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Investigative Interviewing
Priming the Interview Context

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Abstract

This article provides a critical review of existing research on the use of priming in investigative interviewing, including its influence on secure attachment, openness, and helpfulness motivations. The potential benefits of priming are discussed as well as the methodological challenges and ethical considerations associated with its use. This technique has intuitive appeal, yet empirical evidence supporting its effectiveness is, at present, limited. The implications of these findings are discussed, as well as possible future directions for research in this field.

Key words: Priming, Investigative Interviewing, social psychology, information disclosure, secure attachment, openness, helpful motivations

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Introduction

In the aftermath of the 11 September 2001 attacks, a specialised counterterrorism team (CT) was tasked with the formidable challenge of dismantling the intricate networks that sustained domestic and international terrorism (Davis et al., 2010).

Their investigation revealed a network of illicit activities in the United States (US) ranging from weapons acquisition to financial fraud, all intended to support terrorist operations, for example the plot to plant explosive devices in the New York City subway (2009) (McNeill et al., 2010). A critical factor in the success of this operation was the ability to gather intelligence from witnesses and informants, who were often reluctant to cooperate for fear of retaliation. This reticence is analogous to the challenges found in high-crime neighbourhoods, where residents often prioritise self-preservation over engagement with law enforcement.

In light of this challenge, the CT adopted a sophisticated approach to interviewing, with a focus on establishing rapport and trust. Additionally, the CT acknowledged the importance of priming, recognising the subtle but pervasive influence of environmental and psychological cues on behaviour and memory. With this understanding, the CT meticulously considered the selection of interview locations that offer privacy and comfort to reduce anxiety and foster a sense of security. The arrangement of physical space was influenced by considerations from environmental psychology (Moser & Uzzell, 2003; Nasar, 2011), specifically leveraging the concept of contextual priming (Dawson et al., 2017; Dianiska et al., 2019; Okken et al., 2013). For example, "ten-to-two" seating arrangements were employed to promote a more relaxed and conversational atmosphere (Schollum, 2005).

Researchers have repeatedly emphasised the significance of establishing environments that are conducive to attaining desired outcomes in human interaction. For instance, Batson et al. (1997) demonstrated that fostering empathy can lead to an increased propensity for cooperation and mutually beneficial solutions. Accamma et al. (2024) underscore the significance of establishing an optimal interpersonal context, asserting that fostering a secure and non-confrontational atmosphere, akin to enhancing empathy, promotes open communication and the dissemination of truthful information. These findings underscore the pivotal role of understanding and trust in achieving goals. The significance of these findings lies in their ability to facilitate more productive and beneficial interactions, whether in the personal realm of interpersonal interactions where empathy is crucial to finding common

ground, or in professional contexts where a secure environment is pivotal to obtaining accurate information.

The CT also acknowledged the significance of affective priming, recognising that a genuine connection and demonstration of empathy could foster cooperative behaviour. For instance, positive emotions can be primed (Carlson et al., 1988; Ye et al., 2020). Barraza & Zak. (2009) found that positive emotions increased oxytocin levels, which is linked to trust and cooperation. Similarly, the induction of feelings of gratitude has been demonstrated to engender cooperation by cultivating a sense of obligation to reciprocate benevolence and generosity (Bartlett & DeSteno, 2006). The aforementioned study demonstrated that priming feelings of gratitude increased helping behaviour and cooperation.

The notion of priming, or setting up an environment conducive to interaction, has been demonstrated to play a crucial role in facilitating cooperation in a variety of contexts. Smith et al. (2014) demonstrated that priming empathy and perspective-taking encourages cooperation by increasing understanding of others' needs and motivations. In a similar vein, this article emphasises the pivotal function of priming in investigative interviewing, a field in which establishing trust and rapport is essential, particularly in high-stakes situations where fear and mistrust can impede cooperation. These findings underscore the importance of meticulously designing environments to achieve specific goals, whether to promote collaboration in a social context or elicit information in a professional setting. By acknowledging the impact of priming on human interaction we can enhance communication and promote more productive outcomes in a variety of fields.

Exploring the Meaning and Roots of Priming

In the preceding section, the utilisation of priming techniques in the context of counterterrorism investigations was examined, wherein the establishment of trust and rapport is paramount for the elicitation of information from witnesses and informants. In order to comprehend the full scope of priming's potential in investigative interviewing, it is imperative to undertake a comprehensive examination of its historical origins and theoretical underpinnings. This section provides an overview of the origins of priming research, encompassing its early conceptualisations and the subsequent evolution of its applications in the domain of social psychology and related fields.

