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## A Process Model of Having and Keeping Secrets

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Secrecy is a common and consequential human experience, and yet the literature lacks an integrative theoretical model that captures this broad experience. Whereas initial research focused on concealment (an action a person may take to keep a secret), recent literature documents the broader experience of having a secret. For instance, even if a secret is not being concealed in the moment, one's mind can still wander to thoughts of the secret with consequences for well-being. Integrating several disparate literatures, the present work introduces a new model of secrecy. Rather than define secrecy as an action (active concealment), the model defines secrecy as an intention to keep information unknown by one or more others. Like any other intention, secrecy increases sensitivity to internal or external cues related to the intention. Critically, secret-relevant thoughts are cued in one of two broad contexts: (a) during a social interaction that calls for concealment, and (b) the situations outside of those social interactions, where concealment is not required. Having a secret come to mind in these two very different situations evokes a set of distinct processes and outcomes. Concealment (enacting one's secrecy intention) predicts monitoring, expressive inhibition, and alteration, which consumes regulatory resources and may result in lower interaction quality. Mind-wandering to the secret (when concealment is not required) involves passively thinking about the content of the secret. Engagement with these thoughts may lead to repetitive thinking and rumination, reflection on how one feels about the secret, efforts to cope, or specific plans for how to handle the secret. The model brings together a number of literatures with implications for secrecy, identity concealment, relationships, mind-wandering, coping, health and well-being.

Keywords: secrecy, mind-wandering, concealment, coping, well-being

People keep secrets from their friends, family members, romantic partners, and coworkers. Such secrecy may be an attempt to protect one's reputation, one's relationships, or another person who is implicated in the secret. A secret may concern something relatively mundane or something highly significant, and could be selectively confided in one or more persons, or not known by a single soul besides the person with the secret. It has been estimated that about 97% of people currently have at least one secret, with the average person concurrently having as many as 13 secrets (five of which they have never told a single person; Slepian et al., 2017). Secrecy is thus highly common. It is also highly consequential. Secrecy has been associated with a host of well-being outcomes, including depression, anxiety, fatigue, poor relationship quality, and poor health (Critcher & Ferguson, 2014; Larson & Chastain, 1990; Larson et al., 2015; Lehmiller, 2009; Newheiser & Barreto, 2014; Slepian et al., 2017; Slepian & Moulton-Tetlock, 2019; Quinn & Chaudoir, 2009; Quinn et al., 2014).

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Correspondence concerning this article should be addressed to Michael Slepian, Management Division, Columbia Business School, Columbia University, New York, NY, United States. Email: michael.slepian@ columbia.edu Given the social nature of secrecy, its prevalence, and its extensive impact, it is surprising that the psychological literature has no integrative account of secrecy experiences. No existing systematic account exists to identify the processes that follow the intention to hold back information from other people. Several research traditions touch on aspects of secrecy, including coping with trauma, concealable stigma, disclosure, self-presentation, and deception. Yet a comprehensive model of secrecy is lacking, and these diverse research lines have not been integrated.

The lack of an integrative model of secrecy is likely a consequence of an oft-held misconception about what secrecy is. For most of its history, research on secrecy has primarily examined active concealment during conversations. Yet, our secrets can affect us outside of moments of active concealment. What makes secrecy difficult is not just being in situations where one must conceal the secret, but also having to think about the secret in moments that do not call for concealment. It is this latter experience that has been overlooked by prior models that have focused more narrowly on concealment.

Rather than defining secrecy as a situated action of concealment from others, the model introduced here defines secrecy more generally as an intention to keep some piece of information, known to oneself, unknown from one or more others. This novel theoretical perspective brings a new psychology of secrecy. The present model integrates diverse literatures, unites research on concealment with research on mind-wandering, and draws upon research on goal pursuit, intention formation, self-presentation, deception, rumination, reflection, cognitive processing, meaning making, and coping.

The current article formally introduces this model of secrecy and describes how forming an intention for secrecy biases cognitive processes toward thoughts related to that intention, which can occur when it needs to be acted upon (promoting active concealment) or not (promoting mind-wandering to the secret). These two broad categories of situations differ in multiple ways and predict distinct social cognitive processes with distinct pathways to well-being.

The present model advances theory in several ways. Most prominently, it provides a broader definition of secrecy than in past work, and in so doing, the model (a) provides the first comprehensive account of secrecy, (b) identifies novel predictions about the effects of secrecy across different contexts, (c) suggests new interventions to promote effective coping with secrecy, and (d) integrates disparate literatures to present a unique process model.

Figure 1 presents the model and labels each process with a letter (A-N). In turn, headings in the article use these letters to denote the relevant aspect of the model being discussed. Table 1 provides a summary of each component of the model.

#### A. Secrecy as an Intention

While common intuition might suggest that secrecy is the act of secret keeping, whereby a person conceals information during an interaction, the current model articulates that concealment is only one aspect of secrecy, and not where secrecy starts. One cannot purposefully work to conceal a secret from someone if they do not first intend to do so. For this reason, the model identifies intention as the beginning of secrecy.

Thus, rather than define secrecy as an action taken to conceal information from others, a more apt definition of secrecy is the

## Figure 1

The Process Model of Having and Keeping Secrets

Non-concealment context

intention to keep information unknown from one or more others. And accordingly, the definition of a secret is the information one intends to keep unknown from one or more others. This information can be about anything (e.g., an experience, event, belief, feeling, goal, etc.). And the other(s) the information is kept from can be specified (e.g., a specific person, everyone at work), or not specified ("nobody can know"). This definition allows for secrecy to be initiated before concealment ever takes place. For example, if a person committed infidelity while on a business trip away from home, and that person intends to keep this a secret from their spouse, then that person has a secret immediately, days before they might interact with their spouse. Secrecy begins with an intention (see Figure 1, A).

The described intention distinguishes secrecy from related constructs. For example, if some piece of personal information is not known by anyone, but there is no secrecy intent, it could be unknown due to a general privacy orientation (e.g., an employee does not discuss family at work, but the fact that they have a family is not secret), or the information could be unknown because it has yet to come up in conversation (see Slepian et al., 2019).

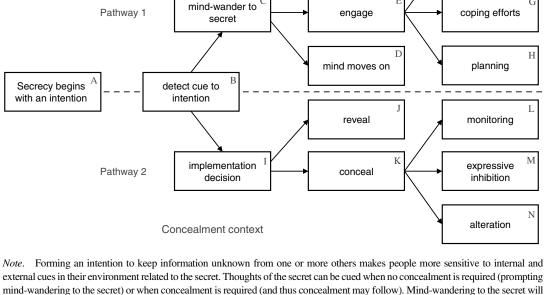
The present definition of secrecy as an intention moves beyond prior definitions, which focus on specific actions. For instance, Bok (1983) described secrecy as "intentional concealment," and others have defined it as the active inhibition of disclosure (Pennebaker, 1989) or intentional deception via an act of omission (Lane & Wegner, 1995). These prior definitions focus on how people keep secrets, rather than the broader experience of having a secret. In so doing, they miss several aspects of secrecy,

F

F

G

repetitive thinking



external cues in their environment related to the secret. Thoughts of the secret can be cued when no concealment is required (prompting mind-wandering to the secret) or when concealment is required (and thus concealment may follow). Mind-wandering to the secret will lead to a variety of processes (e.g., engagement with thoughts of the secret can lead to repetitive thinking, coping efforts, specific plans for what to do with the secret). Concealment will lead to another set of processes (e.g., monitoring, expressive inhibition, alteration). Each set of these processes will have unique consequences.

Summary of th	ie Process	Model of	f Having	and	Keeping	Secrets

	Component	Proposition			
A	Secrecy intention	People inhibit speech in conversations for reasons other than secrecy, and not all secrets need to be concealed. Hence, secrec should not be defined as concealment. One cannot purposefully conceal without the intent to do so. Thus, secrecy should be defined as the intention to keep information unknown from one or more others.			
В	Detection of internal or external cues to intention	Forming an intention brings a host of cognitive consequences. Most notably, forming an intention makes people more sensitive to cues in their internal or external environment that are related to the intention. When a cue to one's intention is detected outside of a concealment context, people have mind-wandered to the secret. When detected within a concealment context, concealment may follow.			
С	Mind-wander to secret	When a cue in the internal or external environment reminds someone of their secret in a context where concealment is not required, this is considered an episode of mind-wandering to the secret.			
D	Mind moves on	When thoughts of a secret come to mind (in a non-concealment context), if the external environment or other personal concer- require more attention at that particular moment, the mind will likely move on, and the secret will not be further thought abo at that moment.			
E	Engage with thoughts of secret	If external demands for attention are low, if the secret is attention grabbing, or if one finds value in engaging further with the though then one's mind-wandering toward a secret may become more elaborated. That is, people will engage with thoughts of their secrets, which can lead to any mix of repetitive thinking, coping efforts, and planning.			
F	Repetitive thinking	Many of the secrets people keep involve information that is potentially shameful, embarrassing, or stigmatizing. Thus, frequently engaging with thoughts of one's secrets may often make people feel worse. Frequent passive rehashing of negative details i harmful for well-being.			
G	Coping efforts	Negative experiences with mind-wandering to one's secret (feelings of shame, isolation, or inauthenticity) might prompt people to engage in coping strategies in attempt to mitigate negative feelings that are presently felt. Acknowledging and understanding emotions (emotional processing) and trying to attain new perspectives and insights (cognitive processing have health benefits. In reflecting on the past, journaling is one option, but it has drawbacks. A conversation with a trusted person is more beneficial.			
Н	Planning	Another major way in which people will engage with thoughts of their secrets is formulating specific plans for the future. Peop may plan their confessions, consider whom they can confide in, or may engage in problem-solving efforts to address the sour of the problem.			
I	Implementation decision	When someone finds themselves in a concealment context, they have a decision to make. Will they implement their sec intention? By default, with a secrecy intent, the answer to this question is yes, but other factors may lead to a sudden chang mind. If the goal remains to keep the secret from that person, and the social interaction calls for concealment, then conceal will be chosen.			
J	Reveal secret	Revealing a secret to a person it was intentionally kept from is termed confession, and this would be the end of keeping that se from that person. In contrast, revealing a secret to a third party is termed confiding, and would not end the secrecy (the secret we still be secret from the target person). Confession can sometimes improve outcomes, but can also make things worse. Confiding safer option. Confiding typically yields emotional and instrumental support, improving coping and well-being.			
K	Conceal secret	With the intent of secrecy being to keep information unknown from other people, there may be times when one needs to enact that intention and conceal the secret. Concealment of a secret can be achieved through many means, which will lead to some mix of three separate processes: monitoring, expressive inhibition, and alteration.			
L	Monitoring	In seeking to conceal a secret, to ensure no information related to the secret is revealed, one must carefully monitor one's own behavior and speech, and also one's interaction partner. Monitoring is effortful, and such vigilance can reduce interaction quality.			
Μ	Expressive inhibition	If one detects the potential for information slipping out during monitoring, the particular response will be inhibited. Inhibition of responses consumes regulatory resources and can reduce interaction quality.			
N	Alteration	Alteration behaviors may be used to conceal a secret. Honest alteration behaviors include changing the subject of conversation or directing social interaction partners toward some other target of attention. When a person leads another to believe something that is not true, this is considered deception. In seeking to conceal a secret, deception can be the least effortful approach, but also the most risky (e.g., if a lie is discovered, one's relationship or reputation can be damaged). When it is easy to maintain, a lie might be the simplest approach, but this may lead to feelings of guilt and feelings of inauthenticity.			
Mo	del summary	The present theory defines secrecy as the intent to keep information unknown by one or more others, and this intention can come to mind in one of two broad contexts, one in which concealment is not deemed required, and one in which it is. The present model articulates processes that do not depend on what the secret is about or if anyone else knows it—as long as one intends to keep the information from one or more others. See Model Summary.			
more writi insig		While seminal work examined thought suppression as a means to concealment, more recent work suggests that thought suppression is more often a coping strategy employed outside of social interactions, and with practice people can effectively suppress. Expressive writing has well-being benefits through many processes, which do not need to coincide with secrecy. Expressive writing provides insights for effective coping, but should not be mistaken for the benefits of disclosure (i.e., either confiding or confessing). See Comparisons With Related Models.			

