CHAPTER THREE

From possible selves and future selves to current action: An integrated review and identity-based motivation synthesis

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Abstract

We comprehensively reviewed and organized the literature examining the relationship between possible or future selves and current action. We distinguish studies focused on *possible selves*, *self-gap*, and *self-continuity,* which focus on different aspects of the possible or future self, make distinct predictions and provide conflicting results. We use the dynamic construction, action-readiness, and procedural-readiness components of identity-based motivation (IBM) theory to make sense of these findings. In doing so, we shift focus from what future me is—positive or negative, close or distant, continuous or discontinuous with current me—to what future me does. We make three predictions regarding when people maintain present-focused action and when they switch to future-focused action. People maintain present-focused action if (1) future me is not on the mind or feels irrelevant to current choices or (2) they understand difficulties taking future-focused action as low value or low odds of success. (3) In contrast, they shift to future-focused action if future me feels relevant to current choices and difficulties taking future-focused action seem to imply the value of doing so.

People seem to care about their future selves –they think about their futures (Baumeister, Hofmann, Summerville, Reiss, & Vohs, 2020) and find their future selves to be truer versions of themselves than their current ones (Wakslak, Nussbaum, Liberman, & Trope, 2008). Yet they also often shortchange their future selves—choosing present-focused gains at the expense of future-focused ones (Pronin, Olivola, & Kennedy, 2008). We infer from these incompatible results that thinking about and valuing the future self is not enough; something else needs to occur for people to take future-focused action. We read the literature for an emergent consensus on what that something else might be. We found three non-overlapping approaches which we labeled *possible self, self-gap,* and *self-continuity,* and drew three conclusions: something about future selves matters for future-focused action, but what that something might be is unclear. Neither the predictions nor the supporting evidentiary bases of the possible self-based, self-gap, and self-continuity approaches fit well together. This discordance implies that current approaches alone are insufficient to predict when people are more likely to engage in future-focused rather than present-focused action. The point is not which approach is right—they all have supporting evidence, but rather that they cannot address the full set of results. Hence, we take a step back and use identity-based motivation theory (IBM) as an organizing framework to predict when people switch from present- to future-focused action. IBM predicts that accessibility, relevance, and interpretation of metacognitive experience each matter. Future me will not affect current action unless at least some aspects of that future me are *accessible* (on the mind) and feel *relevant* to the choices facing current me and *difficulty* imagining future me or working on the tasks and goals relevant to future me interpreted as implying importance.

We organize our paper into four parts. In the first two parts, we describe current approaches and our Identity-Based Motivation theory (IBM, Oyserman, 2007, 2009a, 2015a). Then we apply IBM to organize the empirical literature and make testable predictions for future study. We end by linking IBM to non-self-based theories of motivation. To increase clarity, we use the naming conventions described by Oyserman, Elmore, and Smith (2012). We use the word self as a superordinate term that includes reflective capacity. We use the word me to describe what the self reflects on, the word self-concept to describe the structure of me, and the words personal and social identities to describe its content. A person's me is temporal, it can be described in past, present, or future tense. Self-concepts can focus on independent, interdependent, or honor content. In addition to identities, self-concepts include meta-perceptions about self-value (self-esteem) and presumed competence (self-efficacy). We use the term *future me* to describe results of studies focused on future temporality and the term *possible identity* to describe results of studies focused on both the temporality and the content of the future self –including valence or meta-perceptions about that future self.

1. Future selves, future-focused action: Current approaches

We summarize the possible self, self-gap, and self-continuity predictions regarding when future selves affect future-focused action in Table 1. The top panel shows the possible self-based, the middle panel shows the self-gap-based, and the bottom panel shows the self-continuity-based prediction. As Table 1 highlights, the self-gap and self-continuity predictions seem conflicting, while the possible self-based prediction ignores the core self-gap and self-continuity concerns.

1.1 Possible selves

A possible self is a positive or negative image of the person one may become in the future (Markus & Nurius, 1986). In our terminology, possible selves are future "me"s—they can have a positive or negative valence and include a variety of content and meta-perceptions. When asked to describe their future selves, people mostly focus on positive possible identities rather than neutral or negatively valenced ones and describe a self that is five-to-eight years in the future (Salgado & Berntsen, 2018). They believe that 5 years is enough time in the future for the self to have considerably changed (Molouki & Bartels, 2020). Having a possible self in memory is assumed to be motivating. That is, a possible self-based approach does not explicitly

Table 1 Predictions made by Possible Self, Self-Gap, and Self-continuity Approaches.

Approach	Defining Feature of the Future Self	Prediction
Possible Self	Accessible, attainable	People are motivated by their possible identities when these identities are on their minds (accessible).
Self-gap	Dissimilarity, disconnection, distance	People are motivated to act when a positive possible identity seems dissimilar from who they are now (gap) or a negative possible identity seems similar to who they are now (no gap) and when their progress toward fixing that is too slow. People can use a specific procedure in the face of these gaps. First, they should imagine their future, then obstacles in the present that stand in the way. Next, they should ask themselves if they can do these things, and if so, will they succeed.
Self-continuity	Connection, similarity, stability, temporal proximity, vividness	People are motivated by their future me or possible identities when they experience these aspects of the future self as linked to or as part of the same entity as their current me.

distinguish availability from accessibility. Availability implies that a possible self exists in memory and shapes behavior chronically. In contrast, accessibility implies that a possible self that exists in memory only shapes behavior when it is brought to mind at the moment a judgment is made.

Possible self-based researchers predict that people with specific possible future identities will engage in future-focused action tied to these possible identities (e.g., "becoming an A-student" will lead to studying "not becoming obese" will lead to exercising). Several measurement studies support the availability prediction. These studies show that specific possible identity content correlates with future-focused action in that domain (e.g., Aloise-Young, Hennigan, & Leong, 2001; Newberry & Duncan, 2001). A few experiments support an accessibility prediction. These studies show for example that people have a more future-focused response after being directed to consider a possible identity (King, 2001; Kuo, Lee, & Chiou, 2016) or their future me generally (Hershfield et al., 2011; Hershfield, Cohen, & Thompson, 2012, Study 5; van Gelder, Hershfield, & Nordgren, 2013, Study 2). In these latter studies, researchers compare people led to consider their future me or

their current me (Hershfield et al., 2011; Kuo et al., 2016; van Gelder et al., 2013, Study 2) or something else (Hershfield et al., 2012, Study 5; King, 2001).

However, most possible self-focused studies show that having an available or accessible possible self is not enough to trigger future-focused action, that on-the-mind future self requires certain content, valence, or other attributes to trigger relevant action. Here too results vary. Some studies suggest that having both positive and negative possible identities (Lee et al., 2015) and others that having a 'balance' of positive and negative possible identities in the same domain (Oyserman & Markus, 1990), matters, yielding less delinquent engagement. Having negative, not positive, possible identities predict healthy behavior in some studies (Black, Stein, & Loveland-Cherry, 2001; Hoyle & Sherrill, 2006), and the reverse in others (Hoppmann, Gerstorf, Smith, & Klumb, 2007). Other studies suggest that what matters is something more complex—having strategies to work on attaining positive and avoiding negative possible identities (Oyserman, Bybee, Terry, & Hart-Johnson, 2004), and the interplay of context with positive and negative possible identities (Oyserman, Destin, & Novin, 2015). Efficacy to avoid a negative possible identity is proposed as an individual difference variable (Hooker & Kaus, 1994). Researchers rarely address heterogeneous results (though see Oyserman et al., 2004; Oyserman et al., 2015).

1.2 Self-gap and self-continuity

Self-gap approaches predict that possible selves matter if people notice a (particular) difference or gap between their current and future identities. Carver and Scheier's (1982, 2016) Control Theory predicts that people automatically and continuously monitor both the size of self-gaps between their current and future identities and the pace with which they grow or shrink. People take future-focused action when the gap between their current and desired possible identities gets too big, the gap between their current and undesired possible identities gets too small, or their progress addressing their self-gaps is slower than expected. Oettingen's (2012) Mental Contrasting theory predicts that gaps are only motivating when people high in efficacy consider the gaps in a specific way—elaborating on their desired possible identity, then on obstacles blocking their current me from attaining that possible identity. Mental contrast predicts that gaps between current and future identities do not trigger future-focused action if considered in other ways or by people low in efficacy.

Rather than focus on self-gaps, self-continuity approaches predict that possible selves affect future-focused behavior if they are assimilated into, feel continuous with, or are a part of the current me (e.g., Bartels & Rips, 2010; Hershfield, 2011). People experience continuity when their future me seems proximal or even imminent, vivid and clear, overlapping or connecting with their current me. Self-continuity may be easier for people higher in social-economic status (Antonoplis & Chen, 2021); they see their hoped-for possible selves as closer and their feared ones as farther away (Benedetti, 2019).

Researchers using self-gap and self-continuity approaches have produced a contradictory evidence base. For example, better academic performance is associated with experiencing current and future me as connected (Destin, 2017; Landau, Oyserman, Keefer, & Smith, 2014; Nurra & Oyserman, 2018) but also with considering obstacles separating a future me from better performance (among people efficacious about academic performance, Oettingen, Pak, & Schnetter, 2001, Study 4). People take future-focused action when they consider why current and future me are similar (Zhang & Aggarwal, 2015) and feel psychologically close to their future self (Evans & Wilson, 2014; Peetz, Wilson, & Strahan, 2009). But they also do so when they rate current and future me as less similar (Dalley & Buunk, 2011) and more distant (Peetz & Wilson, 2013; Rutchick, Slepian, Reyes, Pleskus, & Hershfield, 2018). Contradictory results even emerge when connection or gap is measured or varied with the same measure taken from Aron, Aron, and Smollan (1992), depicted in Fig. 1). In studies using a self-continuity approach, choosing circles with more overlap is associated with more future-focused action (e.g., saving for retirement, Ersner-Hershfield, Garton, Ballard, Samanez-Larkin, & Knutson, 2009). Researchers find the reverse when using a self-gap approach; choosing circles with *less* overlap is associated with more future-focused action (e.g., more health investment, Peetz & Wilson, 2013).

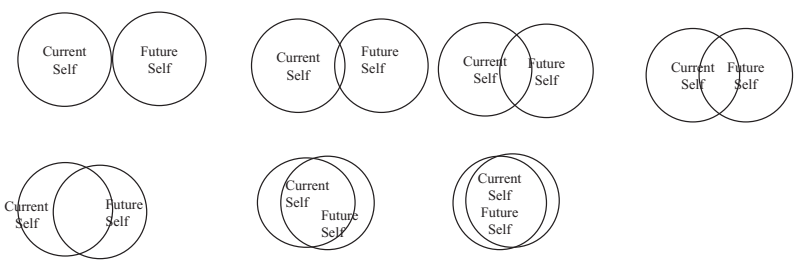

Fig. 1 The same measure is used in studies documenting positive self-continuity and positive self-gap effects.

2. Summary

Approaches focused on possible selves, self-gaps, and self-continuity each make plausible predictions about when a future me affects future-focused behavior. But none is sufficient—neither self-gap nor self-continuity approaches predict or account for possible self-based research results showing that valence, balance, linked strategies, and efficacy as features of a future me sometimes matter. Self-gap and self-continuity studies yield conflicting results, and neither approach addresses when effects should reverse. Self-gap and self-continuity study designs do not uniformly include an accessibility condition, making it impossible to disentangle effect source—effects could be due to gap, continuity, or accessibility. Within approaches, inconsistent results across studies are not addressed. The role of efficacy is under-theorized. That is, measured efficacy sometimes matters but it seems unlikely that people with low efficacy never take future-focused action. We articulate our IBM alternative next.

3. Identity-based motivation theory

3.1 Built on social and cognitive psychology

IBM is a social-cognitive psychological theory of self-regulation, motivation, and goal-pursuit (Oyserman, 2007). It starts with people's everyday experiences of knowing who they are and making choices based on this self-knowledge, predicting that people prefer to act and make sense of their experiences in ways that feel identity-congruent—like me or "us" things to do. On the one hand, identity feels stable and consequential (Quoidbach, Gilbert, & Wilson, 2013). But, to paraphrase James (1890), thinking (about the self) is for doing. People understand their identities in light of the choices their situation affords and limits. Building on basic social and cognitive theories, IBM conceptualizes identities as mental constructs dynamically constructed in context from self-relevant knowledge located in memory (Oyserman et al., 2012). Memories are structured in associative knowledge networks (e.g., Amodio, 2019; Bodenhausen, Macrae, & Hugenberg, 2003; Collins & Loftus, 1975). Which aspect of this network comes to mind in a given moment is a function of how frequently or recently it has come to mind (Bargh & Chartland, 2014; Loersch & Payne, 2016). People experience accessible information as relevant and include it in their judgments unless they have reason to exclude it as irrelevant or use it as a standard of comparison (Bless & Schwarz, 2010).