The origins of research on this topic can be traced back to Donald Hebb's (1949) seminal work on internal mental representations, also known as "cell assemblies". Subsequent to this, Karl Lashley (1951) introduced the term "priming" in his research on language production.

Early studies in this field investigated carryover effects between tasks and priming effects within a single task (Bargh, 2014). For instance, exposure to vocabulary related to "elderly people" has been demonstrated to unconsciously influence participants' walking pace (Leys, 2024). These studies initiated the framework for comprehending the priming's impact on social psychology and related domains. Despite these early findings, the power of priming extends beyond simple word associations, raising ethical concerns about its potential for manipulation. Understanding priming reveals a potential for manipulation, particularly in the context of post-hypnotic suggestion.

Post-hypnotic suggestion is a powerful tool for manipulating behaviour. The film "The Manchurian Candidate" provides a compelling illustration of this, as Raymond Shaw transforms into an assassin when triggered by the Queen of Diamonds card (Carruthers, 1998). This form of (supraliminal) priming is not confined to direct commands but also encompasses the manipulation of an individual's environment and experiences to influence their behaviour and beliefs. Although fictional, "The Manchurian Candidate" reflects real-world concerns about mind control as evidenced by the CIA's MKUltra programme.

This clandestine project involved experiments with hypnosis, drugs, and torture to explore the potential for subtle manipulation of human behaviour. The ethical implications of these techniques are significant and raise concerns about autonomy, free will, and privacy. The moral of "The Manchurian Candidate" and the MKUltra project highlight the dangers associated with unchecked power and the potential for psychological manipulation. These examples underscore the necessity for ethical boundaries on priming practices, as well as safeguards to prevent abuse.

In the domain of psychology, the term "priming" signifies the pre-activation of a cognitive process. It refers to the notion that exposure to a specific stimulus exerts an influence on one's subsequent response to a different stimulus. To illustrate this concept, Anderson (2001, p. 471) offers a definition that stipulates priming as "the improvement in the processing of a stimulus as a function of a previous presentation". A similar definition is proposed by Stroebe et al. (2013, p. 138), who focus on the increased likelihood of activating a pattern that was recently presented or used.

This concept is further elaborated by Major (2008, p. ii), who characterises priming as "the benefit an event receives when its processing has been preceded by the processing of a related or identical event".

While the preceding definitions underscore the beneficial impacts of priming, it is imperative to acknowledge that priming can concomitantly engender adverse or inverse consequences. This phenomenon has been termed "negative priming", "contrast effect", "anti-priming", or "reverse priming" (Fiedler, 2003; Glaser, 2003). It occurs when the presentation of a stimulus results in diminished performance or even contrary effects (Krüger et al., 2013).

The term "priming" was first introduced to the field of psychology during the 1950s and emerged as a concept in the discourse surrounding fluent language and reading (Bermeitinger, 2016). In 1951, Karl Lashley proposed that "expressive word units" require partial pre-activation before internal or overt utterance. He contended that in the absence of this pre-activation, humans would be capable of producing words only in isolation, one after the other. This concept dates back to James (1890), who proposed two "awakening" processes for spoken words. Lashley referred to this pre-activation as the "priming of expressive units" (Bermeitinger, 2016), thus introducing the concept of priming for the pre-activation of mental concepts. Initially, only internal stimuli or thoughts were considered to trigger pre-activation (Lashley, 1951). However, the term "priming" soon evolved to include pre-activation by external stimuli or events, and this remains its predominant use today. This understanding of priming is closely related to the concept of implicit cognition, which can be defined as the set of cognitive processes that occur below the threshold of conscious awareness (Toth & Reingold, 1996).

Implicit cognition

This phenomenon, often referred to as an "autopilot" of the mind (Ayan, 2019), exerts a subtle influence on our actions and decisions, often operating beyond our immediate awareness. It encompasses a range of implicit attitudes, beliefs, and biases that shape our behaviours and responses to external stimuli.

As demonstrated in the relevant literature, cooperation and goal pursuit can be influenced non-consciously through priming (Bargh, et al., 2001; Fitzsimons & Bargh, 2003). An excellent example of implicit cognition is the phenomenon of priming, which occurs when exposure to one stimulus unconsciously influences responses to subsequent stimuli.

The phenomenon of unconscious automatic processing has its origins in the repeated association of concepts. To illustrate, consider the association between "fidgeting" and "lying" in the context of deception detection. This perceived link, though often inaccurate, can become ingrained due to its recurrent depiction in media and popular culture. Consequently, observing a person fidgeting during an interview may unconsciously activate the concept of "deception" in the observer's mind, potentially biasing their judgment, even though fidgeting is not a reliable indicator of dishonesty. This unconscious activation and its influence on judgment is an example of automaticity in action. More broadly, automaticity operates according to the perception-behaviour link (Berkowitz, 1997; Chartrand & Bargh, 1999). This model posits that perception can directly influence behaviour without conscious intervention, underscoring how ingrained associations can lead to biased judgments in deception detection, despite the best of intentions.