and the ways in which other processes and experiences can have implications for well-being. In turn, with this definition of secrecy, comes a refined definition of *concealment*, defined here as instances in which one is working toward one's secrecy intention in interaction with another person.

### Limitations of Models Focused on Concealment

## People Inhibit Speech for Reasons Other Than Secrecy

One reason having a secret is not merely reducible to inhibition during social conversations is that people inhibit information that is not secret. Consider a meeting in which something about the conversation makes an employee think of a comment they wish to make. Just before the employee lets the comment slip, they decide that the meeting is not the venue in which to raise the specific issue, and instead intend to make the announcement later that day over email. In this scenario, the person was in a social interaction and inhibited speech, but this is not an example of secrecy (i.e., the employee intends to make the comment public).

To take another example, at the Thanksgiving table, someone might *almost* make a political comment relevant to current events, but then think better of it and bite their tongue in order to avoid the debate that might emerge from the comment. Even if one's political opinions are well known (i.e., not secret), the comment here would be inhibited not out of secrecy, but rather from wanting to avoid steering the conversation into politics (Sun & Slepian, 2020). People may choose to avoid a conversation topic or inhibit speech for reasons other than secrecy (e.g., politeness, political correctness, fear of seeming prejudiced; e.g., Brown & Levinson, 1987; Richeson & Trawalter, 2005), and the same monitoring processes are engaged in these other social monitoring contexts (e.g., Bodenhausen et al., 2009; Marshburn & Knowles, 2018); thus secrecy cannot be reduced to such conversational inhibitive behaviors.

# One Can Have a Secret That They Have Yet to Conceal in Conversation

Additionally, one may intend to conceal a secret but never have the "opportunity" to do so. Consider someone who is in a new relationship and wants to conceal their number of past sexual partners, but their partner never asks a question remotely close to this topic; such a conversation has yet to come up. One might have a prepared answer to this question (e.g., lying and saying a different number, or avoiding giving a number and truthfully saying, "I do not think the number of safe sexual partners matters"), but then the question is simply never asked. Even without having been explicitly asked this question, or having been in a conversation that brings it to mind, this does not change the fact that this person has a secret (i.e., they intend for this information to remain unknown).

In sum, people can have secrets that they never need to actively conceal within conversation, and one cannot actively and purposely conceal a secret unless one intends to do so, and hence the intention to keep information unknown is a primary defining feature of secrecy.

#### The Content of Secrets

A model of secrecy must extend beyond brief moments of concealment, as secrets exert their influence outside these moments, and not all secrets require concealment. A concealment definition for secrecy may have been historically appealing because the actions required for effective concealment should be independent of what the secret is about. The present model maintains this content generality. Secrets can be about anything, but generally they are related to a motivation of protecting something, specifically, a perceived harm of the information becoming known (McDonald et al., 2020). For this reason, one's secrets tend to be evaluated negatively (Slepian, Kirby, & Kalokerinos, 2020).

What if a secret is positive? The present model deliberately articulates processes that are evoked by the intent to keep information unknown, irrespective of what that information is about. Potentially, the consequences of the processes evoked may differ when the secret is evaluated positively, and an advantage of the present model is identifying these processes that will be common to all secrets. The issue of positive secrets will be returned to at the end of the article, but it should be noted that relative to the other secrets people keep, positive secrets are quite rare (Slepian et al., 2017) and atypical (Slepian & Koch, in press), and in some instances, the effects of positive secrets can resemble the effects of prototypically negative secrets (e.g., when a positive secret creates social distance and is thus isolating; see Slepian et al., 2019).

What if the secret has been confided in someone? The present model outlines processes evoked by the intent to keep information unknown from target others, whether or not third parties have been let in on the secret. Even if a secret is known by someone else or even if one intends to reveal the secret to another person, if one still intends for the information to remain unknown to others, it is still a secret (Slepian & Greenaway, 2018; Slepian & Moulton-Tetlock, 2019).

In sum, the present model articulates processes that do not depend on what the secret is about or if anyone else knows it—as long as one intends to keep the information from one or more others.

#### **B.** Detection of Secret-Related Cues

Forming an intention brings a host of cognitive consequences (Klinger, 2013). Most notably, having an intention makes people more sensitive to cues in their internal or external environment that are related to the intention (e.g., Bargh et al., 2001; Bruner, 1957; Higgins & King, 1981; Hoelscher et al., 1981; Liberman et al., 2007; Srull & Wyer, 1989).

Whether one intends to make a doctor appointment, study for an exam, or buy a new carton of milk, forming an intention prioritizes processing of goal-relevant information. Prospective memory research, for instance, finds that intentions require less rehearsal to maintain in memory, that intentions have enhanced accessibility, and that cues related to one's current concerns or intentions are given processing priority even when they distract from an ongoing task (Anderson, 1957; Mason et al., 2010; Riemann & McNally, 1995). Hence, unfulfilled goals and intentions are particularly mentally accessible (Gollwitzer & Moskowitz, 1996; Goschke & Kuhl, 1996; Klinger, 1975; Koriat et al., 1990; Liberman et al., 2007; Rothermund, 2003; Zeigarnik, 1927). Intentions bias memory retrieval processes toward accessing intention-related information in memory.

Intentions accordingly become so accessible that they often enter into our mind-wandering and even into our dreams (Hoelscher et al., 1981; Klinger, 1978; Martin & Tesser, 1996; Mason et al., 2007; Morewedge & Norton, 2009; Nikles et al., 1998; Stawarczyk et al., 2011, 2013; Wilson et al., 2014). When it comes to mind-wandering to secrets (i.e., spontaneously thinking about them when they are not relevant to the context at hand), these episodes tend to be highly memorable (due the negative valence of many secrets), and hence participants can successfully recall such episodes at later time points (e.g., in daily diaries, retrospective recall, and experience sampling; Liu et al., under review; McDonald et al., 2020; Slepian et al., 2017, 2019; Slepian & Moulton-Tetlock, 2019).

The mind with a secrecy intention is a mind on the lookout for cues related to that intention. This increase in sensitivity to secret-relevant thoughts shares similarity to the ways in which social identity cues can also capture attention (e.g., being the only woman in the room) in unhelpful and counterproductive ways (e.g., social identity threat; Purdie-Vaughns et al., 2008; Steele et al., 2002). Intending to keep a secret should make secret-relevant cues in the environment more salient, in the same way that situational cues make threatened social identities salient (Slepian & Jacoby-Senghor, 2021; Quinn & Chaudoir, 2009).

In sum, it is well-established that forming an intention makes a person more sensitive to cues in the internal and external environment related to the intention. Accordingly, for the person who has a secret, the first secrecy process the model identifies is the detection of cues related to the intention (see Figure 1, letter B).

### Situations in Which Secret-Related Thoughts Are Cued

Forming an intention will increase sensitivity toward internal and external cues related to that intention. For example, walking past one's bank might remind someone of their secret credit card debt, but so might privately thinking about the upcoming holidays. Critical to the current model, an important distinction is made in the situations in which secret-related thoughts are cued. One may be reminded of a secret in a context where concealment is not required (*non-concealment context*), or in a context where concealment is required (*concealment context*). See Figure 1.

A mind with an intention is a mind on the lookout for cues in the environment related to that intention. This is functional. Being sensitive to environmental cues related to an intention will make it more likely that the intention can be acted upon when an opportunity to do so arises (Mason & Reinholtz, 2015; see also Bar et al., 2007; see also Eitam & Higgins, 2010; Eitam et al., 2013). Thus, when it comes to secrecy, intending to keep a piece of information unknown by one or more others should make people more sensitive toward cues related to that secret. Such a process would be advantageous as it would facilitate recognizing when the intention needs to be acted upon (i.e., concealment within social interactions).

## Non-Concealment Contexts (Brief Overview)

The very same processes that lead people to be on the lookout out for cues related to the secret (Figure 1, B) in concealment contexts will also lead people to think about a secret in non-concealment contexts. When some cue in the internal or external environment reminds one of one's secret when one's secrecy intention is not relevant to the current context, then this would be considered an episode of mind-wandering to the secret (see Seli et al., 2018). That is, people will mind-wander to their secret during moments where concealment is not required (Figure 1, C). One may not spend much time thinking about the secret, as the mind may simply move on to something else (Figure 1, D). Or, one may engage with thoughts of the secret (Figure 1, E), whereby one could repetitively and passively think about the secret (Figure 1, F), seek to cope with it (Figure 1, G), or even make specific plans for what to do with it (Figure 1, H).

## Concealment Contexts (Brief Overview)

When a cue in the internal or external environment reminds someone of their secret (Figure 1, B) when in interaction with a person from whom the secret is to be kept (i.e., a concealment context), the opportunity to implement one's intention is now available. Given the already existing intent to keep the information secret, the default answer to this implementation decision (Figure 1, I) is likely to conceal. Yet, a sudden change of mind or confrontation may prompt a person to reveal the secret (Figure 1, J), whereby with respect to that social other, the secret is no longer secret.