3.2 Dynamic construction, action readiness, and procedural readiness

These basic social-cognitive principles imply that whether or not a particular aspect of identity comes to mind, and if so, how it affects meaning-making and action, is a dynamic function of the context. People include content that comes to mind in their future me unless they have reason to infer that it is irrelevant or a contrasting standard against which to compare their current me. IBM theory describes this context-dependence as dynamic construction because contexts affect both which identities emerge from memory and their content and implications for meaning-making and action. Once an identity is on-the-mind, people are ready to use it. Action readiness is the label used to refer generally to the readiness to act in identity-congruent ways, to do the things that, in context, seem to fit with on-the-mind identities—to do what "I" and "we" (people like me) do (Oyserman, 2009a, 2009b). Procedural readiness is the label used to refer generally to readiness to use the mental procedures linked to the content and structure of on-the-mind identities (Oyserman, 2009a; Oyserman et al., 2012). Of most relevance to us are the procedures triggered by experiences of ease and difficulty when thinking about aspects of future me or engaging in future-focused behavior (Fisher & Oyserman, 2017; Oyserman, Fryberg, & Yoder, 2007; Oyserman et al., 2017). Experienced difficulty can imply that succeeding at a task is identity-congruent, a "me" or "us" thing to do, so that difficulty signals task importance (difficulty-as-importance), "no pain, no gain." Experienced difficulty can also imply that succeeding at a task is identity-incongruent, a "not for me" or "not for us" thing, such that difficulty signals task impossibility and irrelevance for me or for "us" (difficulty-as-impossibility), "know when to walk away." People can experience their future me in two ways, as occurring at the same time as the current me or as occurring in a hypothetical future. The former entails a less taxing cognitive process that can occur automatically, associatively, and under cognitive load in contrast to the latter which requires higher-level resources (Hoerl & McCormack, 2019; Oyserman & Dawson, 2019). Given it cognitively is less taxing to consider future and current me as occurring at the same time, people may more frequently construct possible identities that are included in their current me than possible identities that are hypothetical contrasts to their current me.

3.3 A recursive process

IBM theory predicts that situations evoke dynamic construction, action readiness, or procedural readiness, and once triggered, they recursively affect

one another. This process is probabilistic; when a particular mental procedure is on the mind, it can influence what an identity seems to be about and what it implies for action and the reverse. For example, an on-the-mind difficulty-as-importance frame implies that the task at hand has value for me or for "us" triggering action readiness—starting, persisting, or creatively solving it are likely to feel identity-congruent. If difficulty-as-impossibility comes to mind, the opposite cascade of meaning follows. It implies that the task at hand is impossible for me or for "us," and taking action to initiate, persist, or creatively solve it is likely to be experienced as a waste of time—"not for me" or "not for us," undermining readiness to act. We present a simplified representation of this recursive process in Fig. 2.

Several experiments test the effect of triggering procedural readiness on the content of identities people dynamically construct and actions they are ready to take. When people were led to consider that difficulty in a school task or goal might imply that the task or goal is important to them (identity-relevant) they reported more certainty that they would attain their academic possible identities (Aelenei, Lewis, & Oyserman, 2017, Study 2). They viewed academic success as more central to their current identities (Smith & Oyserman, 2015, Study 1b). They reported a higher willingness to sacrifice to attain these possible identities (Aelenei et al., 2017, Study 2). They devoted

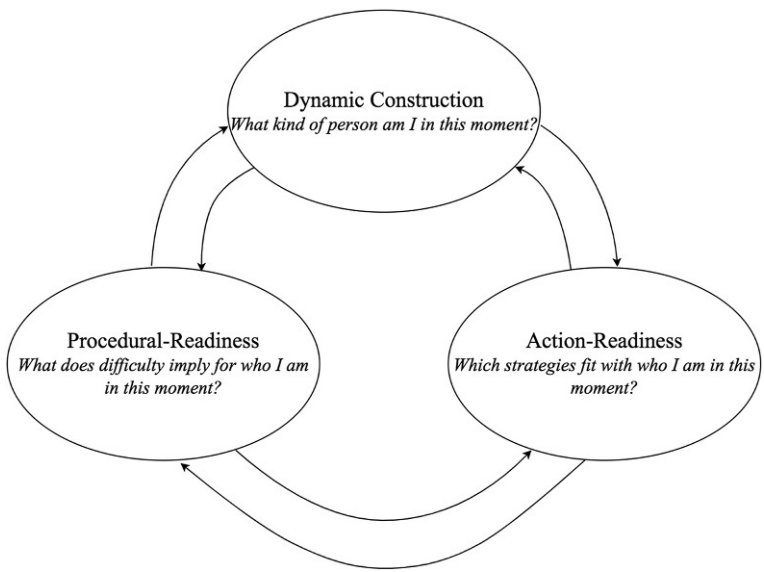

Fig. 2 Components of identity-based motivation (IBM) recursively affect one another.

more time to identity-relevant tasks (Smith & Oyserman, 2015, Study 2) and performed better on them (Oyserman, Elmore, Novin, Fisher, & Smith, 2018). In contrast, students who were led to consider that difficulty might imply impossibility were less certain they would attain their possible identities, less willing to sacrifice to do so, and invested less and performed worse on relevant tasks. Similarly, college students led to consider themselves as having background-specific strengths were less likely to endorse difficulty-as-impossibility (Hernandez, Silverman, & Destin, 2021; Silverman, Hernandez, & Destin, 2021).

3.4 Applying IBM to future-focused action

3.4.1 Accessibility and relevance of future me to the choices current me is facing

Applying IBM highlights that accessibility and relevance are keys to predicting when people engage in future-focused action. Recall that IBM theory predicts that people prefer to act in identity-congruent ways but that which identities come to mind and what these identities imply for meaning-making and action are dynamically constructed in context. These IBM constructs of action readiness, procedural readiness, and dynamic construction focus attention on the critical role of the accessibility and relevance of the future me to the choices facing the current me. Just because people have a future me, does not mean that their future me is always on their minds and feels relevant to the choices they face. Information about the self is stored in associative knowledge networks in memory. Given the nature of associative knowledge structures, a person's future me may or may not be accessible at the moment of judgment. Even if on the mind the future me may or may not feel relevant to the choices facing current me. The implication is that people are likely to remain present-focused if their future me is not on their mind or does not feel relevant to the choices they are facing. They are likely to take future-focused action if their future me is on their minds and feels relevant to the choices they face. We concretize the consequences of a future me feeling relevant (top panel) or irrelevant (bottom panel) as a recursive process in Fig. 3.

As we depict in Fig. 4, both future-focused and present-focused action recursively affect identity-based motivational processes. Embarking on a course of action can be self-reinforcing. Once started, people may dynamically construct an identity that fits the course of action. Thus, once future-focused action is initiated, a person may come to see themselves as

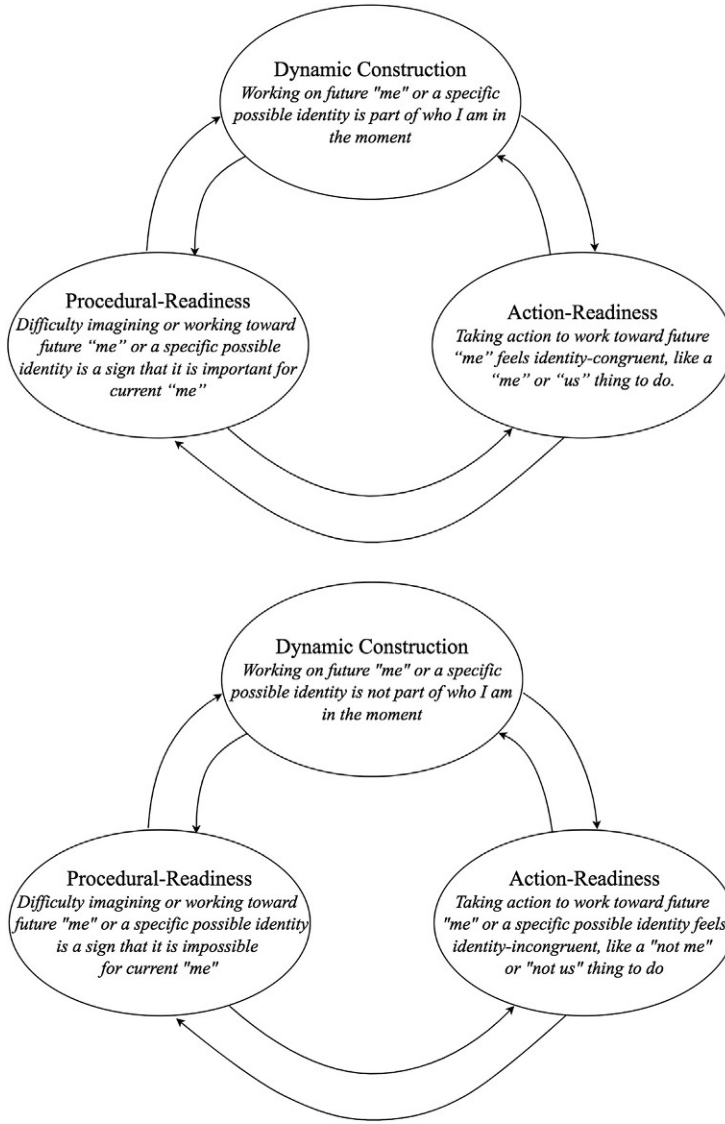

Fig. 3 The Recursive IBM Process can Yield Future-focused (Top Panel) or Present-focused (Bottom Panel) Identity Content and Action.

a future-oriented and future-focused person, increasing the experienced relevance of the future me. Similarly, once present-focused action is initiated, a person may come to see themselves as a person who lives for today, decreasing the experienced relevance of their future me.

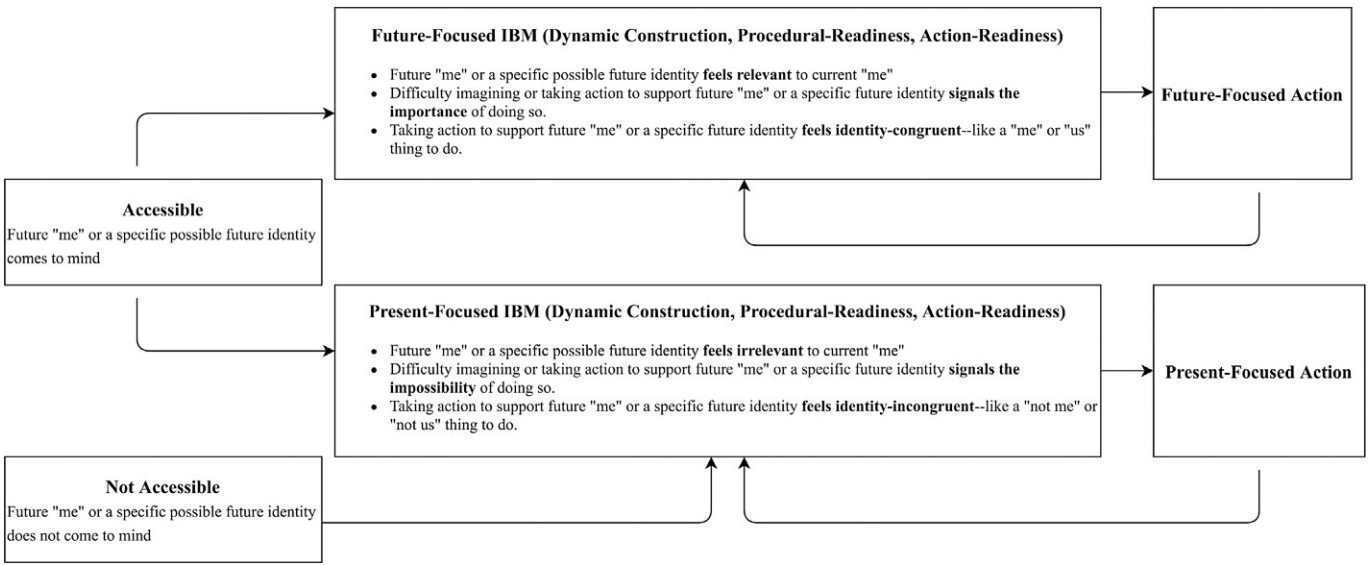

Fig. 4 Full IBM-based process model for understanding when and how an on-the-mind future me will influence behavior.