Beyond Awareness: How "Focus" Illustrates the Priming Effect

In the film "Focus" (Ficarra & Requa, 2015), the protagonist, Nicky, employs a sophisticated scam involving priming to manipulate a high-stakes gambler. This technique, which has been extensively researched in the domain of cognitive psychology, entails the subtle exposure of an individual to a stimulus to influence their subsequent responses. The protagonist orchestrates a series of seemingly innocuous encounters for his target, embedding the number 55 in various visual and auditory cues throughout the day, such as a bellhop's uniform, a strategically placed tattoo, and even background music. This repeated exposure, which occurs subconsciously, effectively primes the gambler to favour 55 when he is later forced to select a seemingly random number, enabling Nicky to win an improbable wager. This cinematic illustration offers a compelling exposition of how priming can subtly influence decision-making processes, underscoring its potential impact even in contexts ostensibly characterised by high stakes and rational decision-making. Furthermore, this example is consistent with the tenets of embodied cognition, as the gambler's physical experiences with the number 55 throughout the day shape their understanding and preference for it in the abstract decision-making moment. This underscores the profound influence that physical experiences exert on mental activity, and by extension, the potential of these experiences to shape abstract decision-making processes. This phenomenon exemplifies the intricate interconnection between perception, action, and cognition, thereby highlighting the significance of a holistic approach to understanding human behaviour.

Embodied cognition

As the example from "Focus" illustrates, the gambler's physical experiences with the number 55 throughout the day ultimately shaped their seemingly abstract preference for that number. This underscores a pivotal facet of embodied cognition, underscoring the notion that our physical experiences profoundly influence our cognitive processes and comprehension, even in abstract domains. This concept merits further exploration. In essence, embodied cognition challenges the traditional Cartesian view of the mind and body as separate entities, proposing instead that our physical experiences fundamentally shape our mental activity and understanding of abstract concepts (Shapiro, 2014; Barsalou, 2008; Niedenthal et al., 2005). For instance, the initial association of warmth with caregiver proximity may result in the conceptualisation of psychological intimacy through the metaphor of warmth (Williams et al., 2009). This demonstrates how abstract concepts are "embodied" or grounded in sensorimotor experience.

Metaphors are central to the theoretical framework of embodied cognition (Lakoff & Johnson, 1980), as they serve as instruments for comprehending the world and are reflected in common parlance. Metaphors of sight are employed to express comprehension, "I see what you mean", verticality to describe power dynamics, "they are at the bottom of the hierarchy", and containers to represent our inner self, "I feel empty inside". This underscores the profound influence of bodily experiences on our understanding of even the most abstract concepts.

Implicit–Embodied Interactions: A Priming Approach

The concept of embodied cognition emphasises the interconnectedness of mind and body, demonstrating how physical experiences shape our understanding of abstract concepts. Utilising this theoretical framework, the subsequent examination explores the manner in which these embodied experiences interact with implicit cognition, thereby influencing priming effects. This section explores the interplay between implicit and embodied cognition, demonstrating how these two concepts work together to shape priming at both conscious and unconscious levels.

It is vital to understand this interplay if we are to better appreciate how the present study builds on the concept of embodied cognition, which highlights the influence of physical experiences on cognitive processes. The subsequent examination will focus on the manner in which implicit and embodied cognition interact and contribute to priming effects.

The concepts of implicit and embodied cognition, along with priming, are interconnected and elucidate the workings of the unconscious mind. Implicit cognition encompasses the automatic mental processes that shape thoughts and behaviours outside of conscious awareness (Bargh, 1997). Embodied cognition posits that these processes are grounded in sensorimotor experiences, with mind and body inextricably linked (Barsalou, 2008). Priming, a key mechanism within implicit cognition, demonstrates how exposure to one stimulus can unconsciously influence responses to subsequent stimuli by revealing automatic associations and activations of related concepts (Greenwald & Banaji, 1995). This interplay is evident in how physical experiences such as early childhood warmth associated with caregivers, can shape implicit understanding of abstract concepts like affection (Williams et al., 2009). Therefore, implicit cognition, informed by embodied experiences and revealed through priming, provides a comprehensive framework for understanding the pervasive influence of unconscious processes on human thought and behaviour.