If the secret keeper does not want to reveal, and the interaction calls for hiding information, they will engage in concealment (Figure 1, K), involving some mix of monitoring (Figure 1, L), expressive inhibition (Figure 1, M), and alteration (Figure 1, N).

## Pathway 1: Non-Concealment Contexts and Mind-Wandering

Given that one goal of a secret is to conceal it whenever required, one might suspect that experiences of secrecy that occur outside of concealment settings would be a less common form of secrecy. However, the opposite is true. Examining thousands of people keeping tens of thousands of secrets, Slepian et al. (2017) found that people spontaneously think about their secrets outside of concealment contexts about twice as often as they actually conceal their secrets (an effect replicated across diverse contexts; McDonald et al., 2020; Slepian & Greenaway, 2018; Slepian, Kirby, & Kalokerinos, 2020; Slepian & Moulton-Tetlock, 2019). In this first section of the article, evidence is presented for this major experience of secrecy and the cognitive processes that follow. Importantly, people can ruminate on their secrets to their well-being harm outside of concealment contexts, but also engage in coping efforts that mitigate such harms.

#### C. Mind-Wandering to the Secret

As previously discussed, forming an intention makes people more sensitive to cues related to that intention, heightening the accessibility of the intention, and the tendency to mind-wander to it (for a review, see Klinger, 2013). Having thoughts of one's secret spontaneously come to mind when concealment is not required exemplifies typical mind-wandering (see Seli et al., 2018; Slepian et al., 2017).

When will the mind wander away from the external environment, and inward to thoughts of a secret? As reviewed by Smallwood (2013), there are three dominant theories for the initiation of mind-wandering toward self-generated thoughts. According to the *current concern model* (Klinger, 1987, 2013), attention will shift from the external environment toward internal self-generated thoughts when such thoughts have more incentive value. In other words, when a personal concern is of high significance, thinking about that concern may provide more value than engaging in the external environment, particularly if there is no pressing task at hand. Intriguingly, people are sometimes not aware that they are mind-wandering, and have to "catch" their mind wandering in order to know that it has happened (e.g., realizing while reading a book that none of the past few lines were actually "read"; Schooler et al., 2004). By this view, the mind is not always aware of its own contents, and thus according to the *metaawareness model* (Schooler et al., 2011), mind-wandering begins when one loses awareness of one's thoughts related to the external environment. Relatedly, according to the *executive failure model* (McVay & Kane, 2010), when executive control deployed toward an external task lapses, this allows the mind to shift toward internal self-generated thoughts.

While the details of these mind-wandering models differ in important ways, the commonality is that when the external environment loses its sway over our train of thought, internally self-generated thinking will take over. For example, if someone just discovered that they have cancer and is keeping this secret, the importance of engaging in external tasks may feel trivial, relative to the significant hidden news. Likewise, the more the secret feels unresolved, the more likely one's thoughts will return to it (see Baird et al., 2011; Klinger, 1975, 1987, 2013; Mason & Reinholtz, 2015; Stawarczyk et al., 2013). If a secret is of high significance, the mind should more frequently wander toward it. Indeed, there is empirical evidence for this link (Slepian et al., 2017; Slepian, Greenaway & Masicampo, 2020; Slepian, Kirby & Kalokerinos, 2020; Slepian & Moulton-Tetlock, 2019).

#### D. When the Mind Moves On

Once mind-wandering to one's secret is initiated, what predicts the duration and nature of the mind-wandering episode? The *decoupling model* (Smallwood et al., 2012) of mind-wandering relates to factors that preserve a mind-wandering episode once it has begun. Specifically, the model proposes that executive control resources are required for ensuring the integrity of a mindwandering episode. Any interference would derail one's train of thought. Thus, when engaged in an external task with low demands (that do not cause interference), people with higher working memory (i.e., more resources to juggle thoughts) report more extensive mind-wandering (Smallwood, 2013).

Once a mind-wandering episode has begun, if (a) the external demands for attention are high, if (b) there are more pressing internally-generated thoughts to consider, or if (c) the secret is deemed not significant and not needing some resolution or attention, then thoughts of the secret will be more fleeting, and the mind will move on to the next thought (see Baird et al., 2011; Klinger, 2013, 2014; Slepian, Kirby & Kalokerinos, 2020). Along these lines, if thoughts about a secret foster feelings of sufficient progress or resolution, the mind may move on. Likewise, a successful use of distraction or suppression may also enable the mind to move on to matters deemed more important in-the-moment (see Slepian et al., 2019; Slepian, Greenaway & Masicampo, 2020).

In sum, when thoughts of a secret come to mind, if the external environment or other personal concerns require more attention at that particular moment, the mind will likely move on.

#### E. Engaging with Thoughts of Secrets

When the external demands of an environment are low, the mind is likely to wander from the external environment (Klinger, 1987, 2013), and many cues can be reminders of a secret. When one finds value in engaging further with the thought, then one's mind-wandering toward a secret may take extended forms (Slepian, Greenaway & Masicampo, 2020). That is, people will engage with thoughts of their secrets (Figure 1, E).

People will engage with thoughts of their secrets for a number of reasons. A secret might be attention grabbing, making it difficult to disengage. In particular, the negative lens that people often see their secrets through may direct attention to negative attributions (as is typical of rumination; Christoff et al., 2016). A secret will also often be about some personal concern. By not discussing a piece of personal information with other people, one will not obtain the perspectives and input from close others normally obtained through conversation (Liu & Slepian, 2018; Slepian & Moulton-Tetlock, 2019). For this reason, people often seek to, on their own, think about and gain insight into their secret (Slepian, Greenaway, & Masicampo, 2020).

One cannot know for sure what others would think of the secret information if it is not discussed with others, and obtaining others' perspectives and views is a major aspect of human interaction (Higgins, 2019). Accordingly, to not share some piece of personal information with others can make it feel unresolved. Both personal concerns and unresolved intentions are frequent topics of mind-wandering (Baird et al., 2011; Klinger, 1987, 2013; Mason & Reinholtz, 2015; Smallwood & Schooler, 2015; Stawarczyk et al., 2013).

Personal concerns and unresolved intentions are hubs to where the mind wanders for good reason (Klinger, 2013; Klinger et al., 1980). A person primed to think about these issues is a person who is prepared to take action should an opportunity present itself (Mason & Reinholtz, 2015). Accordingly, there is value in thinking about one's secrets. If one has a secret and is not discussing it with others, then the only way to make progress on the secret is to think through it on one's own. Indeed, the more significant the secret, the more people seek to engage with thoughts of their secret (Slepian, Greenaway & Masicampo, 2020).

Drawing from a range of disparate literatures, the model proposes three major ways in which people will engage with thoughts of their secrets. People will (a) passively and repetitively think about the secret, (b) consider coping strategies to process the secret or make meaning from it, or (c) specifically set forth plans for what to do next, including whom one can approach for advice or confide in. Each of these processes will have different well-being consequences.

#### F. Repetitive Thinking

People mind-wander to their secrets (outside of concealment contexts) more frequently than they conceal their secrets (McDonald et al., 2020; Slepian & Moulton-Tetlock, 2019; Slepian et al., 2017; Slepian, Greenaway & Masicampo, 2020; Slepian, Kirby & Kalokerinos, 2020). What explains the frequency with which thoughts of secrets come to mind?

A prior model of secrecy suggested a dominant role for thought suppression leading to ironic increases in the tendency to think about the secret (Wegner & Lane, 1995). It turns out, however, only a small proportion of mind-wandering episodes can be attributed to failed thought suppression, primarily because when it comes to secrets people (a) can successfully suppress if they naturally choose to do so, on their own volition (as opposed to experimenter-imposed thought suppression), and more critically, (b) the more significant and important the secret, the *less* people seek to suppress it (Slepian, Greenaway, & Masicampo, 2020). In other words, thought suppression processes cannot broadly account for why people frequently think about their secrets. The topic of thought suppression will be covered more fully when the present model is compared to prior models (discussed after the Model Summary section). The remainder of this section covers the many other reasons for why thoughts of secrets frequently come to mind.

Secrets often concern important and personally relevant information that people need help with (Slepian & Kirby, 2018; Slepian & Moulton-Tetlock, 2019). Hence, people find value in engaging with thoughts of their secrets, in hopes of finding some path forward (Slepian et al., 2019; Slepian, Greenaway, & Masicampo, 2020). That is, people indicate wanting to spend time thinking about their secrets so they can work through them. Unfortunately, left entirely on their own, people do not often have healthy ways of thinking about secrets.

Many of the secrets people keep involve information that is potentially shameful, embarrassing, or stigmatizing (Larson & Chastain, 1990; Kelly & McKillop, 1996; Slepian et al., 2017; Slepian, Kirby, & Kalokerinos, 2020). When mind-wandering to negative content, people exhibit worse mood (Killingsworth & Gilbert, 2010; Poerio et al., 2013; Segerstrom et al., 2003). When repetitive thinking is future-focused, this would be characteristic of worry, and when accompanied with feelings of helplessness and passivity, this would be characteristic of rumination, both of which bias thoughts toward negative evaluations (Nolen-Hoeksema, 2000; Nolen-Hoeksema et al., 2008). That is, worry and rumination can constrain one's thoughts toward unhelpful repetitive thinking focused on one's distress.

Aside from how much people conceal their secrets, the more frequently their minds return to thoughts of their secrets, the more they report those secrets as hurting their well-being (Slepian et al., 2017). This effect has been found across a diverse variety of secrets, multiple measures of well-being, and with multiple participant populations, including a multi-international sample hailing from 30 different countries (McDonald et al., 2020; Slepian et al., 2017; Slepian, Greenaway & Masicampo, 2020; Slepian & Moulton-Tetlock, 2019). Cognitive preoccupation has been shown to be one of the clearest harms of secrecy (see also Davis et al., 2020; Maas et al., 2012; Slepian et al., 2015). Hence, repetitively and passively thinking about one's secrets is associated with lower well-being.

Similarly, terming this salience, Quinn and Chaudoir (2009) asked participants (who had a diverse set of concealable stigmas) how often they thought about their concealable stigma. Independent of what was termed anticipated stigma (the extent to which one was concerned with how people would respond to one's concealable stigma), the more participants simply thought about their concealable stigma, the more distress they experienced (including increased symptoms of depression and anxiety). Additionally, a follow-up study found that independent of how often they kept their concealable stigmatized identity secret, the more participants reported thinking about their concealable stigma, the more they had symptoms of depression and anxiety (Quinn et al., 2014). Likewise, when women kept an abortion secret, the more they thought about their abortion, the more distress they experienced (Major & Gramzow, 1999). And independent of unhealthy coping strategies, the more HIV-positive participants thought about a secret that they had, the more depression and anxiety they exhibited, including lower quality of life (Maas et al., 2012).