3.4.2 Evidence

Several studies support the dynamic construction prediction that whether a possible identity is experienced as relevant to the current me depends on the affordances and constraints of the immediate situation and that this affects the likelihood of taking future-focused action (Elmore & Oyserman, 2012; Landau et al., 2014, Studies 1 to 3, 5, 7; Oyserman et al., 2015, Studies 1 to 4). These studies document that situations that match how people are thinking about their possible identities or concretize the link between present and future metaphorically as a path or journey afford experienced relevance of a possible identity to the current self. As detailed next, these studies support our IBM-based prediction regarding the mediating roles of dynamic construction and procedural readiness—how people dynamically construct their current me and how they interpret their experiences of difficulty.

Landau et al. (2014) contrasted the academic choices students made after writing about their future possible academic identities on a path or inside boxes. They reasoned that paths and boxes trigger different metaphorical reasoning styles. A path implies that a future me is locomoting toward the current me so that taking future-focused action feels fluent, a "me" thing to do. In contrast, if a future me is in a different box than the current me, the implication is that the future me is separate from the current me. To become relevant, future me must somehow get out of the box. But sitting in a box does not imply locomotion. This mismatch makes acting feel implausibly difficult and makes a difficulty-as-impossibility mindset accessible. Supporting these predictions, students took more future-focused actions after they wrote about their academic possible identities on an image of a path than when they were led to write in different ways, including writing on images of boxes, writing without an image, or writing about social rather than academic possible identities.

Oyserman et al. (2015) measured the academic choices and interpretations of experienced difficulty students made after considering the college context and writing about their possible identities. They reasoned that if students experienced ease rather than difficulty while thinking about their future selves, they would take more future-focused actions and interpret their experienced difficulty with school tasks and goals as signaling self-value, and importance. To test this, they made thinking about the future self feel easier for some students by having them describe their possible selves over the college years in ways that fit the college setting. They made thinking about the future self feel more difficult for other students by having them describe their possible selves over the college years in ways that did not fit the college setting. Specifically, students in the easy condition received one of two messages. Half first learned that college is a context in which they were likely to succeed and then described their desired possible selves over the

college years. The other half of students first learned that college is a context in which they might well experience setbacks and described their undesired possible identities over the college years. Students in the difficult condition also learned about the college context before describing their possible selves over the college years. But instead of describing their desired possible selves after learning that college is a context in which they were likely to succeed, students were asked to describe their undesired possible identities. Instead of describing their undesired possible identities after learning that college is a context in which they might well experience setbacks, students were asked to describe their desired ones. Students assigned to the "thinking about my future me feels easy" conditions planned to study more and sooner and endorsed a difficulty-as-importance mindset more than students assigned to the thinking about my future me feels difficult conditions.

4. Summary

IBM theory highlights relevance as the mechanism by which accessible future selves increase the likelihood that people will take a present-focused or future-focused action at a particular moment in time. Using IBM as an organizing framework helps highlight relevance as a common process underlying possible self, self-gap, and self-continuity predictions. Possible self, self-gap, and self-continuity approaches differ in which aspect of the future me they focus on. An IBM integration suggests that it is not a particular aspect of the future me that matters, but rather whether that aspect of the future me feels relevant to the choices facing the current me in the immediate situation. When experienced as relevant to the affordances and constraints facing current me, future-focused action feels identity-congruent and people use a difficulty-as-importance mindset to make sense of their difficulties getting going or keeping going once started. Otherwise, people experience their future me as irrelevant to the affordances and contrasts facing their current me. When this occurs, people will find taking future-focused action an identity-incongruent thing to do and apply a difficulty-as-impossibility mindset to make sense of difficulties associated with getting going or keeping going once started.

5. Using ibm theory to synthesize the future self literature

5.1 Overview

We chose January 1985 as our starting point, just before Markus and Nurius's (1986) seminal paper on possible selves. We searched the PsychINFO database

for abstracts with the terms: "future self/ves," "possible identity/ies," "possible self/ves," and "mental contrasting[a]" and added ancestry searches and searches based on known authors. We pulled papers from our starting point through January 27, 2022. We read abstracts and then the full studies of all papers with abstracts suggesting that the authors measured or systematically shifted focus on future me or a specific possible identity and measured a future-focused behavior or intention to act. We included studies that assessed changes in physiological measures connected to health—cortisol and blood pressure but excluded studies focused solely on mapping to regions of the brain (e.g., Tanguay, Palombo, Atance, Renoult, & Davidson, 2020). Table 2 shows our yield of 101 papers describing 170 studies and 205 results, sorted by approach (possible self, self-gap, and self-continuity). As Table 2 reveals, 4 in 10 studies focused on possible selves (37.6%) and self-continuity (40.6%).

5.2 Accessibility

In the first panel of Table 3, we present a brief operationalization of accessibility. To ascertain whether accessibility matters, studies must test the likelihood that a person takes future-focused action is dependent on whether future me is on the mind. Evidence to date is listed below.

5.2.1 Accessibility—Systematically varied

Order of presentation provides a simple test of accessibility effects. Participants could engage in a task that allows for future-focused or present-focused behavior before (control) or after (experimental) they consider their future me. However, as we detail next, that is not the comparison made except in one instance. Instead, researchers compare responses of people led to focus on their future me to those of people led to focus on something else –their current me (four experiments), someone or something else (two experiments), or a combination of past and current me (three experiments).

[a] We focused on behavior rather than outcomes such as affect, optimism, or depression, for which other more targeted reviews are available (e.g., Carrillo et al., 2019; Heekerens & Eid, 2021, meta-analyses of best possible self writing studies using non-behavioral dependent variables; Schubert, Eloo, Scharfen, & Morina, 2020 meta-analysis of the effect of positive and negative future selves on positive and negative affect). We included mental contrast studies that use a behavioral dependent variable if the future and present seem self-like, though not specified as being about the self. We excluded studies that combined a mental contrast with something else if the mental contrast effect could not be separated out. For example, a large number of studies combine mental contrast with writing implementation intentions, writing a set of contingencies linking cues (if) to behaviors (then), effects may be due to having implementation intentions or to mental contrast or to some combination of both (see, Cross & Sheffield, 2019 for a meta-analysis of mental contrasting with and without adding implementation intentions for health behaviors).

Table 2 Studies included in our review

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Studies examining the effect of future me accessibility				
Austenfeld & Stanton, 2008	Best possible me	Undergrads	Experiment	Health center visits
Austenfeld, Paolo, & Stanton, 2006	Best possible me	Medical school students	Experiment	Health center visits
Chishima & Wilson, 2021, Study 2	Plausible possible me in three years	Japanese high school students	Experiment	Self-reported career planning; academic delay of gratification
Gibson, Umeh, Newson, & Davies, 2021	Best possible diabetes managed me	Adults with diabetes	Experiment	Diabetes self-management standardized self-report
Hershfield et al., 2012, Study 5	Similar future me	Adults	Experiment	Endorsement of unethical business decisions and tactics
Hershfield et al., 2011, Study 1	Interaction with aged avatar	Adults	Experiment	Hypothetical retirement allocation decisions
Hershfield et al., 2011, Study 2	Interaction with aged avatar	Adults	Experiment	Hypothetical retirement allocation; temporal discounting
Hershfield et al., 2011 Study 3a	Interaction with aged avatar	Adults	Experiment	Hypothetical retirement allocation decisions
Jennings, Lanaj, Koopman, & McNamara, 2019	Best possible leader me	Working MBA adults	Within-person experiment	Helping; text analysis of implicit clout

Kim-Godwin, 2020	Best possible me	Parents of children with emotional or behavior problems	Experiment	Systolic blood pressure; diastolic blood pressure; cortisol; health questionnaire
King, 2001	Best possible me	Undergrads	Experiment	Health center visits
Kuo et al., 2016	Interaction with weight-reduced avatar	Undergrads	Experiment	Choice/amount of unhealthy snack
Leech, Leimgruber, Warneken, & Rowe, 2019	Future me	4- to 5-year-olds	Experiment	Remember to ask for a gift; delay of gratification
Marques, Mariano, Luísa Lima, & Abrams, 2018, Study 1	Future me	Portuguese undergrads	Experiment	Allocate hypothetical money to savings
Marques et al., 2018, Study 2	Future me	Portuguese undergrads	Experiment	Allocate hypothetical money to each of 5 present or future-focused goals
Nicolson, Peters, & in den Bosch - Meevissen, 2020	Best possible me	Dutch undergrads	Experiment	Cortisol overall; cortisol change from wakening; cortisol response to stress task
Norman & Aron, 2003	Most hoped-for and feared possible identities	Undergrads	Measurement	Self-reported motivation
Simić, Vardo, & Solaković, 2021	Future me	Undergrads in Bosnia and Herzegovina	Experiment	Intention to follow COVID-19 protocols

Continued

Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
van Gelder et al., 2013 Study 2	Interaction with aged avatar	Undergrads	Experiment	Lab-decision to cheat for real monetary reward
Studies examining the effect of future me valence or balance				
Aloise-Young et al., 2001	Positive valence, balance	6th-to-9th-graders	Measurement	Cigarette and alcohol consumption
Anderman, Anderman, & Griesinger, 1999, Study 1	Positive valence	7th-graders	Measurement	Grades
Barnett, Hernandez, & Melugin, 2019	Positive and negative valence and perspective	Undergrads	Experiment	Intended academic engagement
Benedetti, 2019, Study 2	Positive and negative social class possible identities	Undergrads	Measurement	Apply for jobs, apply for summer internships, apply to graduate school
Bi & Oyserman, 2015, Study 4	Positive and negative valence	Chinese secondary school students	Measurement	Test scores
Black et al., 2001	Negative valence	Women age 50–75	Measurement	Breast-cancer screening
Cho, 2015	Positive and negative valence	Undergrad English language learners	Experiment	Essay editing
Comello, 2015	Negative valence	Undergrads	Measurement	Marijuana use
de Place & Brunot, 2020, Study 1	General or specific best or worst possible academic me	French undergrads	Experiment	Attention on task

Destin, Manzo, & Townsend, 2018, Study 1	Positive social class possible identities	Lower and higher SES female undergrads	Experiment	Expansive posture; attempts on difficult GRE problems; correct solutions on these problems
Destin et al., 2018, Study 2	Positive social class possible identities	Lower and higher SES undergrads	Experiment	Expansive posture; attempts on difficult GRE problems
Hoppmann et al., 2007	Positive Valence	Elderly Germans	Measurement	Activities in a given domain
Hoyle & Sherrill, 2006	Negative valence	Female undergrads	Experiment	Interest in health activities
Ko, Mejía, & Hooker, 2014	Balance	Older adults	Measurement	Progress toward self-reported social goal
Lee et al., 2015	Positive/negative valence	8th graders	Measurement	Self-reported drinking behavior
Murru & Ginis, 2010	Positive/negative valence	Young adults	Experiment	Exercise behavior
Newberry & Duncan, 2001	Positive/negative valence	High schoolers	Measurement	Delinquency
Ouellette, Hessling, Gibbons, Reis-Bergan, & Gerrard, 2005	Positive/negative valence	Undergrads	Experiment	Exercise behavior
Oyserman, Gant, & Ager, 1995, Study 4	Balance	African American 8th-graders	Measurement	Academic performance
Oyserman & Markus, 1990	Balance	High schoolers	Measurement	Delinquency

Continued

Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Oyserman & Saltz, 1993	Balance	High schoolers	Measurement	Delinquency
Pierce, Schmidt, & Stoddard, 2015	Negative valence	7th-Graders	Measurement	Self-reported delinquency
Ruvolo & Markus, 1992 Study1	Positive valence	Undergrad women	Experiment	Effort and persistence task
Seli, Dembo, & Crocker, 2009	Balance	Community college	Measurement	Self-handicapping
Yowell, 2002	Negative valence	9th-graders	Measurement	Dropout risk status
Studies examining the effect of future me self-efficacy, plausibility, fit, or linked strategies				
Bi & Oyserman, 2015, Study 3	Strategies	Chinese secondary school students	Measurement	Test scores; class behavior
Bi & Oyserman, 2015, Study 4	Strategies	Chinese secondary school students	Measurement	Test scores
Black et al., 2001	Self-efficacy	Women aged 50–75	Measurement	Breast-cancer screening
Destin & Oyserman, 2010, Study 1	Fit between possible identity and behavior	Low-income 8th-graders	Measurement	Grades
Hooker & Kaus, 1994	Self-efficacy	Adults	Measurement	Self-reported health behaviors
Horowitz, Oyserman, Dehghani, & Sorensen, 2020, Study 1	School-focused possible selves and strategies	Low-income 8th-graders	Measurement	Grades