In order to further explore the nuances of how implicit and embodied cognition contribute to priming, it is essential to establish a clear classification of priming phenomena. The subsequent section proffers a comprehensive classification of priming phenomena, accentuating the multifarious ways in which priming can influence our thoughts and actions.

Classification of Priming

Christina Bermeitinger, a Professor at the University of Hildesheim, has made a significant contribution to the field of priming research. Her research has focused on response priming and the influence of motion stimuli on action control and decision-making (Bermeitinger, 2016). Her research has explored the impact of ageing on response priming, revealing distinct activation and inhibition patterns in older adults compared to younger adults (Bermeitinger et al., 2011; Bermeitinger & Kappes, 2018). Furthermore, her research on semantic priming has demonstrated how momentary mindsets modulate priming effects for different classifications (Bermeitinger, 2016).

Priming phenomena are diverse, leading to various classifications based on stimuli type, prime-target relationship, and observed effects. Common classifications include:

- **Affective Priming:** Investigates how emotions influence perception and attention (Klauer, 1997; Klauer & Musch, 2003).

- **Associative Priming:** Employs two commonly associated stimuli (Wentura, 2000).
- **Contextual Priming:** The specific process where environmental cues activate related concepts in the mind, influencing subsequent thoughts and actions. A mechanism by which environmental psychology effects occur (Bargh, 2014; Dawson & Hartwig, 2017; Neequaye et al., 2018; Notaro et al., 2024).
- **Cultural Priming:** Examines the impact of cultural factors on cognitive processes (Aydinli & Bender, 2015; Oyserman & Sorensen, 2013).
- **Kindness Priming:** Exposure to acts of kindness influences subsequent behaviour and perception of others (Fryburg, 2022).
- **Masked Priming:** Uses a very briefly presented priming, often below conscious awareness (Eimer & Schlaghecken, 2002; Van den Bussche et al., 2009).
- **Perceptual and Conceptual Priming:** Relies on the form and meaning of the stimulus, respectively (Schreuder, 1984).
- **Positive and Negative Priming:** Accelerates or slows down processing and memory retrieval (Allport & Wylie, 1999).
- **Repetition Priming:** Enhances processing through repeated exposure (Forster & Davis, 1984; Stark & McClelland, 2000).
- **Response Priming:** Investigates how priming influences responses to a target (Chiarello et al., 1990; Ferrand & New, 2003; Xavier Alario et al., 2000).
- **Semantic Priming:** Involves logically or linguistically associated words (Bermeitinger et al., 2008, 2011).
- **Social Priming:** Explores how social cues and information influence behaviour and decision-making (Molden, 2014).
- **Subliminal Priming:** Studies effects of stimuli presented below conscious awareness, notably in advertising (Elgendi et al., 2018; Warren, 2009).
- **Supraliminal Priming:** Involves the deliberate consideration of priming stimuli such as envisioning a supportive figure or reflecting on past experiences of security and comfort (Jones et al., 2022).

It is important to note that priming effects are not always instantaneous and can

vary in duration depending on the type of priming and the stimuli involved (Maxfield, 1997; Ostergaard, 1998; Xavier Alario et al., 2000). Priming is a complex phenomenon with various classifications and subclassifications, and research continues to explore its nuances and applications in different fields.

Priming in Investigative Interviewing

As Bermeitinger (2016) posits, priming is a subtle yet potent psychological phenomenon that shapes our responses to stimuli based on prior exposure. Dawson et al. (2015) state that priming is a psychological technique that is effective in introducing specific ideas and concepts into an individual's awareness (often without their awareness), and can influence thought processes, emotional responses, and behavioural tendencies, leading individuals to align their actions with the concepts presented. Building on this understanding of the potential influence of priming, Neequaye's (2022) critical review of the literature focuses on its application in investigative interviewing, examining three main areas in particular.

Priming a secure attachment

Secure attachment, characterised by feelings of trust, safety, and comfort in relationships as well as a willingness to rely on others, and a belief that one is loved and valued (Terzi, 2013), may play a crucial role in the disclosure of sensitive information. This relationship is explored in research examining the impact of self-esteem and feelings of safety on disclosure. For example, empirical studies have shown that individuals who are reminded of their positive qualities and experiences (self-affirmation) are more likely to disclose embarrassing information (McQueen & Klein, 2006; Sherman & Cohen, 2006). Conversely, focusing on past failures and negative experiences has been shown to inhibit disclosure (Davis et al., 2016). Similarly, the recollection of a close and trusted relationship has been shown to increase individuals' willingness to share personal information, leading to more honest self-reports and detailed disclosures (Mikulincer & Shaver, 2007; Davis et al., 2016; Dawson et al., 2015).