A persistent and passive repetitive focus on symptoms of distress is associated with depression (Nolen-Hoeksema, 2000; Nolen-Hoeksema et al., 2008). Negative mood is also associated with a focus on task-irrelevant personal concerns (Smallwood et al., 2009, 2004–2005; Smallwood & O'Connor, 2011). Accordingly, individual differences in the tendency to repetitively and passively think about negative feelings (i.e., ruminate) is experienced as aversive and uncontrollable (Martin & Tesser, 1996; Pyszczynski & Greenberg, 1987), and predicts the onset and duration of depression (Just & Alloy, 1997; Nolen-Hoeksema, 2000; Roberts et al., 1998).

People feel alone with their secrets (Frijns & Finkenauer, 2009; Slepian et al., 2019), feel ashamed by their secrets (Slepian, Kirby, & Kalokerinos, 2020), and feel inauthentic for having their secrets (McDonald et al., 2020; Slepian et al., 2017). If one thinks about a secret with a high degree of frequency and passivity, this would be characteristic of rumination. Such passive rehashing of details is harmful for well-being (Trapnell & Campbell, 1999).

In sum, multiple studies find that the frequency of thinking about a secret, independent of the frequency of concealment, is related to lower well-being. Studies with very different methods, theoretical perspectives, and participant populations converge on this finding. The more people mind-wander to a secret, the more they report the secret hurts their well-being. Yet, the experience of these very harms might also prompt people to mitigate them by engaging in coping efforts.

#### G. Coping Efforts

When thinking about a secret, one's attention might turn toward thoughts and strategies aimed at coping with current feelings about the secret instead of simply replaying in one's head what happened. Work on coping with trauma has distinguished between two types of efforts to "work through" upsetting events and other stressors: cognitive processing and emotional processing. Emotional processing has been defined as acknowledging and trying to understand the significance and meaning of one's emotions, whereas cognitive processing has been defined as trying to actively think through one's thoughts as well as think through the implications of the event for one's life and future (Segerstrom et al., 2003; Watkins, 2008; cf. Lazarus & Folkman, 1984).

Emotional processing focuses on acknowledging and understanding emotions. When positive emotion words were used during expressive writing, improved health and well-being followed, but the relationship was curvilinear for negative emotion words (Pennebaker et al., 1997). Specifically, the use of very few negative emotion words was related to lower health, suggesting that *not* acknowledging one's negative emotions does one no favors, but that excessive use of negative emotion words reminiscent of neuroticism is also related to lower health (Pennebaker et al., 1997; see also Ford et al., 2018).

With respect to trauma, engaging in cognitive processing has been associated with both well-being improvements and recovery (Bower et al., 1998; Ullrich & Lutgendorf, 2002). Much of this evidence stems from expressive writing paradigms, where over the course of multiple days, writing (e.g., in a journal) about trauma is associated with improved health (Pennebaker et al., 1988; Smyth, 1998). These benefits go beyond self-report, including fewer visits to a health center (Greenberg, Wortman, & Stone, 1996; Pennebaker & Beall, 1986), reduced blood pressure (McGuire et al., 2005), and an enhanced immune system response (Petrie et al., 1995; see also Esterling et al., 1994).

The content of expressive writing often includes cognitive processing language (e.g., *understand*, *think*, *realize*; as from the Linguistic Inquiry and Word Count, LIWC; Pennebaker et al., 2001), suggesting health improvements may stem from achieving more productive ways of thinking about the trauma. Indeed, the use of more insight and causal words has been associated with reductions in intrusive thoughts about a stressful event (Klein & Boals, 2001).

With respect to secrecy, when participants were asked to write (in two installments, a week apart) about their secret in order to gain new insights, after the 2 weeks, they reported coming to terms with those secrets more than participants who were asked to write about their secrets to gain catharsis (Kelly et al., 2001). Thus, rather a release from inhibition (i.e., catharsis), these findings suggest that what is helpful about reflecting on one's secret is the potential for gaining new insights or perspectives that can help in coping with the secret (see Higgins, 2012 for a related discussion, pp. 169–170).

One specific form of cognitive processing is trying to make meaning. One study found that for secret emotional events, people search for meaning and try to understand what happened more than they do for non-secret emotional events, even when rated as equally emotionally intense (Finkenauer & Rimé, 1998a, 1998b). This search for meaning can be helpful (Critcher & Gilovich, 2010; Morewedge et al., 2014). In expressive writing, greater narrative structure, a signal of integration and meaning-making, was associated with reduced depressive symptoms and stress (Smyth et al., 2001). Taking multiple perspectives (Campbell & Pennebaker, 2003) and reappraisal (Esterling et al., 1994), both strategies that facilitate meaning-making, are associated with improved health outcomes.

While seeking meaning in the wake of a traumatic event can improve health outcomes, a variety of studies have failed to find an effect of meaning-making on health outcomes (for a review, see Park, 2010). Meaning-making attempts can even be associated with decrements in health (Bonanno, 2004; Lepore & Kernan, 2009). When it comes to trying to make meaning out of a secret, if a search for meaning is unsuccessful (i.e., there is no meaning to be found), or one does like what they see, meaning-making attempts could make matters worse (see Bonanno, 2013; Newman et al., 2018).

In light of these findings, it makes sense that trying to work through a trauma can sometimes increase distress (Baum, 1990; Wortman & Silver, 1989). Trying to work through a stressor can increase distress to the extent that focusing on negative emotions resembles rumination. For example, expressive writing that focuses only on one's emotions was associated with lower health outcomes, whereas focusing on cognitions and emotions was associated with better health outcomes (Ullrich & Lutgendorf, 2002). Thus, it may be important to have elements of both emotional and cognitive processing. Indeed, one of the earliest expressive writing studies (Pennebaker & Beall, 1986) asked participants to focus on both emotions and facts, finding improvements to health with this combined approach.

Unfortunately, it often takes a conversation with another person to find the most helpful reappraisals. While people can find reappraisals on their own, they do not always have the personal resources to do so, and another person provides a bounty of unique resources, including support and advice (Lepore et al., 2000, 2004; Nils & Rimé, 2012; Slepian & Moulton-Tetlock, 2019). This means that coping on one's own will be especially difficult if the secret is discussed with no one. In sum, negative experiences with mind-wandering to one's secret might prompt people to engage coping strategies in an attempt to mitigate those negative feelings. Acknowledging and understanding emotions (emotional processing) and trying to attain new perspectives and insights (cognitive processing) have health benefits. Aspects of cognitive processing, seeking reappraisal or meaning, can be fraught on one's own; a conversation instead with a trusted person provides uniquely beneficial resources.

#### H. Planning

Mind-wandering often serves a functional purpose; off-task thoughts are often oriented toward the future (Poerio et al., 2016; Poerio & Smallwood, 2016; Stawarczyk et al., 2011). Much of people's future-oriented mind-wandering involves planning self-relevant, goal-directed actions (Baird et al., 2011) that would facilitate goal pursuit, by identifying opportunities for action (Mason & Reinholtz, 2015) and focusing on concrete sequences of steps to pursue one's goals (Ruby et al., 2013; Stawarczyk et al., 2013).

Thus, moving beyond trying to work through one's emotions and find new insights or meaning into a secret, a final major way in which people will engage with thoughts of their secrets is putting forth specific plans. Whereas coping efforts are focused on how one feels at the present moment, planning focuses on the future. People may plan whether, when, and how to disclose information, or consider whom they can confide in (Slepian & Bastian, 2017; Slepian & Kirby, 2018). People may also engage in problemsolving efforts to try to eliminate the problem (Aspinwall & Taylor, 1997).

For example, rather than trying to cope with the burden of hiding one's smoking, one can instead seek to kick the habit. Likewise, one can make plans to end the affair, put aside money, or strive to improve one's performance at work, rather than dealing with the ongoing burden of a secret affair, secret debt, or secret poor work performance, respectively. This kind of proactive planning mitigates harms and improves well-being (Aspinwall, 2011). Importantly, for such planning to be effective, a person should adopt a promotion focus (oriented toward achieving gains) rather than a prevention focus (oriented toward minimizing losses), and realistic goals must be set (Sohl & Moyer, 2009). Finally, people may make plans to seek professional help (Rogler & Cortes, 1993), particularly if they know someone who has done the same (Vogel et al., 2007).

In sum, moving beyond trying to cope with feelings and cognitively process a secret in the moment, people might turn toward the future, formulating specific plans (e.g., whom to talk to, how to solve the source of the problem).

## Pathway 2: Concealment Contexts and Active Concealment

With the intent of secrecy being to keep information unknown from other people, there may be times when one needs to enact that intention and conceal the secret. Examining a diverse array of secrets kept by thousands of people, Slepian et al. (2017) estimated that about one-third of the time people have a secret on their mind, they are in a situation in which they are actively concealing the secret from another person (whereas two-thirds of the time, the person is simply mind-wandering to the secret outside of a concealment context; see also McDonald et al., 2020; Slepian, Greenaway, & Masicampo, 2020; Slepian, Kirby, & Kalokerinos, 2020; Slepian & Moulton-Tetlock, 2019). While concealment of secrets is less frequent than mind-wandering to secrets, the stakes may feel higher when concealing, as now the information could accidentally slip and be learned by the other person.

## I. Implementation Decision

When someone finds themselves in a concealment context, they have a decision to make. One option is to simply reveal the secret. Yet, if the goal is to keep the secret from that person, then revelation will not be chosen. Indeed, many secrets are kept because of the perceived interpersonal or reputational costs such disclosure would incur (McDonald et al., 2020).

When are people in a concealment context? The present model defines the action of *concealment* as something that happens when in social interaction with another person. This can be distinguished from hiding behaviors that a person can engage in on their own (e.g., deleting emails, throwing out receipts, hiding illicit items in a drawer), which do not require active monitoring of others' responses.

In sum, when an interaction with another person calls for concealment, this is the moment during which the implementation decision is made. The intent of a secret is to conceal when required, and so the default decision is likely to conceal. But having an intent to keep a secret does not inevitably mean it will be kept secret in every social interaction.

#### J. Reveal

A person might reveal a secret in an interaction with someone from whom the secret is to be kept. This would be confession, which can make things better (Slepian & Bastian, 2017), but other times it can make matters worse (Kelly & McKillop, 1996). For example, a revealed secret could hurt another's impression; the information could hurt feelings or damage the relationship, and the fact of having had a secret could erode trust in the relationship, and so the decision to confess must be made with care (Afifi & Afifi, 2020; Kelly, 1999).