Horowitz et al., 2020, Study 2	Machine code of school-focused possible selves and strategies	Low-income 8th-graders	Measurement	Grades
Hooker & Kaus, 1994	Self-efficacy	Adults	Measurement	Self-reported health behaviors
Johnson et al., 2020	Content of possible identities	18-to-29-year-old men released from incarceration in past 12 months	Measurement	self-report of drug use; self-report of hazardous alcohol use
Ko et al., 2014	Self-efficacy	Older adults	Measurement	Progress toward self-reported social goal
Na & Jang, 2019	Likelihood of attaining expected adult possible selves	Teens adjudicated delinquent, guilty of serious crime	Longitudinal measurement	Arrests; types of crime self-report
Norman & Aron, 2003	Self-efficacy	Undergrads	Measurement	Self-reported motivation
Perras, Strachan, & Fortier, 2016	Self-efficacy	New retirees	Measurement	Self-reported exercise behavior
Perras, Strachan, & Fortier, 2015	Self-efficacy	New retirees	Measurement	Self-reported exercise behavior
Oyserman, Bybee, & Terry, 2006	Plausibility	Mostly minority, middle schoolers	Experiment	Grades, attendance, behavior
Oyserman et al., 2004	Strategies	Middle schoolers	Measurement	Time spent on homework, summer school referral, grades

Continued

Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Oyserman et al., 2015, Study 1	Fit between valence of possible identity and context	Undergrads	Experiment	Academic behaviors
Oyserman et al., 2015, Study 2	Fit between valence of possible identity and context	Undergrads	Experiment	Planned time allocated to academics
Oyserman et al., 2015, Study 3	Fit between valence of possible identity and context	Undergrads	Experiment	Study time
Oyserman & Saltz, 1993	Strategies	High schoolers	Measurement	Truancy
Strachan, Marcotte, Giller, Brunet, & Schellenberg, 2017	Strategies	Adults	Experiment	Physical activity
Studies examining the effect of future me gaps				
Dalley & Buunk, 2011 Study 1	Similarity/ dissimilarity	Undergrad women	Measurement	Dieting intention
Dalley & Buunk, 2011 Study 2	Similarity/ dissimilarity	Undergrad women	Measurement	Snack choice
Peetz & Wilson, 2013 Study 4	Separated by temporal landmark	Undergrads	Experiment	Health motivation

Peetz & Wilson, 2013, Study 5	Separated by temporal landmark	Undergrads	Experiment	Fitness plans
Peetz & Wilson, 2013, Study 6	Separated by temporal landmark	Undergrads	Experiment	Choice of healthy cookbook
Sobh & Martin, 2011	Dissimilarity	Adult women	Measurement	Health Motivation
Sobh & Martin, 2011	Lack of progress	Undergrads	Experiment	Health Motivation
Studies examining the effect of mental contrasting				
Adriaanse, De Ridder, & Voorneman, 2013	Contrasted with present obstacles	Diabetes patients	Experiment	Dieting behavior
Gollwitzer, Oettingen, Kirby, Duckworth, & Mayer, 2011 Study 1	Contrasted with present obstacles	Elementary schoolers	Experiment	Quiz Performance
Gollwitzer et al., 2011 Study 2	Contrasted with present obstacles	Middle schoolers	Experiment	Quiz Performance
Oettingen, Hönig, & Gollwitzer, 2000, Study 1	Contrasted with present obstacles and high efficacy	Middle schoolers	Experiment	Effort; Grades
Johannessen, Oettingen, & Mayer, 2012	Contrasted with present obstacles	Undergrads	Experiment	Calorie consumption; exercise
Kappes, Oettingen, Mayer, & Maglio, 2011, Study 5	Contrasted with present obstacles and high efficacy	Undergrads	Measurement	Energization to address academic concern

Continued

Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Kappes et al., 2011, Study 6	Contrasted with present obstacles and high efficacy	Undergrads	Measurement	Persistence on study habit task
Kappes, Wendt, Reinelt, & Oettingen, 2013, Study 1	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Self-reported study effort
Kappes et al., 2013, Study 2	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Responsibility for getting into graduate school
Kappes et al., 2013, Study 3	Contrasted with present obstacles and high efficacy	10–12-year-old chess players	Experiment	Solving chess problem
Kirk, Oettingen, & Gollwitzer, 2011	Contrasted with present obstacles	Undergrads	Experiment	Mutually beneficial negotiation outcome
Oettingen et al., 2000, Study 1	Contrasted with present obstacles and high efficacy	Middle schoolers	Experiment	Effort; Grades
Oettingen, Marquardt, & Gollwitzer, 2012, Study 1	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Creative problem solving
Oettingen et al., 2012, Study 2	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Creative problem solving
Oettingen, Mayer, & Brinkmann, 2010	Contrasted with present obstacles	Mid-level personnel managers	Experiment	Management at work
Oettingen, Mayer, & Thorpe, 2010	Contrasted with present obstacles and high efficacy	Undergrad smokers	Experiment	Smoking behavior

Oettingen, Mayer, Thorpe, Janetzke, & Lorenz, 2005, Study 1	Contrasted with present obstacles and high efficacy	Undergrad women	Experiment	Willingness to exert effort in self-efficacy training
Oettingen et al., 2005, Study 2	Contrasted with present obstacles and high efficacy	High schoolers	Experiment	Willingness to collaborate
Oettingen et al., 2009, Study 1	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Goal commitment
Oettingen et al., 2009, Study 2	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Presentation quality
Oettingen et al., 2001, Study 3	Contrasted with present obstacles and high efficacy	Students	Experiment	Energization; immediacy of action
Oettingen et al., 2001, Study 4	Contrasted with present obstacles and high efficacy	Males in computer programming vocational schools	Experiment	Energization; teacher-reported achievement
Oettingen, Stephens, Mayer, & Brinkmann, 2010, Study 1	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Academic help-seeking
Oettingen, Stephens, Mayer, & Brinkmann, 2010, Study 2	Contrasted with present obstacles and high efficacy	Nurses	Experiment	Giving Help
Ruissen, Rhodes, Crocker, & Beauchamp, 2018	Contrasted with present affective, instrumental, or not specified obstacles	Canadian undergrad females	Experiment	self-reported physical activity

Continued

Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Sheeran, Harris, Vaughan, Oettingen, & Gollwitzer, 2013	Contrasted with present obstacles	Middle-aged males	Experiment	Physical Activity
Sevincer, Busatta, & Oettingen, 2014, Study 2	Contrasted with present obstacles and high efficacy	Undergrads	Experiment	Letter writing task performance
Sevincer & Oettingen, 2013 Study 1	Contrasted with present obstacles and high efficacy	Students	Measurement	Goal commitment
Sevincer & Oettingen, 2013 Study 2	Contrasted with present obstacles and high efficacy	Adults	Measurement	Self-reported performance
Sevincer & Oettingen, 2013 Study 3	Contrasted with present obstacles and high efficacy	Undergrads interestedin graduate school	Measurement	Graduate school essay quality
Studies examining the effect of future me continuity, connection, similarity, and stability				
Adelman et al., 2017, Study 2	Connection, similarity	Undergrads	Measurement	Course Grades
Bartels & Rips, 2010, Study 1	Connection, similarity	Undergrads	Measurement	Temporal discounting
Bartels & Rips, 2010, Study 2	Connection, similarity	Undergrads	Measurement	Willingness to wait for more "good days" at work
Bartels & Urminsky, 2015, Study 1a	Connection, stability	Adults	Measurement	Hypothetical spending decisions

Bartels & Urminsky, 2015, Study 2	Connection, identity stability	Mechanical Turk	Measurement	Hypothetical spending decisions
Bartels & Urminsky, 2015, Study 3	Identity stability	Mechanical Turk	Experiment	Hypothetical spending decisions
Bartels & Urminsky, 2015, Study 4	Identity stability	Mechanical Turk	Experiment	Hypothetical spending decisions
Bartels & Urminsky, 2015, Study 5	Identity stability	Adults	Experiment	Spending decisions
Bartels & Urminsky, 2015, Study 6	Identity stability	Coffee shop patrons	Experiment	Spending decisions
Bartels & Urminsky, 2015, Study 7	Identity stability	Mechanical Turk	Experiment	Hypothetical spending decisions
Bartels & Urminsky, 2011, Study 1	Identity stability	Senior undergrads	Experiment	Willingness to wait for larger monetary reward
Bartels & Urminsky, 2011, Study 2	Identity stability	Young adults	Experiment	Willingness to wait for larger monetary reward
Bartels & Urminsky, 2011, Study 3	Identity Stability	Undergrads	Experiment	Willingness to wait for laptop price to drop; temporal discounting
Bartels & Urminsky, 2011, Study 4	Identity Stability	Adults	Experiment	Temporal discounting

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Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Bartels & Urminsky, 2011, Study 5	Connection, similarity, identity stability	Undergrads	Measurement	Willingness to wait for larger monetary reward
Bixter et al., 2020, Study 2	Relatedness, vividness, positivity	Undergrads	Measurement	GPA from records, self-reported self-control
Blouin-Hudon & Pychyl, 2015, Study 1	Connection, similarity	Undergrads	Measurement	Academic procrastination
Blouin-Hudon & Pychyl, 2015, Study 2	Connection, similarity	Undergrads	Measurement	Academic procrastination
Blouin-Hudon & Pychyl, 2015, Study 3	Connection, similarity	Undergrads	Measurement	Academic procrastination
Bryan & Hershfield, 2013	Connection, similarity	Adults	Measurement	Retirement savings
Burum, Gilbert, & Wilson, 2016, Study 1	Similarity	Undergrads	Experiment	Willingness to leave boring task for future me to finish
Burum et al., 2016, Study 2	Similarity	Undergrads	Experiment	Willingness to leave boring task for future me to finish
Chishima & Wilson, 2021, Pilot	Connection	Japanese high school students	Measurement	Self-report career planning; homework time; GPA
Ersner-Hershfield et al., 2009, Study 1	Connection, similarity	Undergrads	Measurement	Temporal discounting task

Ersner-Hershfield et al., 2009, Study 3	Connection, similarity	Adults	Measurement	Self-reported financial assets
Ersner-Hershfield, Wimmer, & Knutson, 2008	FMRI (rACC Activation)	18–23-year-olds	Measurement	Temporal discounting task
Hershfield et al., 2011, Study 3b	Similarity	Adults	Measurement	Hypothetical retirement allocation decisions
Hershfield et al., 2012, Study 1a	Similarity	Adults	Measurement	Endorse unethical business decisions and tactics
Hershfield et al., 2012, Study 1b	Similarity	Adults	Measurement	Endorse unethical business decisions and tactics
Hershfield et al., 2012, Study 2	Similarity	Adults	Measurement	Endorse unethical business decisions and tactics
Hershfield et al., 2012, Study 3	Similarity	Undergrads	Measurement	Lab-lie or cheat for monetary reward
Hershfield et al., 2012, Study 4	Similarity	Undergrads	Measurement	Lab-lie or cheat for monetary reward
Joshi & Fast, 2013, Study 2	Connection, similarity	Undergrads	Measurement	Temporal discounting
Joshi & Fast, 2013, Study 3	Connection, similarity	Undergrads	Measurement	Temporal discounting

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Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Landau et al., 2014, Study 1	Connection	1st year undergrads	Experiment	Interest in academic workshop
Landau et al., 2014, Study 2	Connection	1st year undergrads	Experiment	Performance on a math task
Landau et al., 2014, Study 3	Connection	Undergrads	Experiment	Exam scores
Landau et al., 2014, Study 5	Connection	1st year undergrads	Experiment	Intent to prioritize schoolwork
Landau et al., 2014, Study 6	Connection	Mechanical Turk	Experiment	Goal commitment
Landau et al., 2014, Study 7	Connection	Undergrads	Experiment	Interest in academic workshop
Lewis Jr. & Oyserman, 2015, Study 3	Connection	Mechanical Turk	Experiment	Immediacy of saving
Lewis Jr. & Oyserman, 2015, Study 4	Connection	Mechanical Turk	Experiment	Immediacy of saving
Lewis Jr. & Oyserman, 2015 Study 5	Connection	Mechanical Turk	Experiment	Immediacy of saving
Lewis Jr. & Oyserman, 2015 Study 7	Connection	Mechanical Turk	Experiment	Temporal discounting