Findings suggest that disclosing sensitive information can be facilitated by creating a safe and supportive environment, either by bolstering self-worth or activating feelings of attachment security.

Secure attachment and disclosure

Mounting evidence suggests that secure attachment plays a significant role in influencing information disclosure (Ellington, 2024). This is likely because individuals who feel secure and confident in their relationships are more comfortable opening up and sharing sensitive details. This assertion is further substantiated by the prevailing consensus that secure attachment, widely regarded as the cornerstone of trust and support in interpersonal relationships, exerts a profound influence on subsequent interactions and fosters prosocial behaviours such as disclosure (Collins & Read, 1990). Specifically, securely attached adults have been shown to readily develop intimacy and closeness with others and to be comfortable both depending on and being dependent on others (Feeney et al., 1994). This secure base facilitates the open expression of distress and the easy reception of comfort and support, leading to greater relationship satisfaction and higher levels of psychological well-being (Fuller & Fincham, 1995; Simpson, 1990).

The notion of secure attachment, with its emphasis on psychological well-being, finds resonance in clinical definitions. In clinical contexts, a secure attachment is delineated as a relationship between a child and their caregiver that provides pleasure, security, and safety, ultimately fostering psychological well-being (Dunham & Woolley, 2012; Sullivan, 2003). Building on this understanding of secure attachment, Johnson (2004, 2007) emphasises key takeaways from attachment theory relevant to couple therapy. He highlights the innate human need for emotional connection and the crucial role that those powerful emotions play in regulating these connections. Furthermore, the concept of secure attachment is presented as a haven, buffering against anxiety and vulnerability in relationships. Building on the understanding of secure attachment and its importance in adult relationships, therapeutic techniques have been developed to foster these feelings of security.

Priming techniques for secure attachment

One such approach is known as "priming a secure attachment", which refers to techniques employed to temporarily activate mental representations of security and safety. By temporarily activating these feelings of security, couples therapy can help individuals access more adaptive ways of interacting and communicating, particularly during times of conflict or stress. These techniques typically involve evoking thoughts and feelings that are associated with supportive attachment figures. This

process can be facilitated through various methods, including supraliminal and subliminal priming.

Existing research suggests that priming for secure attachment can lead to several beneficial outcomes, including:

- Reduced defensiveness. This has been demonstrated to result in a lowering of defences in individuals with anxious or avoidant attachment styles, thereby promoting more open and adaptive responses to emotional challenges (Gillath et al., 2008; Mikulincer et al., 2001).
- Enhanced emotion regulation: It can enhance the ability to cope with stress and regulate emotions, leading to greater emotional stability and well-being (Gillath et al., 2022).
- Increased prosocial behaviour: It can promote empathy, compassion, and willingness to help others (Mikulincer & Shaver, 2005; Mikulincer et al., 2005).
- Enhanced attention to social cues: It can improve attention to social cues, particularly those related to caregiving and attachment (Norman et al., 2015).
- More positive attitudes towards children: In mothers, it has been observed to foster more positive implicit and explicit attitudes towards their children (De Carli et al., 2016).

Furthermore, neuroimaging studies have demonstrated that secure attachment priming can influence specific brain structures associated with social cognition and emotional regulation, suggesting a neurological basis for these effects (Canterberry & Gillath, 2013; Gillath et al., 2012; Tang et al., 2017). This neurological connection is consistent with research indicating that inducing specific psychological states, such as a sense of secure attachment, can influence an individual's willingness to disclose information. For instance, Dawson et al. (2015) found that activating a sense of secure attachment, characterised by a favourable self-perception and positive regard for others, can motivate individuals to divulge more information in an interview setting. Similarly, Davis et al. (2016) demonstrated that cultivating attachment security and self-affirmation can also promote the disclosure of sensitive information. Dawson et al. (2017) found that environmental cues, such as conducting interviews in spacious rooms, can prime a feeling of openness and lead to increased information sharing. This finding underscores the pervasive influence of attachment on information disclosure, a phenomenon

that carries profound ramifications for diverse domains, including personal relationships and national security.

In the context of national security, for instance, fostering secure attachment could be a means of encouraging citizen cooperation in preventing terrorist attacks.

Priming interviewees to be open to information

The notion of "openness" is frequently employed to describe the act of communication, with individuals using the terms "open" or "closed" to characterise others when discussing specific subjects. This comparison suggests that information is contained within individuals, similar to objects within a container. This notion is substantiated by two strands of research.