Aside from the person or people the secret is kept from, there are multiple other individuals who one can confide a secret in. By confiding a secret, a person can talk about the secret with someone while still keeping it a secret from the target individual(s). When confession could make things worse, confiding can be the best of both worlds: one can obtain help from another person while still keeping the secret from the target person (Slepian & Moulton-Tetlock, 2019).

When will people reveal their secret? According to the Disclosure Decision Model (Omarzu, 2000), when conversing with someone deemed a suitable confidant, then the benefits of the disclosure (e.g., intimacy, help) will be compared to the risks (e.g., reputational damage, rejection) in making a disclosure decision. Likewise, the Disclosure Processes Model (Chaudoir & Fisher, 2010) agrees that the perceived benefits and risks of disclosure determine whether disclosure happens, and how much is disclosure broadly, the Revelation Risk Model (Afifi & Steuber, 2009) specifically outlines antecedents to secret revelation. In addition to the risks identified by other models (e.g., fear of negative evaluation), this model focuses on the relationship between the person and the potential confidant (e.g., the relationship might be damaged by the revelation). Importantly, in revealing a secret, catharsis is not very helpful on its own (e.g., Kelly et al., 2001). Rather, these models agree that what makes a disclosure go well is how the other person responds.

If an individual expects the other person to respond poorly to an admission, confiding in them should be less likely. For instance, prior episodes of devaluation will prompt expectancies of future devaluation (e.g., Mendoza-Denton et al., 2002; Quinn et al., 2019). Accordingly, prior experiences of being stigmatized will likely inform whether a secret is kept entirely to oneself or selectively confided.

When it comes to secrets, people often select those who they think can prove helpful (e.g., someone who will express empathy, or someone prone to take action; Slepian & Kirby, 2018). And likely for this reason, the typical response to a revealed secret is a helpful one. Only a small portion of responses to a confided secret are negative; people most often receive emotional and instrumental support from confiding a secret, and to the extent they do so, they feel more capable in coping with the secret (Slepian, Masicampo & Ambady, 2014; Slepian & Moulton-Tetlock, 2019). Whereas people will seek out compassionate known others to confide in (Slepian & Kirby, 2018), they may also spontaneously decide to reveal a secret to a stranger or weak tie (Cowan, 2020; Small, 2017). Whether or not one has an existing relationship with their confidant, what the confidant can uniquely offer is a new perspective.

In sum, talking to another person about a secret provides something a journal cannot, a sounding board for finding reappraisals and ways forward (see Lepore et al., 2000, 2004; Nils & Rimé, 2012). In other words, confiding a secret often facilitates each of the coping processes discussed earlier, and more effectively than trying to do it on one's own (Slepian & Moulton-Tetlock, 2019).

#### K. Conceal

In the preceding section, revelation of a secret was discussed as one potential outcome of being in a concealment context. This section is devoted to the other, more goal-relevant action people might take in this context: concealment.

Several correlational lines of research suggest that concealment is linked with lower well-being. An impressive body of work has examined a trait tendency to conceal negative information from others (termed self-concealment; Larson & Chastain, 1990; Larson et al., 2015). Rather than examining situations that unfold over minutes (e.g., a concealment episode), or specific processes (e.g., monitoring), this work asks: Why do people who have a habitual tendency toward keeping distressing things to themselves also tend to have health problems? A review of these studies suggests that people who are prone to keep negative experiences to themselves are individuals who also generally have maladaptive coping strategies, insecure attachments, and negative attitudes toward receiving help from others (Larson et al., 2015). Thus, a trait tendency toward concealment can be considered a symptom of regulatory problems like these, and indeed each is associated with negative health outcomes (for an integrative review of trait concealment, see Larson et al., 2015).

Several correlational studies have also examined concealment of specific secrets. For example, nurses and healthcare workers who more conceal their experiences of the emotional burden that comes with their work are also more at risk for burnout and illness (Larson, 1985, 1987). The more that gay men concealed their sexual orientation, the more they exhibited symptoms of depression and impoverished physical health (Cole, Kemeny, Taylor, & Visscher, 1996; Cole, Kemeny, Taylor, Visscher, & Fahey, 1996; Ullrich et al., 2003). Likewise, a diary study asked gay and lesbian participants to log every instance of concealment and disclosure of their sexual orientation over a 2-week span (Beals et al., 2009). On days when they concealed their sexual orientation, they reported lower well-being than when they had disclosed their sexual orientation, an effect mediated by perceived social support and emotional processing.

While secretly playing footsie with a potential dating partner can increase attraction to that partner (Wegner et al., 1994), keeping a relationship secret actually predicts reduced relationship satisfaction and quality (Foster & Campbell, 2005), for both new and old relationships (Foster et al., 2010), and also undermines relational commitment and predicts worse health outcomes (Lehmiller, 2009).

A tendency to avoid conversation topics, in general, is associated with reduced relationship satisfaction (Caughlin, 2004; Dailey & Palomares, 2004; Golish & Caughlin, 2002). Longitudinal studies have also shown links between concealment and relationship satisfaction and well-being. One 2-week diary study asked participants to complete daily measures of concealment from one's partner, relationship satisfaction, and well-being (Uysal et al., 2012). Lagged analyses demonstrated that concealment on one day predicted lower relationship satisfaction and well-being on the subsequent day.

Experimental studies have also explored the role of concealment. Lane and Wegner (1995) asked participants to perform a Stroop task and ensure that the experimenter who watched did not learn which word was their secret word (e.g., "mountain"). When under a high cognitive load, participants' color-naming reaction times to the secret word were longer than when not keeping that word secret, an outcome of the accessibility of the target word distracting from one's task to simply name the color the word was printed in. Hence, concealing a secret made it mentally accessible.

Another study by Smart and Wegner (1999) asked women with and without eating disorders to roleplay women with and without eating disorders, fully crossing these conditions. During an interaction with a confederate, they were asked questions about their eating habits, which made secrecy difficult for the women who actually had an eating disorder and were hiding it. Having to keep one's eating disorder a secret, relative to being able to disclose it, led to more intrusive thoughts about the eating disorder, even to the extent of thinking that the confederate (who was asking about dieting habits) also had an eating disorder.

Critcher and Ferguson (2014) asked heterosexual participants to conceal their sexual orientation or not during an interview that asked about dating partners, their significant other, and their views on having children. Those who concealed their sexual orientation later demonstrated reduced performance on a spatial task, relative to those allowed to disclose this information. A follow-up study demonstrated that even when the interview questions did not directly relate to sexual orientation, simply having to monitor for accidental revelation of one's sexual orientation was associated with regulatory failure (in the form of writing a less polite and more angry email in a subsequent task). In sum, these studies demonstrate that concealing a secret during a social interaction is taxing. The present model decomposes concealment into three independent processes (monitoring, expressive inhibition, alteration).

## L. Monitoring

Goffman (1963) wrote about how those with concealable stigmas engage in effortful activity to ensure that leakages of stigma-related information do not occur. This includes careful monitoring of one's own behavior, but also of one's interaction partner (Frable et al., 1990). The more one is reminded of their concealable stigma and thus monitors, the more concealment behaviors are engaged, predicting distress (Merin & Pachankis, 2011).

One study asked participants to conceal a topic (an elephant) that was central to a conversation with a confederate (talking about large animals at the zoo); concealers felt more on guard and were more worried about acting suspiciously than a control group of participants (Bouman, 2003). In that study, there was no effect on interaction quality, as rated by the interaction partner, but in other studies, when the stakes are higher, concealment vigilance reduces overall interaction quality. For example, when individuals with a history of mental illness were engaged in a conversation about mental illness with a confederate, and experimentally instructed to not reveal their history of mental illness, they felt less authentic, and their partner felt the interaction was less intimate (relative to when interacting with someone who was free to disclose their identity; Newheiser & Barreto, 2014; see also Butler et al., 2003).

To ensure that one does not slip and reveal a secret, one has to carefully monitor one's speech. Critcher and Ferguson (2014) elegantly separated monitoring of speech during a conversation from altering of speech. College students answered interview questions about college life and their future while not uttering words they were unlikely to utter ("breakfast" and "therefore"), which thus required monitoring, but no real alteration (as they would not have uttered these words anyway). Other participants were instructed to add those words to speech, thus requiring only alteration. A third group of participants was asked to not utter words that they were likely to utter ("don't" and "very") which thus required monitoring and alteration. A fourth group was allowed to speak freely. Examining the 2 (monitoring required, yes/no)  $\times$  2 (alteration required, yes/no) factorial demonstrated a main effect of monitoring hurting later Stroop performance. Alteration did not harm Stroop performance nor did it further diminish performance when the participant already had to monitor their speech. This study thus suggests that what makes concealment effortful is not altering one's speech, but having to monitor it.

## **M. Expressive Inhibition**

If one detects the potential for information slipping during monitoring, then that particular response will be inhibited. People will sometimes engage in self-presentation to present a particular image they wish to convey (Leary & Kowalski, 1990; Paulhus, 1984). When one inhibits aspects of oneself to achieve this selfpresentation, this consumes regulatory resources. Presenting a picture of oneself that inhibits one's natural self-presentation style is associated with reduced persistence, including on analytical, spatial, and motor tasks (Vohs et al., 2005). For example, in the context of concern for appearing prejudiced, when White participants interacted with a Black (vs. White) confederate, their later Stroop performance suffered (Richeson & Trawalter, 2005). Trying to avoid giving a certain impression (such as appearing prejudiced) requires regulatory resources, and diminishes later cognitive performance (Richeson & Shelton, 2003). And reciprocally, when resources are compromised, one is less able to make a good impression (Vohs et al., 2005).

With respect to secrecy, a series of studies on gay men who conceal their sexual orientation at work found that having to divide one's self between the true private self and the self presented to the public increased stress and depressive symptoms (Sedlovskaya et al., 2013).

In sum, concealment processes of monitoring one's speech and the use of expressive inhibition during conversation are markedly different from the experience of mind-wandering to the secret outside of a concealment context. During a concealment episode, one will not have the luxury to reflect on the secret. Rather, active concealment requires real-time monitoring of a conversation. Thus, social interaction quality is uniquely relevant to concealment processes.

#### N. Alteration

There are a variety of behaviors that a person can enact to conceal a secret during a conversation that are not inhibitive in nature. For example, to try and steer a conversation away from a secret, one could try and change the topic of conversation (Sun & Slepian, 2020). When asked a question about something one would rather keep secret, a skilled conversationalist can simply provide an answer to another question, albeit a related one (Rogers et al., 2017), or ask a question of their own (Bitterly & Schweitzer, 2020). Another action one can take to keep a secret is simply to exit the conversation (Sun & Slepian, 2020), or explicitly decline to answer a question (John et al., 2016). Thus, aside from inhibitive behaviors there are several ways in which people can alter their behavior to keep a secret (see Baum & Critcher, 2020).