Nurra & Oyserman, 2018 Study 4	Connection, similarity	12th-graders	Experiment	Grades
Pietroni & Hughes, 2016	Similarity	Undergrads	Measurement	Temporal discounting
Pozolotina & Olsen, 2019	Future self change	Representative sample Norway	Measurement	Smoking, unhealthy and healthy eating, physical activity
Rutchick et al., 2018, Study 1	Connection, similarity	Mechanical Turk	Measurement	Self-reported health
Sheldon & Fishbach, 2015 Study 2	Identity stability	Undergrads	Experiment	Lab-decision to lie or cheat for real monetary reward
Sokol & Serper, 2020, Study 2	Similarity, vividness, liking	Adults	Measurement	Temporal discounting
Zhang & Aggarwal, 2015 Study 3	Similarity	Undergrads	Experiment	Donation to charity future me cares about
Zhao, Dichtl, & Foran, 2020	Similarity, liking, care for	Austrian smoker undergrads	Measurement	smoking
Studies examining the effect of future me proximity				
Evans & Wilson, 2014	Closeness	Adult exercisers	Measurement	Self-reported exercise
Joshi & Fast, 2013, Study 4	Closeness	Mechanical Turk	Measurement	Self-reported financial assets
Koo, Dai, Mai, & Song, 2020, Study 3	Distance	Adult exercisers	Experiment	Self-report likely work out

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Table 2 Studies included in our review—cont'd

Reference	Key future me characteristic	Sample	Study Design	Dependent variable
Koo et al., 2020, Study 5	Distance	Adult exercisers	Experiment	Self-report likely skip work out
Nurra & Oyserman, 2017 Study 3	Near vs. far	French elementary school	Experiment	Performance on math task
Nurra & Oyserman, 2017 Study 5	Near vs. far	French middle school	Experiment	Performance on concentration task
Peetz et al., 2009, Study 2	Near vs. far	Undergrads	Experiment	Self-report academic motivation
Rutchick et al., 2018, Study 2	Near vs. far	Undergrads	Experiment	Exercise
van Gelder et al., 2013, Study 1	Near vs. far	Young adults	Experiment	Hypothetical decision to steal
Studies examining the effect of future me vividness				
Dalley, 2016	Clarity	University women	Measurement	Weight loss dieting motivation
Ellen, Wiener, & Fitzgerald, 2012	Vividness	Adults, 25–55	Measurement	Self-report retirement preparedness

Macrae et al., 2017, Study 1	From 3rd person perspective	Undergrads	Experiment	Hypothetical spending decisions
Macrae et al., 2017, Study 2	From 3rd person perspective	Undergrads	Experiment	Hypothetical spending decisions
Strauss, Griffin, & Parker, 2012, Study 1a	Clarity, ease of imagining	Adults	Measurement	Proactive career behavior
Strauss et al., 2012, Study 1b	Clarity, ease of imagining	Doctoral students	Measurement	Proactive career behavior
Strauss et al., 2012, Study 3	Clarity, ease of imagining	Doctoral students	Measurement	Proactive career behavior
Taber & Blankemeyer, 2015	Clarity, ease of imagining	Undergrads	Measurement	Proactive career skill development and networking
van Gelder, Luciano, Weulen Kranenbarg, & Hershfield, 2015	Imagined with age-progressed photo	High school	Measurement	Self-report delinquency

Table 3 Future me characteristics and associated identity-based motivation predictions.

Characteristic	Operationalization	IBM-based Prediction
Accessibility		
	Accessibility is operationalized as the state of being "on the mind" (e.g., Bargh, 2016; Schwarz & Strack, 2016). *Accessibility* is varied by randomly assigning participants to an instruction group. In the accessible condition, participants are asked to consider a specific future identity or their future me generally. In the alternative condition, participants are asked to consider something else. *Accessibility* is measured indirectly as response latency (speed to respond), what participants say when asked to describe their future me, and from how often or how recently they report that a future me (or a specific future identity) has come to mind.	People prefer to act and make sense of experience in identity-congruent ways but features of the immediate situation influence which of a person's identities come to mind and what these identities seem to entail, and hence, which actions feel identity-congruent. An accessible future me can be a feature of the situation, influencing the dynamic construction of current me. Accessibility is a precondition for relevance but is not sufficient—an on the mind future me can feel irrelevant to the choices facing current me.
Possible Self Valence and Balance		
	Valence is operationalized as positive or negative content of future me (Markus & Nurius, 1986) or a particular possible identity (e.g., Hoyle & Sherrill, 2006; Lee et al., 2015; Murru & Ginis, 2010; Newberry & Duncan, 2001). *Balance* is operationalized as having both a positive and a negative possible identity in the same domain (e.g., Oyserman & Markus, 1990; Oyserman & Saltz, 1993; Seli et al., 2009). Experiments systematically vary whether possible	People prefer to act and make sense of experiences in identity-congruent ways, but features of the immediate situation influence which of a person's identities come to mind and what these identities seem to entail, and hence, which actions feel identity-congruent. For current me, an accessible future me can be a feature of the situation, and like other features of the situation, future me can shape the content of current me. Current me will take present-focused action unless future- future me is experienced as relevant to the choices it faces. Hence, valence and balance are not essential features that predict whether an accessible future me triggers future-focused IBM. Instead, valence and balance can change how a

	identities with positive or negative valence are on the mind at the moment a choice is made. Some assess the effect of positive or negative valence, and others compare the relative effect of both (e.g., Aloise-Young et al., 2001; King, 2001; Pierce et al., 2015).	possible identity is experienced in the moment. The consequence of valence and balance for future-focused action depends on whether in context, they trigger a difficulty-as-importance mindset and bolster future-focused action-readiness. Whether this occurs depends on features of the situation other than valence and balance.
Possible Self Fit, Plausibility, Strategies, and Efficacy		
	Fit is operationalized as the match or lack of match—in terms of content and valence—between the immediate situation and an on-the-mind possible identity. *Fit* can be varied by having people attend to the failure- or success-likely aspects of the situation while considering their positive (to-be-attained) or negative (to-be-avoided) possible identities in the same content domain. *Plausibility* is operationalized as the likelihood that one's possible identity in a domain provides a self-regulating path (Oyserman et al., 2004). It is scored from open-ended responses to possible self and strategy questions, with scores calculated based on the number and concreteness of possible identities, linked strategies, and the extent that strategies take social context into account. *Strategies* are operationalized as the actions people report taking to work on their possible identities. *Strategies* are scored from open-ended responses as a count score (Oyserman, Johnson, & James, 2011) or a	People prefer to act and make sense of experience in identity-congruent ways but features of the immediate situation influence which of a person's identities come to mind and what these identities seem to entail, and hence, which actions feel identity-congruent. An accessible future me can be a feature of the situation, shaping what an accessible identity seems to imply for action, if it feels relevant to the choices facing current me. Neither fit, nor plausibility, nor strategies, nor efficacy per se is an essential feature for whether an accessible future me or specific possible identity is experienced as relevant to the choices facing current me. Instead, what should matter is whether the future me is experienced as relevant to current me in context. Fit, plausibility, strategies, and efficacy can change the way a possible identity is constructed in the moment and this can create relevance by triggering a difficulty-as-importance mindset and future-focused action-readiness. Misfit, low plausibility, lack of strategies, and low efficacy also change the way a possible self is constructed in the moment and this can create irrelevance by triggering a difficulty-as-impossibility mindset and undermining future-focused action-readiness. One way that possible identities can be made to feel relevant to the choices facing current me is to increase experienced efficacy, which implies that if one tries, one can overcome obstacles (difficulties) to attaining these possible identities.

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Table 3 Future me characteristics and associated identity-based motivation predictions.—cont'd

Characteristic	Operationalization	IBM-based Prediction
	binary metric (Oyserman & Saltz, 1993). *Self-efficacy* is operationalized as one's belief that if one tried, then one could take action to attain a positive or avoid a negative possible identity and that one's action would yield the desired outcome (Hooker & Kaus, 1994). *Self-efficacy* is measured through self-report.	Another way that possible identities can be made to feel relevant to the choices facing current me is to increase their link to concrete strategies for action and their fit with the current context.
Gaps Between Current and Future Selves and Progress Addressing These Gaps		
	Self-gaps are operationalized as gaps between current me and possible future identities, and as gaps in the expected progress in working toward positive and away from negative possible future identities (Carver & Scheier, 1982, 2016). Control theory predicts that people automatically monitor the gap between their current and positive possible identities, the gap between their current and negative possible identities, and the gap between their expected and actual progress addressing these gaps.	People prefer to act and make sense of experience in identity-congruent ways but features of the immediate situation influence which of a person's identities come to mind and what these identities seem to entail, and hence, which actions feel identity-congruent. An accessible future me can be a feature of the situation, shaping what an accessible identity seems to imply for action, if it feels relevant to the choices facing current me. Self-gaps per se are not themselves essential features for whether an accessible possible identity is experienced as relevant to the choices facing current me. Instead, what should matter is whether the possible future identity is experienced as relevant to current me in context. Hence, results should vary depending on other, typically not assessed, features of the situation that make a possible identity or future me feel relevant in context. Highlighting a gap between current and future me can change the way a possible identity is constructed in the moment, as can highlighting that progress addressing this gap is slow or fast. Highlighting a gap or progress addressing the gap can create relevance by triggering a difficulty-as-importance mindset and future-focused action-readiness, but it can also trigger a difficulty-as-impossibility mindset and undermine future-focused action depending on the nature of the meaning of the gap in context.

Mental contrasting is operationalized as a multi-step processes. First, people generate an image or aspect of themselves or their situation in the future and some aspect of the present that stands in the way. Second, people elaborate on the positive future and then elaborate on present obstacles in that order. According to mental contrasting theory, engaging in this ordered elaboration process induces people to consider their efficacy for taking action; future-focused action ensues if efficacy is high.

The "mental contrast" is usually a positive future contrasted with obstacles in the present that stand in the way of attaining that future (e.g., Oettingen, Stephens, Mayer, & Brinkmann, 2010). Occasionally, the "mental contrast" is a negative future contrasted with positive aspects of the present that may be lost if current behavior is continued (Oettingen, Mayer, & Brinkmann, 2010; Oettingen, Mayer, & Thorpe, 2010).

Whether or not a mental contrast is undertaken is typically varied experimentally and experienced efficacy is typically measured. Responses of people assigned to the mental contrast condition are compared to the responses of people assigned to one or more comparison conditions. People in these other conditions are asked to elaborate on the future but not on the obstacles, are asked to elaborate only the present obstacles, are asked to elaborate on present obstacles before elaborating the future, or are asked to elaborate on an unrelated, control topic.

People prefer to act and make sense of experience in identity-congruent ways but features of the immediate situation influence which of a person's identities come to mind and what these identities seem to entail, and hence, which actions feel identity-congruent. An accessible future me can be a feature of the situation, shaping what an accessible identity seems to imply for action if it feels relevant to the choices facing current me. By including obstacles (difficulties to be surmounted or gotten around), mental contrasts change the way a future identity is constructed in the moment. Mental contrasts per se are not essential features for whether an accessible possible identity is experienced as relevant to the choices facing current me. Instead, what should matter is whether an on the mind possible future identity is experienced as relevant to current me in context. Mental contrasts can increase the experienced relevance of future me to the choices facing current me if considering obstacles triggers a difficulty-as-importance mindset. However, a mental contrast can also sustain current focused action by triggering a difficulty-as-impossibility mindset, undermining future-focused action readiness. A difficulty-as-importance mindset can be cued directly or indirectly—by having people first consider their possible identities and then consider obstacles, with the implication that these obstacles can be gotten around if not surmounted. Of course, people might not experience obstacles in this way. Hence, the result of mental contrasting should vary depending on other, typically not assessed, features of the situation that make a possible identity or future me feel relevant in context.

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Table 3 Future me characteristics and associated identity-based motivation predictions.—cont'd

Characteristic	Operationalization	IBM-based Prediction
Self-continuity (self-connection, self-stability, self-similarity, proximity of future me, and vividness of future me)		
	Self-continuity is operationalized as experiencing current me and future me as continuous, sharing the same fate. *Self-connection* is operationalized as experiencing current me and future me as connected and related. *Self-stability and self-similarity* is operationalized as experiencing current me and future me as sharing core features and similarities. Though each can be separately operationalized, the terms are often used interchangeably in the literature, making it nearly impossible to draw distinctions between these constructs in practice. For example, "continuity" is measured by averaging participant responses about the similarity and connection between current me and future me (e.g., Ersner-Hershfield et al., 2009) and "connection" is varied by inducing participants to experience their future me as similar to their current me (e.g., Zhang & Aggarwal, 2015). *Proximity* is operationalized as experiencing future me or a possible identity as being near to or far from current me. *Vividness* is operationalized as experiencing future me or a possible identity as being detailed, clear, and easy to see or to imagine.	People prefer to act and make sense of experience in identity-congruent ways but features of the immediate situation influence which of their identities come to mind and what these identities seem to entail and hence which actions feel identity-congruent. An accessible future me can be a feature of the situation, shaping what an accessible identity seems to imply for action if it feels relevant to the choices facing current me. Self-continuity, self-connection, self-similarity, proximity, and vividness per se are not themselves essential features for whether an accessible possible identity is experienced as relevant to the choices facing current me. Instead, what should matter is whether the possible future identity is experienced as relevant to the choices facing current me in context. Self-continuity, self-connection, self-similarity, self-proximity, and vividness can trigger future-focused action through each of the three components of identity-based motivation. First, via dynamic construction, because continuity, connection, similarity, proximity, and vividness all imply that future me is part of current me, which implies future-focus is identity-congruent, a "for me" thing to do. Second, via action readiness, because continuity, connection, similarity, proximity, and vividness imply that taking action for future me will benefit current me. Third, via procedural readiness, because continuity, connection, similarity, proximity, and vividness imply that current and future me share the same fate, increasing the likelihood that difficulties starting or sustaining future-focused action are understood as signaling the value of this course of action ("no pain, no gain"). However, if continuity, connection, similarity, proximity, or vividness is difficult to imagine, it can sustain current focused action by triggering difficulty-as-impossibility or by undermining action readiness.