The Concept of Openness

Firstly, the human body is often perceived as a container (Lakoff & Johnson, 1980) leading to the understanding that information is "held" inside, and disclosure involves "releasing" it. This is exemplified by idioms such as "keeping" or "holding" information, implying that significant information possesses a certain "weight" (Jostmann et al., 2009). Indeed, studies have demonstrated that the act of concealing secrets can be physically burdensome (Slepian et al., 2012), while the disclosure of secrets can be perceived as a form of liberation (Slepian et al., 2014).

Second, recent research has explored the spatial aspect of this representation. Since our comprehension of representations is anchored in physical experience, the "openness" of our surroundings may influence our propensity to be open and disclose information. Studies have demonstrated that individuals in more expansive and accessible environments tend to divulge more personal information about sensitive subjects (Okken et al., 2012, 2013). While a significant proportion of this research focuses on commercial and organisational settings, analogous effects have been observed in therapeutic contexts (Miwa & Hanyu, 2006).

This underscores the significance of taking environmental factors into account when endeavouring to promote communication and facilitate information exchange in any given setting.

Environmental Cues and Openness

The influence of environmental cues on information disclosure has become a topic of increasing interest in recent years. For example, Dawson et al. (2017) investigated the impact of "openness priming" on individuals' willingness to share information, drawing on the conceptual representation that equates physical openness with communicative openness. Study participants, interviewed in a spacious room, disclosed more information about a mock terror threat than those interviewed in a smaller room. This suggests that room size may prime feelings of openness and consequently increase information sharing. However, it should be noted that this phenomenon, termed "openness priming", has been met with a degree of scepticism. Subsequent studies attempting to replicate these findings produced inconsistent results, raising questions about the reliability and generalisability of the initial claims.

Conceptual replications seeking to test the same hypothesis using different methods (Nosek & Errington, 2017), yielded equivocal results. For instance, Dianiska et al. (2019) found that priming openness through objects, as opposed to room size, did not significantly increase disclosure compared to neutral priming or to priming designed to evoke a sense of closedness. Moreover, Hoogesteyn et al. (2019) observed that manipulating room size and interpersonal sitting distance had minimal impact on the amount of information disclosed. These inconsistencies underscore the need for further research to elucidate the relationship between environmental cues and information disclosure, and to ascertain the specific conditions under which such priming effects might occur.

This work highlights the complex nature of priming effects and calls into question the generalisability of the original findings by Dawson et al. (2017). While environmental spaciousness may subtly influence disclosure in certain contexts, evidence suggests that it is not a consistently reliable method of eliciting increased information sharing. Consequently, further research is warranted to examine the interplay of variables that may enhance the efficacy of this technique in investigative interviews and other applied contexts.

Priming helpfulness motivation

The potential for priming techniques to enhance information disclosure in investigative interviews has garnered significant attention from the academic community. Neequaye (2018) proposed that activating individuals' motivation to be helpful

could increase their willingness to share information, based on the premise that helpfulness promotes cooperation (Van Lange, 1999). The rationale underpinning the utilisation of helpfulness priming in investigative interviews is predicated on the understanding that helpfulness is frequently associated with increased cooperation and a willingness to assist others. The objective of this priming is to enhance individuals' propensity to share information with the interviewer. This assertion is further substantiated by extant research in the domain of social psychology, which has demonstrated that helpfulness can foster prosocial behaviours, such as cooperation and the dissemination of information. Consequently, the purpose of priming in investigative interviews is to foster a more collaborative environment by enhancing interviewees' willingness to cooperate and disclose information. This is based on the premise that helpfulness promotes cooperation. (Arieli et al., 2014; Capraro et al., 2014).

To test this hypothesis, Neequaye et al. (2018, 2019) conducted two experiments with similar methodologies. In these, participants took on the role of informants with knowledge of a mock terror plot. They were either primed to help or exposed to a neutral prime. Specifically, the helping priming involved reflecting and writing about engaging in helpful behaviours, whereas neutral priming focused on participants' morning routines. Following the priming exercise, participants were interviewed about the terror plot, with an interview style that consisted of either explicitly requesting help or simply posing direct questions. Findings from these experiments demonstrated no significant disparities in information disclosure between the helping priming and neutral priming conditions, implying that helpfulness priming may not be a reliable method for increasing information disclosure in this context. Consequently, while certain priming techniques demonstrate the potential to enhance information disclosure in investigative interviewing settings, others require further investigation and refinement to optimise their efficacy.

Several factors may be responsible for these inconsistencies. The effectiveness of helping priming might depend on individual differences such as the interviewees' pre-existing levels of helpfulness or their motivation to cooperate with the interviewer. The context of the interview, including perceived stakes or the relationship between the interviewer and the interviewee, might also play a role. Furthermore, the specific method employed in the priming process may also influence its effectiveness.