A special form of alteration used to keep a secret is when a person leads another to believe something that is not true. This is considered deception. People will engage in deception to conceal personal attributes that are shameful or stigmatizing (DePaulo et al., 1996, 2004), and this can hurt interaction quality. One study, for instance, tasked college students to work on an art project. Instead of revealing one's real major at an opportune moment, experimentally asking participants to pretend to be an art history major led participants to feel guilty for their deceit, which undermined their confidence in the task at hand (Barreto et al., 2006). Likewise, when participants were induced to deceitfully give the impression of being a medical student (vs. disclosing their true college major) interaction quality was lower as a result, as rated by external observers and the interaction partner (Newheiser & Barreto, 2014; see also Burgoon & Buller, 1994). Moreover, engaging in deception (to hide one's true college major) led to decreased feelings of belonging, mediated by feelings of inauthenticity (Newheiser & Barreto, 2014). Another study asked participants to lie about topics written on cards that they were holding, which corresponded with increases in skin conductance levels (Pennebaker & Chew, 1985).

Few studies have compared different ways to hide a secret. One of the original experimental studies on secrecy (Wegner & Lane, 1995, Study 2), however, did just this. In the study, the experimenter held up flash cards to participants (that the experimenter could not see), which had conversation topics on them as well as instructions to tell the "truth," "lie," or keep the true answer "secret" by responding with something irrelevant. When asked to remember those topics 10 min later, the "secret" topics were recalled earlier (and thus were more accessible) than both the "truth" and "lie" topics, which did not differ from each other, suggesting that the true answer to an inquiry is more mentally accessible after keeping it secret than after telling a lie.

In another study, Critcher and Ferguson (2014, Study 3) asked heterosexual participants to answer questions about their ideal dating partner and their desire for having children while concealing their sexual orientation, whereas another group was allowed to disclose their sexual orientation while answering these questions, but had to include a lie as part of their answer. Those who concealed their sexual orientation, relative to a control group, demonstrated reduced hand grip strength, whereas those who told a lie did not demonstrate this decrement. This work suggests that a concealment strategy that involves monitoring of one's speech and inhibition is more effortful than mere alteration that does not involve monitoring and inhibition.

The framing behind one's concealment also determines its outcomes. When participants were led to conceal a devalued identity with a promotion focus (make a good impression), relative to no specific framing or a prevention focus (avoid a bad impression), both the participant and their interaction partner more enjoyed the interaction (Newheiser et al., 2015). As such, a promotion focus may encourage people to engage in easier and more helpful alteration behaviors, relative to effortful monitoring and inhibition.

In sum, concealment brings a host of challenges unique to the concealment pathway of the model (monitoring, expressive inhibition, alteration). Unlike when outside a concealment context, one must in real-time decide how to handle queries and how to craft responses. One could choose to tell a lie, dodge questions, reveal some information without revealing the secret, or simply change the topic of conversation.

#### Model Summary

In sum, the present theory defines secrecy as the intent to keep information unknown by one or more others, and this intention can come to mind in one of two broad contexts, one in which concealment is not deemed required, and one in which it is. The present model articulates the different processes involved in these very different contexts.

Forming an intention to keep information unknown from others will make people more sensitive to cues in the internal and external environment related to the secret. Indeed, people are frequently reminded of their secret when concealment is not required. If the secret is unresolved or important, or if the external demands of the environment are low, the secret will likely draw attention. People often associate their secrets with feelings of shame, isolation, uncertainty, and inauthenticity, and as such, mind-wandering to secrets predicts worse mood and lower well-being (Slepian & Koch, in press; Slepian et al., 2017). If repetitive thinking becomes ruminative (i.e., characterized by feelings of passivity and helplessness), symptoms of depression and anxiety are more likely. Rather than passively rehash the details of the secret, people may actively seek to make peace with the secret, make sense of it, or gain insight into it (i.e., people may seek to cope with the secret). People might also deliberately make plans for how to move forward, or even consider whom to tell.

People might also find their mind turning toward a secret in a situation that calls for concealment. This will initiate a different set of processes, should the person indeed engage in concealment. Inhibiting cues to the secret in conversation will require regulatory resources, which can hurt social interaction quality. Monitoring for slippages of secret information is the most effortful of the concealment processes and thereby most responsible for the depleting effects of concealment during social interaction. Simply telling a lie can be easier (assuming it is one that is easy to maintain), but this may lead to feelings of guilt and feelings of inauthenticity.

In sum, unlike prior models, the current model introduces a critical distinction: Is the secret being thought about outside of, or within, a concealment context? The processes that will be evoked by these two situations differ substantially. The latter situation might invoke concealment behaviors (which the present model decomposes into three separate processes: monitoring, expressive inhibition, alteration), whereas the former will be a context in which one's mind wanders toward the secret (engagement with these thoughts can take the forms of repetitive thinking, efforts to cope, making plans for the future).

#### **Comparisons With Related Models**

Each of the distinct processes reviewed have been studied in separate research traditions. The current theory, (a) redefines secrecy as an intention, and notes that this intention (b) can come to mind both within and outside concealment contexts, and (c) there are unique processes involved in each context. Accordingly, the present model (d) brings separate research traditions into dialogue for the first time, presenting a novel synthesis and broader picture of secrecy than prior models afford. Two prior models in the social psychological literature are commonly evoked to describe the processes and outcomes of secrecy. Both are more limited in scope than the present model.

#### A Model Based in Thought Suppression

Wegner and Lane (1995) proposed that when trying to keep a secret in a social interaction, people attempt to suppress thoughts of the secret to facilitate concealment, and thereby Wegner's (1994) model of ironic thought processes becomes central. Wegner (1994) proposed that suppression attempts set up two concurrent processes, an intentional operating process that seeks to suppress the thought, and an ironic monitoring processes that searches for evidence that the intentional process has failed. What makes this process ironic is that to ensure the thought has been successfully suppressed, one must keep the thought accessible.

The evidence suggests that if people intrinsically want to suppress a secret, they are able to (Kelly & Kahn, 1994; Slepian, Greenaway & Masicampo, 2020; Slepian, Oikawa & Smyth, 2014). While this appears to run counter to Wegner's (1994) ironic process model, it does not indicate that thought suppression never fails. Thought suppression can lead to ironic increases of the target thought, but recent work clarifies that this happens only under constrained situations.

There is an important distinction to be made in *who* wants the thought to be suppressed. When an experimenter assigns a participant to suppress a novel thought that the participant has never sought to suppress before, thought suppression can indeed fail (e.g., Wegner et al., 1987). But what about thoughts participants have previously sought to suppress? Asking participants to suppress thoughts that are naturally intrusive and enter into one's mind-

wandering in daily life (e.g., a current worry) did *not* elicit ironic increases in the target thought, whereas asking participants to suppress a novel thought (i.e., a white bear) did elicit ironic increases of the target thought (Kelly & Kahn, 1994).

With practice, people can develop effective ways to suppress unwanted personally-relevant thoughts. When researchers examine thoughts that participants intrinsically want to suppress, participants do *not* exhibit ironic increases of the target thought, including when it comes to thoughts that are depressing or anxiety-inducing (Luciano & González, 2007; Roemer & Borkovec, 1994), current worries (Behar et al., 2005; Mathews & Milroy, 1994), and even obsessive thoughts (Janeck & Calamari, 1999; McNally & Ricciardi, 1996; Purdon & Clark, 2001).

A large literature indeed demonstrates that people are able to effectively control unwanted thoughts (for a review see, Hu et al., 2017). In the presence of reminders of unwanted memories, people can become adept at suppressing the retrieval of unwanted memories from coming to mind, thereby reducing their accessibility. With enough practice, top–down processes become attuned to the pattern completion network of reminders of unwanted memories, and feed-forward to minimize the activation of memory traces (Hu et al., 2017). Thus, when seeking to suppress unwanted thoughts, with practice, people can find ways to make it less likely that such thoughts come to mind. While in a bare lab room, this might be difficult. But in the richness of the real world, such as when browsing the internet or watching television, it can be quite easy to let unwanted thoughts pass over.

With respect to secrets, seeking to suppress thoughts of secrets is not related to an increased tendency to think about them. Four studies, examining more than 11,000 secrets kept by participants, found that whereas seeking to spend time thinking about a secret was associated with an increased tendency to think about the secret, seeking to suppress thoughts of the secret was unrelated to how often people thought about their secret, and if anything predicted reduced tendencies to mindwander to the secret (Slepian, Greenaway, & Masicampo, 2020).

In a situation where an experimenter introduces a novel target thought to a participant, and asks the participant to suppress that novel thought on-demand (and for the first time), thought suppression does indeed reliably fail. Hence, ironic effects of suppressing secrets should occur in limited contexts (e.g., one does not have practice suppressing the secret). In other words, if early attempts to cope with thoughts of a secret include thought suppression, ironic increases of those thoughts might be responsible for repetitive thinking about the secret. Yet, as the individual becomes more practiced with suppressing that thought (e.g., minimizing activation from reminders, successful use of distraction), then unintended thoughts toward the secret may be reduced over time, which logically would tip the ratio of intentional-to-unintentional thoughts about the secret toward more intentionality, and in turn more helpful reflection than rumination (Nolen-Hoeksema et al., 2008).

While seminal work in this domain (Lane & Wegner, 1995) examined suppression as a means to concealment, more recent work suggests that thought suppression is more likely a coping strategy employed outside of social interactions (Slepian, Greenaway, & Masicampo, 2020), and suggests that what makes concealment fatiguing is not failed thought suppression attempts (Critcher & Ferguson, 2014, Study 2). The current model thus agrees with a recent conceptualization of where thought suppression sits relative to concealment (see Critcher & Ferguson, 2014). As thought suppression would logically work against monitoring for potential

slippages, thought suppression (rather than being typically deployed during the midst of a concealment episode) is more likely a coping strategy people engage in on their own (Figure 1, G), albeit more for secrets participants report as trivial (and thus are potentially easier to suppress; Slepian, Greenaway, & Masicampo, 2020).

Finally, it is worth reiterating that a prominent reason people mindwander to their secrets is that there is value in thinking about the secret (i.e., secrets often require some resolution). The present model builds from thought suppression work by allowing for the reality that people want to think through a secret to process it and cope (Slepian, Greenaway & Masicampo, 2020; see also Slepian et al., 2019). Further, the current model specifies the processes engaged when reflecting on the secret, such as cognitive and emotional processing, meaning-making, and plans for how to handle the secret.