Focusing on future me increased future-focused action compared to focusing on current me, past me, or something else in all six momentary-effects and one of three chronic-effects experiments.

5.2.1.1 Momentary accessibility

Four-to-five-year-olds were more likely to remember to ask for a promised gift after a time delay (but no more likely to delay gratification) if read a story about their future self rather than their present selves or other children's present or future selves (Leech et al., 2019). People who interacted with an avatar based on a digitally aged or a digitally slimmed photograph of their present self (future me accessible) cheated less (on a quiz to earn money, van Gelder et al., 2013, Study 2), ate healthier (less ice cream in a taste test, added less sugar to a drink given as a reward for participating, Kuo et al., 2016), and saved more (in a hypothetical scenario, Hershfield et al., 2011, Study1, Study 3a) than people who interacted with an avatar based on a photograph of their present self (current me accessible). Two experiments compared an accessible future me group to being not self-focused at all, finding that they were more willing to wait for larger rewards than people who saw a digitally aged photograph of another person (Hershfield et al., 2011, Study 2) and endorsed fewer inappropriate or unethical negotiation strategies than people who considered what the world would be like in 10 years (control, Hershfield et al., 2012, Study 5). Effects are due to the combination of an accessible future self and accessibility of the concepts of aging and the future (Marques et al., 2018, Studies 1, 2). Making future me in 10 years accessible increased social responsibility (as assessed by planning to follow COVID-19 guidelines, Simić et al., 2021). In this study, students either wrote a letter to a friend, themselves in 3 months or themselves in 10 years. Social responsibility was higher after writing a friend or 10-year future me, implying that the future self can function to broaden horizons beyond the immediate.

5.2.1.2 Chronic Accessibility

King (2001) assigned undergraduates to a writing group and measured the effect of group assignment on health, operationalized as health center visits. The "best possible identity" groups wrote about their best possible identity for 20 min on four consecutive days or about a traumatic life event the first two and best possible identities the next 2 days. Comparison groups wrote about a traumatic life event or their plans for the day. Possible identity group students were healthier 5 months later than comparison group students.

Two studies failed to replicate these effects (medical student participants, Austenfeld et al., 2006; undergraduate participants, Austenfeld & Stanton, 2008).

British adults with diabetes who wrote about their best diabetes management possible identity for 10 min and repeated the writing exercise as many times as they wished over the next 4 weeks reported better diabetes management 4 weeks later than the non-writing control group (Gibson et al., 2021). After 2 weeks of daily visualization of their best possible identity Dutch college students showed reduced cortisol response to a stress task (compared to students doing time management writing, Nicolson et al., 2020). Using a within-subjects variant of this approach, working MBA students reported helping others at work more and more clout on days in which they had completed a best possible leader me writing exercise rather than a control writing exercise (Jennings et al., 2019). Other authors have tried variants of this approach. Thus, Chishima and Wilson (2021) had Japanese high school students write a letter to their future self and have their future self write back to them. They report that students who did this (rather than no letter or only a letter to their future self) reported more career planning and more academic delay of gratification.

Sometimes gratitude and best possible identity writing are equally helpful, suggesting that the causal mechanism is unclear. Thus, though parents of troubled children were equally likely to experience reduced health symptoms after being assigned to gratitude or best possible identity writing groups, only parents in the gratitude group showed a decrease in blood pressure (Kim-Godwin, 2020).

5.2.2 Accessibility measured

Norman and Aron (2003) randomly assigned students to focus on their hoped-for or their feared possible identities. They measured accessibility (how quickly students responded when rating how important a possible identity was to them). Faster students also reported higher motivation to work on their possible identities (no matter assigned condition).

5.2.3 Making sense of accessibility from an IBM perspective

The first panel of Table 1 presents the IBM-theory prediction about when and how accessibility triggers future-focused action. Accessibility studies purport to support the prediction that accessibility is sufficient to produce a future-focused action. But these studies are mostly designed to compare an on-the-mind future me to an on-the-mind current me. We cannot conclude that accessibility of future me is sufficient to yield future-focused

action by showing that an on-the-mind future me is a better trigger of future-focused actions than an on-the-mind current. What is missing is showing that a future me matters when it is on the mind *and not otherwise*. The implication is that studies investigating the main effects of accessibility likely include hidden moderators. As a result of these hidden moderators, some studies will find what appears to be an accessibility main effect and others will not. Moderators might be in the situation or the individual. While individual differences in propensity to be future-focused might matter, IBM theory predicts both that everyone can be led to engage in future-focused actions and that context matters. An accessible future me will trigger future-focused action if, in context, it feels relevant to the choices faced by the current me. Hence, IBM theory predicts that accessibility is needed but not sufficient to trigger a future-focused action. For an on-the-mind possible identity to trigger future-focused action, the possible identity must activate elements of a future-focused identity-based motivation knowledge network—dynamically constructing a version of current me that includes the possible identity in a way that triggers relevant action readiness and procedural readiness.

5.3 Possible selves: Valence, balance fit, plausibility, linked strategies, and efficacy

Table 3 presents brief operationalizations of valence and balance (second panel) and fit, plausibility, linked strategies, and efficacy (third panel). Evidence to date to support or refute the effect of each is summarized below.

5.3.1 Valence—systematically varied

Nine experiments systematically varied whether participants considered their negative or positive possible identities. Ruvolo and Markus (1992, Study 1) assigned undergraduates to a possible self (best or worst) or a positive mood group and rated their persistence on a boring writing task and their accuracy on a boring editing task. Best possible self-group students were better at both tasks than worst possible self-group students (the mood group was between). Destin, Manzo, and Townsend (2018, Study 1) asked female undergraduates to report on their social class (SES), systematically varied accessibility of a positive future social class identity and measured the action readiness component of IBM in three ways. Low SES students in the future self (after college graduation as a middle to upper class professional) condition stood more expansively when engaged in an interview than students in the past self (social class before applying to college), or no-prime control conditions. They also made more attempts to solve

difficult GRE questions. No effects were found for high SES students or on subsequent GRE performance. A replication found women, not men, were affected by the future-self plus SES salient prime (Destin et al., 2018, Study 2).

de Place and Brunot (2020) had French undergraduates imagine their best or worst academic possible self in the coming year, either generally (during this period) or specifically (on a particular day). They found no effect on attention task performance but fewer errors when students imagined their best possible selves generally and their worst ones specifically. Barnett et al. (2019) had students write a letter to their future self or write a letter from their future self to their current self and assessed effects on intentions to study and grades. They found no effects on grades but did find that writing a letter from one's failed future self to one's current self negatively affected study intentions.

Hoyle and Sherrill (2006, Study 1) assigned undergraduates to write about a possible identity (healthy or unhealthy) or something else. After writing about an unhealthy possible identity, students were more interested in health workshops and took more health-related informational materials. Murru and Ginis (2010) assigned participants to a health possible identity (positive or negative), or a health quiz control group and obtained physical activity reports after 8 weeks. The possible identity groups did not differ from each other. Combined, they differed from the control group. Ouellette et al. (2005) assigned students to a possible identity (exerciser or non-exerciser) or prototypical person (exerciser, non-exerciser) group and measured consideration of future consequences. Group assignment did not affect exercise, but people assigned to a possible identity group who scored high in considering future consequences exercised more. Cho (2015) assigned English language learner students to a possible identity (successful, unsuccessful) or past identity (successful) group. Successful possible identity group students spent less time revising their essays than successful past group students. Other measures did not differ by group.

5.3.2 Valence measured

Most of the 14 measurement studies measured positive and negative possible identities (Aloise-Young et al., 2001; Benedetti, 2019; Study 2; Bi & Oyserman, 2015, Study 4; Black et al., 2001; Hoppmann et al., 2007; Johnson et al., 2020; Lee et al., 2015; Newberry & Duncan, 2001; Pierce et al., 2015; Yowell, 2002). The others measured only negative (Comello, 2015) or only positive possible identities (Anderman et al., 1999, Study 1; Na & Jang, 2019) or just valence generally (Bixter et al., 2020).

5.3.2.1 Valence does not matter

Possible identity content, not valence, matters for school attainment (Bi & Oyserman, 2015, Study 4), social engagement (Hoppmann et al., 2007), and marijuana use (Johnson et al., 2020). The other studies suggest that valence matters, but not in a consistent way. Which valence mattered differs across studies even when outcomes are the same.

5.3.2.2 Negative valence matters

U.S. high school students who rated their feared possible identities more negatively were at greater risk of school dropout (Yowell, 2002). U.S. high school students who thought that negative but not positive possible identities described them were more involved in delinquency (Newberry & Duncan, 2001). U.S. 7th-graders who reported more feared possible selves coded as being about delinquency reported more delinquent behaviors especially if they believed their peers doing so (Pierce et al., 2015). U.S. women in their 60s who had a feared, but not a hoped-for, health-related possible identity, were more likely to get cancer screenings (Black et al., 2001). U.S. 8th- and 9th-graders whose first-generated feared possible identity was about school consumed less alcohol (Lee et al., 2015). U.S. undergraduates who rated their future me 2 years after college as more likely to do dangerous things reported more marijuana use over the previous 3 months (Comello, 2015).

5.3.2.3 Positive valence matters

U.S. 6th-graders who rated their expected academic possible identities as more positive in seventh- than in 6th-grade had improved school grades (Anderman et al., 1999, Study 1). Elderly Germans who generated positive rather than negative health-related possible identities subsequently increased their physical activity (Hoppmann et al., 2007). U.S. middle school students who had positive expected possible identities smoked fewer cigarettes and consumed less alcohol (Aloise-Young et al., 2001), as did 8th-and 9th-graders who had desired possible identities (Lee et al., 2015). American undergraduates who had more positive future social class possible selves were more likely to report applying for paying jobs (no effect on applying for internships or graduate school was found, Benedetti, 2019). American undergraduates who report liking their future self and seeing it positively also reported my self-control (Bixter et al., 2020). Over time, adolescent offenders were less likely to be arrested and reported a lower variety of offenses if compared to prior assessment, they experienced an increased

belief that they would attain positive adult identities (Na & Jang, 2019, analysis of the Pathways to Desistance data).

5.3.3 Balance measured

Six studies measured "balanced" possible identities, defined as a pair of positive and negative possible identities in the same content domain. Students with balanced possible identities had higher tests scores (middle school, Oyserman et al., 1995, Study 4) and were at lower risk of delinquent involvement (high school, Oyserman & Markus, 1990; Oyserman & Saltz, 1993) and self-handicapping (community college, Seli et al., 2009). Elderly adults with balanced social-relational possible identities made more progress toward their social goals across a 100 day-long study (Ko et al., 2014). When scored as the percentage across domains, balance is not associated with smoking or drinking among 6th-to-9th graders (Aloise-Young et al., 2001).

5.3.4 Making sense of valence and balance from an IBM perspective

Table 1 panels 2 and 3 provide the IBM-theory predictions about when and how valence and valence should trigger future-focused action. Twenty-four studies test the effects of possible identity valence and balance using heterogeneous designs that make direct comparison impossible. That said, results suggest that valence alone is less likely to stably produce future-focused action than some combination of possible identity valence, content, and structure. Direct comparisons are impossible because study designs differ. Some researchers report positive effects of having feared possible identities, others of having expected or desired possible identities, or of both positively and negatively valenced possible identities in the same content domain (balance). Others report positive effects of content, not the valence or balanced valence of possible identities. This heterogeneity implies that valence or balanced valence alone is insufficient to trigger future-focused action, that results are due to an unmeasured moderating factor, not predicted from a possible self, self-gap, or a self-continuity approach. IBM theory can account for this heterogeneity by articulating the hidden moderator, which is relevance. IBM theory predicts that it is not the specific valence or balanced valence of a possible identity that matters, but the likelihood that the possible identity feels relevant rather than irrelevant to the choices facing the current me. As we detail in Fig. 4, IBM theory predicts that an accessible possible identity activates a future-focused IBM network if that identity feels relevant to the choices facing current me. Otherwise, a present-focused IBM network will remain active.