These inconsistencies underscore the need for further research to elucidate the conditions under which helping priming is most effective. Future studies could investi-

gate the moderating role of individual differences and contextual factors. Exploring diverse priming methodologies, such as using subtle environmental cues or incorporating visual stimuli, could offer significant insights. A comprehensive understanding of these nuances will help to determine the potential of helping priming as a reliable technique for enhancing information disclosure in investigative interviews.

Identifying the factors that influence its effectiveness could result in helping priming become a valuable tool for interviewers seeking to promote cooperation and elicit crucial information. Therefore, it is essential to understand the specific effects of different priming techniques on information disclosure.

The Effects of Priming on Information Disclosure in Investigative Interviews

When employing the concept of priming, the interviewer must approach the task with a thoughtful and deliberate mindset, paying close attention to the particular concept they aim to activate. This is of particular importance given that different types of priming can exert varying influences on specific aspects of cognitive functioning and social interaction.

Research findings indicate that individuals who have been primed with the concept of openness tend to report a heightened sense of ease when it comes to disclosing personal information and experiences, thereby facilitating enhanced disclosure during the interview process (Dawson et al., 2017). This heightened propensity to divulge personal information is of paramount importance in obtaining comprehensive insights from interviewees.

Conversely, when the concept of warmth is primed, perhaps through the use of friendly gestures, empathetic listening, or personable communication styles, the result is often a noticeable enhancement in rapport (Kraft-Todd et al., 2017).

Priming Methods Used in Investigative Interviews

This study proposes a holistic framework for optimising the interviewing environment, drawing upon the research of Dawson et al. (2017). The proposed framework integrates principles of environmental psychology to create an atmosphere conducive to the well-being of both interviewer and interviewee and therefore, to the elicitation of authentic responses. The proposed approach encompasses the following key elements:

- Visual Cues: A calming colour palette (e.g. light blue or beige) is suggested for wall hues to instil tranquillity. Additionally, the integration of transparent furniture elements (e.g. glass-topped tables) is proposed as a means of conveying a sense of openness and modernity, with the hypothesis that this will influence perceptions of transparency and spaciousness. Similarly, the introduction of seascape paintings is suggested as a method of evoking feelings of openness and expansiveness.

- Priming interviewees through verbal and visual stimuli, which involves strategically placing keywords such as "openness", "honesty", "truthfulness", and "cooperation" in the hallway leading to the interview rooms to subtly influence interviewees to give desired responses. Using magazines with targeted cover words in the lobby waiting area serves to further influence the interviewees' mindsets. This approach aligns with research on priming, which suggests that exposure to certain stimuli can influence subsequent behaviour and cognition (Bargh & Chartrand, 1999).

- Biophilic Design: Incorporating potted plants to introduce greenery can foster a sense of calm and relaxation. This is in line with research on the restorative effects of nature (Ulrich, 1999).

- Interpersonal Interactions: It is emphasised that interviewees should be greeted in a friendly manner and listened to attentively. This initial interaction can foster rapport and contribute to a positive interview experience, which may have a significant impact on the level of information disclosed (e.g. rapport-building techniques have been shown to increase cooperation) (Tickle-Degnen & Rosenthal, 1990). Using priming statements such as "Thank you for your cooperation" during these interactions may further encourage cooperative behaviour.

- It is widely acknowledged that initial impressions have a significant impact on subsequent interactions (Holmes, 2016; Swider et al., 2022). Therefore, cultivating a friendly and welcoming atmosphere from the outset should be prioritised. This approach should be adopted to facilitate constructive interviews by establishing a positive initial rapport.

- Broken windows theory (Wilson & Kelling, 1982) posits that the presence of visible signs of crime and disorder can contribute to an increase in criminal activity. Conversely, to mitigate the possibility of priming effects associated with law enforcement, all related signage and materials must be substituted with neutral images and a calming colour palette. This environmental manipulation,

in conjunction with the incorporation of motivational phrases within the setting, serves to promote a sense of psychological safety and encourages candid responses from interviewees.

- Strategic placement of role players in various locations throughout the premises, including parking lots, walkways, lobbies, and corridors, is instrumental in facilitating naturalistic observation of participant behaviour and incidental exposure to pre-interview conversations. These dialogues should be informed by priming theory (Bargh & Chartrand, 1999) and incorporate carefully selected keywords to subtly influence participant perceptions before formal interviews.