## A Model Based in Coping With Trauma and the Benefits of Expressive Writing

Pennebaker (1989) proposed a model of inhibition, which suggested that not discussing one's trauma is effortful and challenging. The model proposes that over time, the physiological work of inhibition cumulatively acts as a major stressor, which thereby harms physical and mental well-being. Evidence for this model comes from asking participants to write about their personal traumas or stressors. For instance, expressive writing about personal trauma (which is normally not discussed and thereby assumed to be typically inhibited) is associated with improved health, reflected by fewer visits to a health center (Greenberg, Wortman, & Stone, 1996; Pennebaker & Beall, 1986; Pennebaker et al., 1988), reduced blood pressure (McGuire et al., 2005), and enhanced immune system functioning (Esterling et al., 1994; Petrie et al., 1995; Pennebaker et al., 1988).

The benefits of expressive writing, however, stem from many mechanisms outside of the release of inhibition (Smyth & Pennebaker, 2008). One does need not write about a personal secret to benefit from expressive writing. For instance, writing about thoughts and feelings in general brings many of the same health effects as writing about personal trauma (Pennebaker & Chung, 2007). Additionally, writing about *positive* experiences seems to have comparable effects to writing about *negative* experiences (Burton & King, 2004; King & Miner, 2000). A meta-analysis of 140 studies on expressive writing found that the health benefits were not moderated by trauma/stressor history, valence of the writing topic, nor whether the topic had ever been disclosed before, that is, whether it was secret or not (Frattaroli, 2006).

Intriguingly, expressive writing about a trauma that one had never experienced reduced health care visits just as much as expressive writing about one's own trauma, relative to control (Greenberg, Stone, & Wortman, 1996). Perhaps going through the motions of thinking about coping strategies even in a hypothetical context helps people realize the opportunities for coping one can take in their own life, thereby increasing perceived efficacy to cope with real-life stressors (Greenberg, Wortman, & Stone, 1996). Recent work suggests that going through these motions can foster feelings of resiliency, acceptance, and growth (Hemenover, 2003; King, 2001; King & Miner, 2000; see also Bonanno, 2004; Wortman & Silver, 1989). That is, expressive writing's benefits may coincide with some of the benefits of self-affirmation (see Creswell et al., 2007). Thus, to the extent a writing exercise helps highlight the pursuit of values that are important to the self, the self-confidence and efficacy that follow from affirmation exercises should facilitate the coping process (see Cohen & Sherman, 2014; Creswell et al., 2007; Sherman & Cohen, 2006).

Importantly, in seeking to integrate insights obtained from the expressive writing literature into a model of secrecy, two important caveats must be made. First, expressive writing should *not* be considered a "disclosure" (see Altman & Taylor, 1973; Jourard, 1971) A disclosure is something that occurs to another person in an interaction. The distinction is important given that if a secret is not disclosed to anyone, it is associated with lower well-being, relative to when the secret has been disclosed to at least one person (Frijns et al., 2013; Slepian & Moulton-Tetlock, 2019; see also McKenna & Bargh, 1998; Pennebaker & O'Heeron, 1984). Second, and importantly, finding health benefits from writing in a journal cannot be said to demonstrate how concealment (or secrecy more broadly) is harmful.

In sum, expressive writing has well-being benefits through many processes. These benefits and processes do not need to coincide with secrecy; they occur whether a trauma is secret or not, and also one does not need write about a trauma, or a secret, to obtain the benefits of expressive writing. This is not to say that the expressive writing literature is not relevant. Those studies which assign participants to do healthy things that they are not currently doing (e.g., thinking about a personal problem from a different angle) do improve individual wellbeing. The lessons for secrecy are clear. The benefits of expressive writing suggest exercises one can take to improve coping with secrets, whether in writing, or even in discussion with others (e.g., taking multiple perspectives, reappraisals). The advice that comes from this literature is accordingly incorporated in the "cognitive and emotional processing" section (subsumed under "coping efforts," Figure 1, G).

## Summary of Other Models and Their Relationships to the Present Model

Both the work on thought suppression and on expressive writing sit close to the domain of secrecy, albeit with important differences. The former refers to *one* process people might engage in (of many), and the latter is not specific to secrecy (but coping more generally). However, these literatures serve as the historical foundation and inspiration for the recent body of work on secrecy. In parallel to the development of these two social psychological models, has been a model in the clinical psychological literature (the reviewed trait tendency toward self-concealment; Larson et al., 2015), to which the current model also adds by uniquely delineating the mindwandering context of secrecy (see Figure 1). The current model is enriched by these prior models, incorporates their findings, and builds on them, noting additional processes.

Critically, relative to prior models, the current model uniquely makes the distinction between the two broad contexts in which a secret can come to mind: within or outside a concealment context. As reviewed earlier, different processes are engaged in these distinct contexts, each with unique relationships to well-being, and in the case of concealment, social interaction quality.

## The Process Model of Having and Keeping Secrets: Novel Predictions

Finally, the current model makes a number of novel predictions. A selection of these novel predictions is briefly discussed and organized into four sections, novel predictions for: (a) mind-wandering to secrets, (b) concealment of secrets, (c) the interplay between mind-wandering and concealment, and (d) interventions.

#### Mind-Wandering to Secrets (Pathway 1)

Multiple models of mind-wandering (Klinger, 1987, 2013; McVay & Kane, 2010; Schooler et al., 2011) converge on the prediction that in impoverished or otherwise unstimulating environments, or when executive resources for interacting with the external environment are reduced, mind-wandering should be more likely. Thus, when engagement with the external environment is reduced (e.g., when one's mind strays away from a work task, when one is already thinking about the past, or when lying in bed with one's eyes closed), then the likelihood of mind-wandering to secrets should be increased.

Additionally, work on mind-wandering suggests that people should be reminded more of certain secrets, relative to others. If a secret is about something very specific, trivial, and remote (e.g., having stolen a pack of gum from a store as a child), then not many aspects of one's daily life may remind one of the secret. In contrast, if the secret is of a more general topic, more significant, and relevant to daily life (e.g., discontent with one's romantic relationship), one might be frequently reminded of it, both through external triggers (e.g., from a television show about a romantic couple) and internal triggers (e.g., thinking about the upcoming weekend). The more central a secret is to the external environment, or internal environment (e.g., one's identity), the more one should mind-wander to the secret.

Future work should also examine whether mind-wandering episodes are intentional or unintentional. When thoughts about a secret are more intentional and deliberate, individuals may feel more equipped to think about the secret at that moment, relative to when thoughts of the secret enter unbidden. The meta-awareness model of mind-wandering (Schooler et al., 2011) separates the moment in time during which mind-wandering has begun and when it is noticed. This suggests the distinct possibility that while a mind-wandering episode has yet to be noticed (in the same way in which the mind wanders off the page before realizing it has done so), negative thinking about the secret may be happening before the opportunity to regulate is available. Relative to unintended mind-wandering to a secret, taking hold of the reins, and deliberately attending to thoughts of a secret may prompt more adaptive coping strategies if not highlight where coping work needs to be done.

As people typically evaluate their secrets negatively, mindwandering to those secrets is associated with negative affective experiences (Slepian, Kirby, & Kalokerinos, 2020). Yet, a very small minority of secrets are positive in valence (Slepian et al., 2017). A subset of positive secrets are kept in order to be revealed (a surprise, a marriage proposal), and so these secrets may act quite differently given the goal is to reveal to delighted recipients (see Slepian & Koch, in press). That said, even for secrets with positive connotations, when people are worried about the harm of the secret coming out too soon, or feel isolated with the secret, the effects of such secrecy are likely to more resemble that of prototypically negative secrets (see Slepian et al., 2019). Unlike prototypically negative secrets which are often conceived of in prevention-focus terms (avoid negative consequences from revelation), when positive secrets are conceived of in promotionfocus terms (promote positive consequences upon revelation), in this case, positive secrets are likely to bring benefits to well-being. This suggests the possibility that when people consider even their negative secrets in promotion terms, negative effects to well-being could be mitigated by reducing the negative affective experience of mindwandering to the secret (for an example of a promotion focus improving outcomes of concealment, see Newheiser et al., 2015).

Once mind-wandering to a secret has begun, one's current executive resources should determine one's ability and likelihood to stay focused on the secret, process it in more active ways, think through coping strategies, and prospectively plan and problem-solve (see Baird et al., 2011; Barron et al., 2011; Smallwood et al., 2003, 2012; Smallwood & Schooler, 2006). Additionally, as the duration of mind-wandering episodes increase, it should be more likely that people transition from passive thinking of the content of the secret toward more active reflection about how one feels about the secret, as well as engaging in coping strategies and planning.

Coping styles should also moderate the effects of secrecy on wellbeing. The tendency to engage in emotion-focused coping should make it likely that individuals attempt to emotionally process their secret (Folkman & Lazarus, 1980). A detached coping style (Roger et al., 1993), where one attempts to think through the stressor, impersonally at a distance, might lead to more cognitive processing of the secret. A problem-focused coping style (Folkman & Lazarus, 1980) might lead to concrete planning about how to move forward. Along these lines, traits that make people more prone to unhelpful rumination (e.g., neuroticism) may hamper the coping process, whereas traits that make people more prone toward helpful reflection (e.g., mindfulness) will likely facilitate effective coping. Importantly, the most effective coping strategy will be the one best suited to one's dispositions and current goals (see Bonanno & Burton, 2013).

#### **Concealment of Secrets (Pathway 2)**

The next set of predictions focus on concealment. First, people should be more likely to conceal in environments where they anticipate being stigmatized. Likewise, rejection sensitivity may increase the tendency to conceal (Ayduk et al., 2003; Pachankis et al., 2014; Wismeijer et al., 2014). When people are apprehensive about the outcomes of the disclosure (e.g., concern with reputation; see McDonald et al., 2020), concealment should be more likely.

Another prediction concerns monitoring. As more people are specified to not learn a given secret, the secret keeper would have more contexts in which to monitor for accidental revelation of information. If the secret is to be kept from everyone, this could mean even more situations during which to monitor, yet also this could reduce the need for monitoring as the concealment task is now simple ("never mention X to anyone").

Deception (i.e., dishonest alteration behavior) used to conceal a secret may require less regulatory resources than monitoring and inhibition without deception (Critcher & Ferguson, 2014; Lane & Wegner, 1995). Yet, people typically want to be authentic with close others (see Bereby-Meyer & Shalvi, 2015). Telling a lie might be the easy way out, but this might only be chosen when the more effortful path (monitoring, inhibition) seems too onerous, whether because one's resources are compromised or one does not care about lying to the particular person one is conversing with (see Gino et al., 2011; Mead et al., 2009).