5.3.5 Efficacy, fit, plausibility, and linked strategies-experiments

Of five experiments, three varied context and possible identity fit (Oyserman et al., 2015, Studies 1, 2, 3), one varied plausibility as part of a randomized control trial intervention (Oyserman et al., 2006), and one varied whether people generated linked strategies or only a possible identity (Strachan et al., 2017). In the fit experiments, students were randomly assigned to read about the college context from one lens or the other and write about either their positive or negative possible identities (Oyserman et al., 2015, Studies 1, 2, 3). Fit with the context mattered. Students who were led to consider college as a success-likely context and who focused on their positive possible identities showed more motivation for success; they planned more study time and planned to study for finals sooner. The same was true for students led to consider college as a failure-likely context and write about negative possible identities. For these students, the risk of failure and the ways failing might be self-defining triggered action to reduce the chance of this occurring.

The plausibility experiment was a randomized control trial test of an IBM intervention among 8th-graders who received the intervention or went to school as usual (Oyserman et al., 2006). The intervention was delivered twice weekly at the start of the school year. Students were asked to write about school-focused possible identities and strategies before the start of the intervention and again at the end of the schoolyear. The researchers created a plausibility score from a count of the number of school-focused possible identities that were linked to strategies, with extra weight given to concrete strategies and strategies situated in the students' social context (e.g., asking friends for help). Students in the IBM intervention group scored higher on plausibility than students in the school-as-usual group by the end of the school year, yielding positive change in 8th- and 9th-grade school grades and attendance.

The possible identity and strategy generation experiment compared three groups of college students: one group was asked to generate only a healthy and active possible identity, another to generate one with strategies to get there, and another to take a physical activity quiz (Strachan et al., 2017). At the 8-week follow-up, the two groups of students who wrote about their possible identity reported more physical activity than the quiz group students, but these groups did not differ from each other, implying that generating strategies does not necessarily increase future-focused action compared to just generating the possible identity.

5.3.6 Efficacy, fit, plausibility, and linked strategies - measured

Fifteen studies showed an association between measured fit, plausibility, linked strategies, or efficacy and future-focused action. Destin and Oyserman (2010, Study 1) had low-income U.S. 8th-graders describe the job they would be doing in 10 years and coded responses as contingent on schooling (education-dependent) or not (education-independent). Controlling for prior grades, students who described their possible jobs as education-dependent had better spring grades than those who did not. The implication is that the fit between possible identities and school context matters. Oyserman and Saltz (1993) asked urban U.S. 13-to-17-year-olds to describe their next year's expected and feared possible identities and mark any they currently were "doing something about." Students doing something about at least one of their possible identities were less likely to be truant from school. Young men who left incarceration in the past 12-month period described their expected and feared possible identities and their substance use (Johnson et al., 2020). Marijuana use was higher among men whose feared possible identities focused on returning to prison and whose expected possible identities focused on lifestyles. Oyserman et al. (2004) asked urban, mostly minority U.S. 8th-graders to describe their next year's expected and feared possible identities, mark any they were doing something about, and if so, what. Higher fall plausibility scores predicted end-of-year grade point average, risk of referral to summer school, and teacher-reported classroom participation, even after controlling for fall grades and participation. Plausibility was a better predictor than balance or a simple count of strategies. Bi and Oyserman (2015) counted the number of strategies rural Chinese middle school students generated for their school-focused possible identities. Students with more strategies subsequently scored lower on teacher-rated problem behavior (6 weeks later, Bi & Oyserman, 2015, Study 3) and higher in exams, controlling for past scores (6 weeks later, Bi & Oyserman, 2015, Study 3; 1 year later, Bi & Oyserman, 2015, Study 4). In two studies, Horowitz et al. (2020) showed that school-focused possible identity plausibility tends to decline over the school year and that the extent of decline or improvement predicts grade point average across a variety of operationalizations of school-focused possible identities (including machine-coding capture of possible identities and strategies).

Na and Jang (2019) used a multi-year, multi-site data set to show that adjudicated teens were more likely to be arrested and committed a larger array of crimes after they lost confidence in attaining their positive adult

possible identities. Six studies measured experienced efficacy to attain possible identities directly. Students who felt efficacious about avoiding their feared health-related possible identities smoked less (Hooker & Kaus, 1994). Retirees who felt efficacious about attaining an exerciser possible identity reported more physical activity (Perras et al., 2015). Students who felt efficacious about attaining or avoiding possible identities reported more motivation, even after controlling for accessibility (Norman & Aron, 2003). Women who felt efficacious about avoiding a feared health-related possible identity reported a higher likelihood of getting a screening for cancer (Black et al., 2001). Sixty-year-old Americans made more progress toward their social goals in the course of a 100-day diary study when they initially reported higher efficacy to attain their social possible identities (Ko et al., 2014). Recently retired Canadians reported their physical activity every 4 weeks for 12 weeks, their efficacy to attain "being a physically active retiree," and the importance and likelihood of attaining this possible identity (Perras et al., 2016). Efficacy, perceived importance, and likelihood each had an indirect effect on physical activity, controlling for baseline activity.

5.3.7 Making sense of fit, strategies, plausibility, and efficacy from an IBM perspective

Fit, strategies, plausibility, and feeling efficacious all seem to matter. Yet neither a possible self-based approach nor a self-gap or a self-continuity approach articulates why they would or when they do. IBM theory does. It predicts that the way a possible identity comes to mind can bolster or undermine its experienced relevance to the choices facing the current me. Fit, plausibility, and strategies can signal relevance. If they do, then accessible possible identities will seem relevant to the choices facing the current me. People who have plausible possible identities with more concrete and actionable strategies and people who feel able to successfully follow their strategies are more likely to generate strategies that fit the affordances and constraints their current me faces in context. When the way a possible identity comes to mind fits important features of the affordances and constraints of the immediate situation, the possible identity is more likely to be experienced as relevant to current me, yielding future-focused action. Low efficacy can trigger irrelevance since low efficacy implies that even if one tries, one is unlikely to be able to take the actions needed to attain a possible identity. High efficacy should mitigate this experience. At the same time, an IBM perspective does not require efficacy—future me can feel important to

attain, requiring current action, even for people not particularly good at the skills involved. Moreover, though theoretically distinct, these measures may be redundant (capture the same variance). We cannot tell if this is the case since, with one exception, studies do not assess more than one of these measures.

5.4 Self-gaps

Table 3, fourth panel, presents brief operationalizations of current-to-future self-gap and experienced progress addressing a self-gap, and the IBM-theory prediction about when and how these gaps trigger future-focused action. Table 3, fifth panel, presents a brief operationalization of mental contrast to highlight and address a self-gap and the IBM-theory prediction about when and how a mental contrast triggers future-focused action.

5.4.1 Self-gaps—Systematically varied

Three experiments varied whether people experienced a self-gap and one varied perceived speed of progress in changing a self-gap. Results partially support self-gap predictions. The complicating factor across studies is valence. Possible identity valence mattered despite valence not being relevant to a self-gap approach—whether positive or negative valence mattered varied across studies just as it did in the studies testing valence directly.

Peetz and Wilson (2013, Studies 4–6) asked German undergraduates to think about their healthy possible identities. They systematically varied the experience of a self-gap. No gap group participants saw a timeline ending in 7 weeks (Study 4), or a calendar (Study 5) or timeline (Study 6) ending in 6 months. Self-gap group participants saw a segmenting marker—Christmas marked in the middle of the timeline (Study 4), holidays and weekends colorfully marked on the calendar (Study 5), or the end of the semester marked at the midpoint of the timeline (Study 6). Self-gap mattered when students considered positive possible identities. Students randomly assigned to see a self-gap reported less similarity and overlap between their current and possible healthy identities; were more health motivated (Study 4); more likely to write fitness plans (Study 5); and ask for a healthy cookbook (Study 6). The effect of seeing a self-gap on motivation was mediated by the discrepancy between current and positive possible health identities (Study 4) and not found for negative possible identities (Study 6). Sobh and Martin (2011, Study 2) assigned participants to consider their appearance-related hoped for or feared possible identity and their progress working on this identity. A self-gap prediction would be that people would be motivated by progress toward desired or away from undesired possible identity. Indeed, participants who imagined a feared appearance-related possible identity and poor

progress reported more health motivation than participants who imagined good progress, supporting the self-gap approach. The self-gap prediction was not supported in the hoped-for group. Participants who imagined a hoped-for appearance-related possible identity and poor progress were less, not more, motivated than those who imagined good progress—the opposite of a self-gap prediction.

5.4.2 Self-gaps measured

Two studies measured the size of an experienced current-to-future self-gap and one the speed of progress to address this gap. In each study, half of the participants considered a hoped-for possible identity, and the other half considered a feared possible identity. Results generally supported the prediction, though once again there were inconsistencies and valence unexpectedly mattered, as detailed next. Dalley and Buunk (2011, Studies 1, 2) randomly assigned Dutch female undergraduates to imagine their hoped-for or their feared body type and rate how similar they felt to that imagined body type. Women reported stronger intention to diet (Study 1) and chose a healthier snack (Study 2) when they imagined their hoped-for body type and rated themselves as currently less like that body type, and when they imagined their feared body type and rated themselves as currently more like that body type. Sobh and Martin (2011, Study 1) instructed participants to imagine a hoped-for or feared appearance possible identity and describe their progress. Results matched a self-gap prediction for participants in the feared possible identity condition. Making less progress toward avoiding a feared appearance possible identity was associated with more motivation to do so. But not making progress toward attaining a hoped-for appearance possible identity undermined motivation to do so, the opposite of what a self-gap approach would predict.

5.4.3 Making sense of self-gaps from an IBM perspective

Self-gaps can matter—experiencing a gap or insufficient progress addressing a gap between a current and possible identity can trigger future-focused action. However, as revealed in three studies and experiments, self-gaps do not always matter in the ways the self-gap approach predicts, valence sometimes matters. Sometimes a gap was not motivating when considering a feared possible identity, other times lack of progress working toward a desired possible identity was not motivating. Beyond valence, a self-gap approach is also limited because it only attempts to address gaps between current and future me. It does not address when or why self-continuity (described below) or possible self-based efficacy, plausibility, strategies,

and fit also sometimes trigger future-focused behavior. This suggests that a hidden moderator is at work, such that experiencing a self-gap or insufficient progress addressing that gap is neither sufficient nor necessary to yield future-focused action. As detailed in Fig. 4, IBM theory predicts that what an accessible possible identity implies for meaning-making and action depends on whether it is experienced as relevant to the choices facing current me. A self-gap is one way that a future me could be experienced as relevant to the current me. A gap or insufficient progress addressing a gap will be motivating if strategies to take action now are experienced as congruent with current me or if difficulty imagining, starting, or persisting in future-focused action are interpreted as implying the action's value or importance for current me. It is not a self-gap or lack of adequate progress to address the gap per se that is motivating, but rather what the gap or lack of adequate progress seems to imply in context.

5.4.4 Mental contrasting–systematically varied

5.4.4.1 High efficacy helps

According to Oettingen et al. (2012), a mental contrast requires efficacy and a particular order of mental processing—thinking of a future and obstacles to it and then detailing that future and obstacles in that order.[b] Seventeen experiments followed this procedure: seven support the mental contrast prediction.[c] Thinking about a future me necessarily entails accessibility. Hence, showing that mental contrast matters over and above having future me on the mind requires comparing it to accessibility. Seventeen experiments had people describe their future or current me, or first current, then future me; three had participants describe their future and obstacles but not in the order specified by mental contrast theory.[d] Compared to German and U.S. undergraduates in the future me group, mental contrast group students given positive feedback on their creative ability performed better on a creativity task (Oettingen et al., 2012, Studies 1, 2). German undergraduates

[b] Mostly that future is positive, but Oettingen et al., 2010; Oettingen et al., 2005, Study 2 had some participants mental contrast an undesired negative future and a positive current situation.

[c] Kirk et al., 2011; Oettingen et al., 2010; and Sheeran et al., 2013 did not assess efficacy. Sevincer et al., 2014, Study 2 measured efficacy in a domain unrelated to the dependent variable. Oettingen et al., 2012, Studies 1, 2 operationalized efficacy as positive performance feedback.