- It is imperative that all personnel involved in any operation or investigation, including role players and staff members, receive comprehensive training in evidence-based interviewing techniques. These techniques have been shown to foster rapport and elicit information (e.g. cognitive interview) (Fisher & Geiselman, 1992). To further enhance the non-threatening environment, the attire of the role players should be deliberately chosen to avoid any resemblance to law enforcement uniforms. Before the interview, role players should meticulously rehearse their approach, utilising props and a flexible script to facilitate natural interactions characterised by warmth and approachability. This "working the room" strategy should subsequently be adopted as a standard operational procedure.

Examples of words priming disclosure are "reveal", "trust", "cooperation", "clarity", "openness", "collaboration", "air out", "forthcoming", and "disclosure".

It is imperative to employ a comprehensive, multi-stage approach to achieving the desired results. The subject must interact with the priming stimuli through multiple senses: sight, hearing, touch, smell, and even taste. These stimuli should be subtle and unobtrusive, incorporating a single carefully chosen word or phrase as well as thoughtfully used colour schemes, props, images, and role players that blend seamlessly into their surroundings. The overall objective is to cultivate a sense of cooperation and collaboration by fostering rapport through the utilisation of priming techniques (Dawson & Hartwig, 2017).

Although these recommendations drew upon established research on investigative interviewing and marketing concepts, it is important to note that empirical research was not conducted to measure the effectiveness of the proposed environmental changes. Nevertheless, if these adjustments can even marginally alleviate anxiety, mitigate resistance, or promote cooperation, they warrant serious consideration for implementation.

Challenges and Future Directions

The field of priming research currently faces a series of challenges, most notably regarding the replicability of certain findings (Neequaye, 2022). This "replication crisis" underscores the need for rigorous experimental methodologies, including larger sample sizes, precise operational definitions of priming, and robust statistical analyses. Furthermore, the adoption of open science practices, such as pre-registration of studies and the sharing of data and materials, is imperative to enhance transparency and facilitate independent verification of results.

Future research should go beyond merely demonstrating the existence of priming effects and delve deeper into the underlying mechanisms and boundary conditions. The exploration of the interplay between priming and other cognitive processes should be pursued. For example, by investigating how priming interacts with attention, memory, motivation, and emotion, researchers can gain a more comprehensive understanding of its influence on behaviour. For instance, how does the effectiveness of priming vary depending on an individual's current emotional state or motivational goals?

It is also imperative to investigate the neural mechanisms underlying priming effects. The use of neuroimaging techniques, such as functional Magnetic Resonance Imaging (fMRI), can facilitate the identification of the specific brain regions and networks implicated in priming. This, in turn, can shed light on how different types of priming (e.g. semantic, affective) are processed and how they influence cognitive and behavioural responses.

These potential applications highlight the need for further research into the neural mechanisms of priming. For instance, the field of priming research holds considerable promise for diverse areas such as:

Education: This exploration encompasses the potential of priming to enhance learning and memory, foster creativity, and promote positive social behaviours in educational settings.

Marketing: Examining how subtle cues can influence consumer preferences and purchasing decisions, leading to more effective advertising and product design.

Clinical psychology: The investigation of the potential of priming to modify maladaptive thoughts and behaviours, and to contribute to the development of novel therapeutic interventions for conditions such as anxiety and depression.

By addressing these challenges and pursuing these future directions, priming research can continue to provide valuable insights into the complexities of human cognition and behaviour, and has the potential to make significant contributions to a wide range of fields, including investigative interviewing.

Conclusion

This review has explored the potential of priming techniques to enhance investigative interviewing by subtly influencing the interviewee's cognitive and emotional state to foster an environment more conducive to information disclosure. The investigation has examined how priming can influence secure attachment, openness, and helpfulness, while acknowledging the methodological challenges and ethical concerns that warrant careful consideration. Despite the encouraging potential of priming, issues of replicability underscore the need for rigorous research and cautious interpretation of findings. Future investigations should delve deeper into the underlying mechanisms of priming, explore its interplay with other cognitive processes, and address the complex ethical dimensions. This includes the examination of the effectiveness of different priming techniques across diverse individuals and contexts, and the acknowledgement of the limitations of a "one-size-fits-all" approach.

It is imperative to underscore that priming techniques should not be regarded as a substitute for other evidence-based interviewing practices, such as the Cognitive Interview. Instead, priming should be regarded as a complementary tool that can be used in conjunction with other established practices to enhance their effectiveness. For instance, priming techniques could be employed to cultivate a more conducive and collaborative interview environment, thereby facilitating the implementation of memory-enhancing techniques akin to those employed in the Cognitive Interview.

By integrating the insights gained in this review, fostering interdisciplinary collaboration, and continuing to explore the complexities of priming, we can refine investigative interviewing practices, enhance information gathering, and ultimately ensure ethical conduct in the pursuit of justice.

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