Context should also determine whether deception is chosen. In many of the experimental studies on secrecy, the participant is not just keeping a secret, but specifically keeping a secret as a confederate asks questions specifically designed to make keeping the secret extremely difficult. For instance, when Smart and Wegner (1999) asked women to conceal their eating disorder, the context was that they specifically had to respond to questions like: "Do you eat regular meals?", "Sometimes people have problems with self-control; is there any part of your life where you have self-control problems?", "Does anyone (e.g., friends, roommates, family) ever tell you that you have unusual eating habits?" Study designs that specifically ask participants questions directly related to their secrets should quickly force initial monitoring and inhibition to become deception.

For certain classes of secrets, it may make sense to experimentally make it difficult to keep a secret. Sexual orientation, for instance, is a secret that would be hard to keep when having a conversation about one's dating life, which is not an unordinary conversation topic. Thus, designs that place participants into such a context make good sense for this type of secret (e.g., Critcher & Ferguson, 2014). Yet, in considering the larger universe of secrets, experiments that make it purposefully difficult to conceal a secret during a social interaction likely exaggerate the efforts involved in concealment. For many secrets, concealment might be quite easy, but experiments are unlikely to examine such secrets. Study designs that let the content of the secret vary naturally are likely to find that—across the diversity of the secrets people keep—concealment is less difficult than has been represented in experiments that artificially create concealment scenarios.

# Interplay Between Concealing and Mind-Wandering to Secrets

The two major pathways predicted by the present model could also influence each other. For instance, if a highly salient experience of concealment occurs, this could become an episode to which the mind returns. People could ruminate upon prior concealment episodes, and the person concealed from could become a cue to think about the secret. Conversely, when mind-wandering to a secret (outside of a concealment context) becomes elaborated to the point of active coping and planning, one might make plans for how to interact with others, which may then influence how one approaches concealment.

Additionally, the relationships between these two pathways and well-being should differ in strength and mechanism. A distinction has been made between two major sources of well-being: hedonia (feeling good, pleasure, positive affect), and eudaimonia (feeling meaning, living up to standards and values, living authentically; see Ryan & Deci, 2001). The different pathways might differentially impinge on these two sources of well-being (see also Uysal, 2020). An episode of concealment might be especially hedonically negative (given the vigilance caused by monitoring), whereas mindwandering to secrets (which allows for time to reflect on their meaning) may be more eudaimonically negative.

Another consideration is the frequency with which a person is in the two major situations where a secret can come to mind. If people are in the two broad situations to different degrees, one set of processes could be more relevant to overall well-being than the other set of processes. Examining frequency counts, people report mindwandering to their secrets about twice as often as they actively conceal them (whether assessed retrospectively or in daily diaries; McDonald et al., 2020; Slepian et al., 2017; Slepian, Kirby, & Kalokerinos, 2020, as well as in experience sampling; Liu et al., under review). More generally, future work would benefit from considering the different time-courses involved in mind-wandering to and concealment of a secret (both the time course of a single episode, but also patterns of engagement over longer stretches of time (see Frijns et al., 2020).

While the experience of concealment might feel more intense than an experience of mind-wandering, it is also less frequent, which suggests the possibility that the cumulative impact of mindwandering to secrets on well-being could be greater than the cumulative impact of concealment; indeed existing evidence is consistent with this hypothesis (e.g., McDonald et al., 2020; Slepian et al., 2017, 2019; see also; Maas et al., 2012; Major & Gramzow, 1999; Quinn & Chaudoir, 2009; Quinn et al., 2014). Yet, concealment should still have its own unique harm, which is its effects on social interaction quality (Newheiser et al., 2015), but even concealment manipulations do not have strong effects on interaction quality, relative to other dispositional influences on interaction quality (e.g., tendency to self-disclose or feel authentic, see Newheiser & Barreto, 2014). Indeed, in certain contexts concealment may go undetected (see Goh, Kort, Thurston, Benson, & Kaiser, 2019; Smart & Wegner, 1999).

#### Interventions

Finally, the current work suggests novel directions for interventions. Secrecy has been associated with negative well-being outcomes, including depression, anxiety, poor relationship quality, and poor health (Frijns et al., 2005; Larson & Chastain, 1990; Larson et al., 2015; Pachankis, 2007; Quinn & Chaudoir, 2009; Quinn et al., 2014, 2015; Uysal et al., 2010; Uysal & Lu, 2011; Vangelisti, 1994; Wismeijer et al., 2009; Wismeijer & van Assen, 2008). The present model suggests novel points of intervention to reduce these harms.

Most prominently, the present model identifies a set of experiences with secrecy that interventions have yet to examine, that is, those involving mind-wandering to one's secret outside of concealment settings. Interventions that alert individuals to these costs of secrecy of which they may be unaware—might change one's thinking about a given secret and whether to keep it, and may help individuals pinpoint the harms of a secret to work toward combatting them.

Interventions that seek to reduce repetitive and unproductive revisiting of one's secrets should bring benefits to well-being. For instance, interventions that reduce repetitive and passive mind-wandering (e.g., interventions that promote acceptance or mindfulness; Mrazek, Franklin, et al., 2013; Mrazek, Phillips, et al., 2013) should reduce the frequency with which a secret returns to one's thoughts, and thereby improve well-being.

Another line of interventions could focus on how people reflect on their secrets. Perhaps by keeping a secret one is protecting someone's feelings, protecting a relationship, or maintaining social harmony (McDonald et al., 2020). Focusing on the good one's secret might do may offset the negative effects of frequent mindwandering to the secret (see Slepian & Koch, in press; Slepian, Masicampo & Galinsky, 2016). Given the importance of disclosure in romantic relationships, perhaps interventions could help people navigate the complexities of disclosure and concealment in romantic relationships (see Willems et al., 2020).

While the most effective route to enhanced coping often comes from discussing a stressor rather than keeping it secret, thanks to the internet, it is now possible to reap some of the benefits of confiding while maintaining anonymity. For example, finding others with 16

a similar struggle on a message board can highlight that no person is truly alone with a secret (see McKenna & Bargh, 1998). Learning from others' stories more generally could also suggest productive avenues for coping, and offer optimism and hope. It is also possible that engaging with others over the internet leads people to engage in expressive writing, which further enhances the coping process. Discussing a secret with someone over the internet or describing it anonymously (e.g., through artistic expression; Warren, 2005), while neither action would negate the secrecy, these strategies would enable one to receive help while the secret remains a secret.

While confiding secrets is generally related to higher well-being (Slepian & Moulton-Tetlock, 2019), confiding can also make things worse when a confidant is not well chosen (Kelly & McKillop, 1996; see also Camacho et al., 2020). Thus, interventions could help people understand who makes for ideal confidants (e.g., people who are compassionate, assertive; Slepian & Kirby, 2018). In addition to how well equipped a confidant is to help, two other factors should be considered when choosing a confidant. First, the more the secret keeper and confidant's social networks overlap, the more likely the confidant will occasionally need to conceal the secret on the secret keeper's behalf (Slepian & Greenaway, 2018). Second, a confidant can also experience the mental burden of having to think about others' secrets. The more a confidant's mind wanders toward thoughts of a secret confided in them, the more burdensome they find being confided in (Slepian & Greenaway, 2018).

When it comes to conversations with someone who would *not* make for an ideal confidant, interventions could focus on helping the secret keeper handle a social interaction in the heat of the moment, teaching strategies that enable the secret keeper to change the conversation topic, rather than engage in resource-consuming monitoring and inhibition.

While it seems that deception is a less regulatory-resource consuming solution to concealment, the obvious risk is getting caught in a lie, or having to keep track of one's lies. Instead, an intervention could teach individuals the "artful dodge" (Rogers & Norton, 2011; see also Bitterly & Schweitzer, 2020). Not unlike a politician asked about some policy issue who answers a subtly different question, people could practice how to handle conversations related to a sensitive personal secret. People fail to notice if another person answers a subtly different question than the one that was asked (Rogers & Norton, 2011). Even a direct question like, "What's a secret of yours?" can be addressed in this manner, for example, responding, "I always thought that I had to keep X a secret, but actually ... " (letting X stand for something you would be willing to admit to). If concealment is required, subtle efforts to redirect the conversation should be more effective than monitoring and inhibition, and likely, a wiser choice than outright deception.

Finally, sometimes confessing to the person the secret is kept from is the best path forward. A conversation with a third party would help the person with a secret decide whether confession is advisable, and if so, interventions could also help individuals learn how to more effectively have difficult conversations (see Levine et al., 2020).

#### Conclusion

Secrecy is a common and consequential human experience, but a full understanding of its effects and mechanisms of influence has been hampered by treating secrecy as something that only happens during the course of a conversation (i.e., active concealment within a social interaction). Contrary to the suggestion that secrecy is the action of concealment, the present paper models the experience of secrecy more broadly. Rather than define secrecy as an action (active concealment), the current model defines secrecy as an intention to keep information unknown from one or more others.

Like any intention, forming an intention to keep a secret will change a person, specifically increasing sensitivity to internal or external cues relevant to that intention. The model outlines two broad contexts in which secret-relevant thoughts will be cued: Either during a situation that calls for enacting one's intention (promoting active concealment), or a situation where concealment is not required (promoting mind-wandering to the secret). Having a secret return to mind (outside of a concealment context) is characterized as mind-wandering to the secret because people are reminded of their secrets (by internal and external cues) more frequently than they explicitly carve out time to think about them. These two broad categories of situations determine how secrecy is experienced, predicting well-being through different pathways. Concealment involves monitoring, expressive inhibition, and alteration, which consume regulatory resources and may lower interaction quality. Mind-wandering to the secret (when concealment is not required) takes the form of passively thinking about the content of the secret, actively thinking about how one feels, and engaging in coping efforts or making plans for how to handle the secret and move forward.

The present model suggests a number of novel entry points for interventions, including seeking to reduce the frequency of one's mind-wandering to the secret, change how one reflects on that secret, and when in the midst of a conversation, practice shifting the conversation rather than engage in resource-consuming monitoring and inhibition, or deceptions that could backfire. Confiding secrets represents another intervention, but one that should be chosen carefully. Well-chosen confidants should be discreet, but also well suited to facilitating the coping process, offering support, non-judgment, new perspectives, insights, guidance, and advice. Confidants without these features will be less helpful.

Social science often studies the ways in which people connect and communicate with one another, but people frequently hold back and keep secrets. Our science would therefore be incomplete without an understanding of the experience people have with secrecy, what happens when people intend to hold back information from other people, and how this predicts well-being and other downstream outcomes. Secrecy is an experience normally shrouded in darkness. The current model seeks to change that. Integrating findings from several research traditions to provide a comprehensive model of secrecy suggests a number of future directions for research on secrecy and points to ways in which people can better cope with this omnipresent aspect of social life.

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