught up in the communication forgetting the congregation?
3. Do you sometimes get another communicator interrupt the communication?
4. Have you ever experienced a lapse in memory whilst demonstrating, like something is on the tip of your tongue but can't quite reach it?
5. Within Spiritualism, we're taught that spirit uses our memories. Does your experience of mediumship agree with this idea?... and could you give me some examples of your reasoning.
6. There have naturally been times when the information you've given hasn't been accepted; what is your mental process to correct that?
7. When you have some evidential information – how do you manage to take your awareness to the recipient to give the information? Do you drop the connection with spirit?
8. When you're demonstrating and working on getting evidential information from spirit, how do you manage to be aware of the recipient and the spirit world?
9. Is there a need for you to manage multiple recipients that can accept the communicator – what mental processes do you go through?

Zur Untersuchung der Kognitiven Prozesse, die von Medien Während der Angeblichen Kommunikation mit Verstorbenen Eingesetzt Werden

Chris Connelly

David Vernon

James Cane

Zusammenfassung: *Zielsetzung:* Ziel dieser Studie war es, ein gewisses Verständnis für die Art der selbstberichteten kognitiven Strategien zu erlangen, die am medialen Prozess beteiligt sind. *Methode:* Es wurden halbstrukturierte Interviews mit 19 Tutoren spiritistischer Medien geführt, und der Inhalt wurde mit Hilfe eines reflexiven Ansatzes der Thematischen Analyse (TA) analysiert. *Ergebnisse:* Die Analyse ergab drei Hauptthemen: fokussierte Aufmerksamkeit und Hemmung von Ablenkungen, Multitasking-Verhalten und gedächtnisbezogene Phänomene, die mit Komponenten der exekutiven Funktionen in Verbindung gebracht werden können. *Schlussfolgerung:* Diese Themen deuten darauf hin, dass Medien spezifische kognitive Prozesse verwenden, um eine angebliche Kommunikation mit leibfreien Persönlichkeiten zu initiieren und aufrechtzuerhalten. Die Implikationen dieser Befunde werden diskutiert.

German translation: Eberhard Bauer

Explorando os Processos Cognitivos Utilizados por Médiuns Durante Alegada Comunicação com os Mortos

Chris Connelly

David Vernon

James Cane

Resumo: *Objetivos:* Este estudo almejou buscar alguma compreensão a respeito dos tipos de estratégias cognitivas autorreferidas envolvidas no processo mediúnico. *Método:* Foram realizadas entrevistas semiestruturadas com 19 instrutores médiuns espiritualistas e o conteúdo foi analisado por meio de uma abordagem de Análise Temática Reflexiva (ATR). *Resultados:* A presente análise identificou três temas principais: atenção concentrada e inibição de distrações, comportamentos multitarefa (*multitasking*) e fenômenos relacionados à memória, que poderiam ser associados a

componentes das funções executivas. *Conclusão:* Esses temas sugerem que os médiuns podem usar processos cognitivos específicos para iniciar e manter a suposta comunicação com personalidades desencarnadas. As implicações de tais descobertas são discutidas ao longo do artigo.

Portuguese translation: Antônio Lima

Una Exploración de los Procesos Cognitivos Utilizados por los Médiums Durante la Presunta Comunicación con los Difuntos

Chris Connelly

David Vernon

James Cane

Resumen: *Objetivos:* El objetivo de este estudio fue comprender el tipo de estrategias cognitivas involucradas en el proceso mediúmnico. *Método:* Usamos entrevistas semi-estructuradas con 19 médiuns espiritistas tutores y analizamos el contenido con un Análisis Temático (AT) reflexivo. *Resultados:* El análisis identificó tres temas principales: atención focalizada e inhibición de distracciones, comportamientos multitarea, y fenómenos relacionados a la memoria, que pueden estar asociados a componentes de las funciones ejecutivas. *Conclusión:* Estos temas sugieren que los médiuns tal vez utilicen procesos cognitivos específicos para iniciar y mantener una presunta comunicación con personalidades desencarnadas. Discutimos las implicaciones de los resultados.

Spanish translation: Etzel Cardeña