[d] Oettingen et al., 2001, Study 3; Oettingen et al., 2001, Study 4; Oettingen et al., 2000 compared the mental contrast group to a pooled comparison that made it impossible to know if effects were due to mental contrast or accessibility of future me. Sheeran et al., 2013 compared the mental contrast group to a control group that did not focus on a future me. These four experiments cannot distinguish mental contrast from a positive effect of an accessible future me.

who felt efficacious about benefiting from a self-efficacy training program were more likely to exert effort to participate in the program (Oettingen et al., 2005, Study 1). German high school students who contrasted a negative future with a positive present and felt efficacious about helping immigrants integrate reported they would try harder to build relationships with them (Oettingen et al., 2005, Study 2). German undergraduates who felt efficacious about resolving an interpersonal problem reported more commitment to do so (Oettingen et al., 2009, Study 1). U.S. undergraduates who felt efficacious about getting their desired grade in a class reported more effort studying (Kappes et al., 2013, Study 1). Youth chess players who felt efficacious about succeeding in chess were more likely to solve a chess problem (Kappes et al., 2013, Study 3).

5.4.4.2 High efficacy helps but low efficacy hinders

Positive effects of mental contrast for high efficacy and deleterious effects for low efficacy were found for German undergraduates' likelihood of taking steps to quit smoking (Oettingen, Mayer, & Brinkmann, 2010; Oettingen, Mayer, & Thorpe, 2010), professional skills presentation performance (Oettingen et al., 2009, Study 2), and seeking academic help (Oettingen, Stephens, Mayer, & Brinkmann, 2010, Study 1). The same was true for German nurses' effort to improve communication with patients' families (Oettingen, Stephens, Mayer, & Brinkmann, 2010, Study 2), and U.S. undergraduates' report of empathic letter-writing skills (Sevincer et al., 2014, Study 2), and responsibility to get into graduate school (Kappes et al., 2013, Study 2).

5.4.4.3 Efficacy does not matter

Mental contrast was better than just thinking about future me regardless of efficacy for U.S. undergraduates engaged in a negotiation task (Kirk et al., 2011), German mid-level managers engaged in a time and project management task (Oettingen, Mayer, & Brinkmann, 2010; Oettingen, Mayer, & Thorpe, 2010), German elementary (Gollwitzer et al., 2011, Study 1) and U.S. middle school students (Gollwitzer et al., 2011, Study 2) taking a vocabulary quiz, Dutch diabetes patients adopting a healthy diet (Adriaanse et al., 2013), and U.S. undergraduates reporting calories and physical activity 2 weeks later (Johannessen et al., 2012).

Ruissen et al. (2018) did not measure efficacy and compared effects on the exercise of Canadian women undergraduates. They compared using a mental contrast focused on affective and instrumental gains as compared

to a general mental contrast. They report that students self-reported more exercise after a month of affective mental contrasting compared to instrumental or regular mental contrasts.

5.4.5 Mental contrasting measured

Kappes et al. (2011, Studies 5, 6) and Sevincer and Oettingen (2013, Studies 1 to 3) measured whether participants mentally contrasted and assessed their efficacy to attain their positive desired future. People who performed a mental contrast were compared to the pooled group of participants who engaged in other processes, including focusing on the future me or obstacles or writing about obstacles before the future me. Hence, no inference can be made as to whether mental contrast or having an accessible future me matters. Several other studies suggest that mental contrasting is conducted by somewhere between 14% and 19% of participants (these studies do not entail future selves, so these numbers are to be taken with caution, Sevincer, Tessmann, & Oettingen, 2018; Tay, Valshtein, Krott, & Oettingen, 2019).

5.4.6 Making sense of mental contrasting gaps from an IBM perspective

Mental contrast can matter for people high in efficacy - for them, performing a mental contrast exercise can be more effective than just having future me on the mind. But efficacy does not always matter, and low efficacy can sometimes hurt. For the reasons listed next, we suspect that a hidden moderator is at work such that mental contrast is neither sufficient nor necessary to yield future-focused action. First, consider efficacy. The evidence is mixed as to its role. Sometimes low efficacy makes a mental contrast worse than focusing on future me, other times, mental contrast is effective independent of efficacy. Second, some results are inconclusive because studies lack an accessible future me condition. Third, a mental contrast approach focuses on considering gaps between the current and future me in a certain way among a subset of people (the efficacious). It cannot address why self-continuity (described below) or possible self-approaches (described above) sometimes trigger future-focused behavior without a mental contrast. Fourth, a self-gap approach focuses on a reflective process - to work, people are asked to explicitly bring to mind their future, the obstacle, and their efficacy. But future selves are mental constructs located in memory in associative knowledge networks. Hence future selves are likely to affect both associative and reflective processing; they may matter whether people are consciously assessing them or the nature of the gap between their future and present.

As we detail in Fig. 4, the IBM theory addresses these issues. According to IBM theory, what an accessible possible identity implies for meaning-

making and action depends on whether it is experienced as relevant to the choices facing current me. Interpretations of experienced difficulty can trigger relevance in two ways. First, it can signal that taking action now is important for the current me, no matter how much effort taking action requires (high difficulty-as-importance). Second, it can signal that taking these actions is not impossible for the current me (low difficulty-as-impossibility). Thus, as we outline next, what a mental contrast seems to imply matters rather than the contrast itself. Considering obstacles to attaining a possible identity can trigger a de-motivating or motivating interpretation of difficulty as a signal that the odds are low or not low, as captured by the individual difference measure of efficacy. IBM theory implies that neither a mental contrast nor efficacy are necessary, instead, anything triggering either a low difficulty-as-impossibility or a high difficulty-as-importance frame will do. Processing can be associative and does not require conscious, deliberative focus.

5.5 Self-continuity

Table 3, bottom panel, presents brief operationalizations of self-continuity, self-connection, self-stability, self-similarity, proximity, and vividness of future me, and the IBM-theory prediction about when and how they trigger future-focused action.

5.5.1 Self-continuity, self-connection, self-stability, and self-similarity -systematically varied

Twenty-four self-continuity experiments systematically varied whether current and future me were experienced as continuous, connected, stable, or similar.[e] A self-continuity approach predicts experienced continuity -not just having future me on the mind, yields future-focused action. To test if this is the case, researchers must compare participants who considered their future me to those who considered their current and future me as continuous, connected, stable, or similar. However, instead of doing this, all but Landau et al. (2014), Lewis and Oyserman et al. (2015), and Nurra and Oyserman (2018) had a self-discontinuity group of participants led to consider current and future me as disconnected or future me as unstable.

Landau et al. (2014) systematically varied whether U.S. first-year undergraduates imagined their best academic possible selves during the college

[e] Each term can be operationalized separately, but they are often used interchangeably. Some studies average similarity and connection between current me and future me, labelling it continuity (e.g., Hershfield et al., 2009); some led participants to consider future and current me as similar and label that connection (e.g., Zhang & Aggarwal, 2015). Bixter et al. (2020) and Sokol and Serper (2020) suggest the components are correlated but distinct.

years in the context of a connecting metaphor (writing on a picture of a path), a disconnecting metaphor (separate boxes), or no metaphor (regular lined paper). The no metaphor group was the accessible future me comparison. Students writing about their academic possible identities on a picture of a path reported more interest in an academic workshop (Study 1) and greater intention to prioritize schoolwork (Study 5) than students writing on lined paper. Study 5 measured experienced connection, revealing that the path manipulation worked by increasing experienced connection to a possible identity, as measured on a 5-item scale.

Lewis and Oyserman et al. (2015) systematically varied whether U.S. adults used the default (accessibility) or a more fine-grained (connection) time metric and had them imagine having a newborn who would be ready for college in 6570 days or 18 years (Studies 3, 7) or wanting to retire in 10,950 days or 30 years (Studies 4, 7) or 14,600 days or 40 years (Study 5). Results supported the prediction that connection is a better predictor of future-focused action than accessibility. People in the connection (days) group said they would start saving sooner (Studies 3 to 5) and were more willing to wait for larger rewards (Study 7) than people in the accessibility (years) group. Connection increased future-focused action, not the future identity's importance or closeness (Study 6). Measured connection mediated this effect (Study 7). People in the connection (days) group felt more connected to their future identity as a retiree or as a parent of a college student than did those in the accessibility (years) group. Measured connection mediated the effect of being in the connection (days) rather than the accessibility alone (years) group on willingness to wait for larger monetary rewards.

Nurra and Oyserman (2018, Study 4) showed French high school students a set of circles labeled "what I am now" and "what I want to be", asked them to write about their adult possible selves, and assessed their next marking period course grades. Circles and instructions slightly varied to form three groups (connection, separation, accessibility control). In the connection group, the circles overlapped, and instructions focused on connections and similarities between current and adult selves. In the separation group, circles were separated, and students considered disconnection and dissimilarity between their current and adult selves. In the accessibility control group, the circle pairs ranged from very separated to very overlapping and students were to choose the pair that best represented their current and future selves and then to describe their adult selves. How students were led to think about their future selves affected their grades. The effect was not due to the content they described; content analysis revealed that the groups

did not differ in the content their possible identities –all wrote about the jobs they might have. Students in the accessible future me group had grades midway between students in the connection group and those in the disconnection group. Students in the connection group had significantly better grades than those in the disconnection group. The implication is that without instruction, some students in the accessible future me group considered their future and current me as connected, and some considered them disconnected.

Effects varied in the 17 experiments that did not include an accessibility-only control group: self-continuity is better than self-discontinuity (Landau et al., 2014, Studies 2, 4, 6); self-stability is better than self-instability (Bartels & Urminsky, 2011, Studies 1–4); self-similarity is better than self-dissimilarity (Zhang & Aggarwal, 2015, Study 3); dissimilarity is worse than an accessible future me (Burum et al., 2016, Studies 1, 2); self-continuity sometimes matters (Bartels & Urminsky, 2015, Studies 3–6; Bartels & Urminsky, 2015, Study 7; Landau et al., 2014, Study 7; Sheldon & Fishbach, 2015, Study 2).

5.5.2 Self-continuity, self-connection, self-stability, and self-similarity measured

Twenty-nine studies measured current and future me self-continuity. All but two used Aron et al.'s (1992) overlapping circles measure with either one or two sets of circle pairs (see Fig. 1)[f] Participants who selected a more overlapped circle-pair (self-similarity) endorsed fewer unethical decisions in hypothetical business scenarios (Hershfield et al., 2012, Studies 1a, 1b, 2). In lab tasks, they lied and cheated less to earn monetary rewards (Hershfield et al., 2012, Studies 3, 4) and chose fewer sooner but smaller rewards in a temporal discounting task (Bartels & Urminsky, 2011, Study 5; Ersner-Hershfield et al., 2009, Study 1; Joshi & Fast, 2013, Studies 2, 3; Pietroni & Hughes, 2016).[g] They allocated more hypothetical income to retirement savings (Hershfield et al., 2011, Study 3b), reported

[f] People saw circle pairs varying in overlap, choosing the pair that described how similar (7 studies) or how similar *and* connected (1 study) they felt to their future self. In 6 studies they indicated similarity with one and connection with a second circle set. One study used the connection circle pairs, a variant of the circles as a bipolar item with the most overlapping pair on one side and the fully separated pair on the other, and a 0–100 measure self-similarity and connection. Three studies combined the two overlapping circles items with how much do you…care about, …like future me.

[g] This effect was also found among people who rated their future and current selves as connected and similar on a 0–100 scale (Bartels & Rips, 2010, Study 1) and when thinking about current and future selves yielded similar patterns of rostral anterior cingulate (rACC) activation (Ersner-Hershfield et al., 2008).

having more retirement savings, (Ersner-Hershfield et al., 2009, Study 3), and better health (Rutchick et al., 2018, Study 1). Adults who selected a more overlapped circle pair (self-similarity, self-connection) were less likely to choose a few immediate over many later good days at work (Bartels & Rips, 2010, Study 2). Undergraduates who selected a more overlapped circle pair (self-similarity, self-connection) had higher course grades (Adelman et al., 2017, Study 2). They procrastinated less on their academic work (Blouin-Hudon & Pychyl, 2015, Studies 1–3), self-reported more self-control, and had higher subsequent GPAs from course records (Bixter et al., 2020). Japanese high school students who select a more overlapped circle pair reported more career planning, studying more, and better grades (Chishima & Wilson, 2021).

Not all effects fully support the continuity prediction. People who scored higher in overlap and connection to future self avoided spending money only if the opportunity cost of spending was made salient (Bartels & Urminsky, 2015, Studies 1a, 2). Those who scored higher in continuity (two circle overlap items) increased their retirement saving rates only if led to consider it a social responsibility to future me (not self-interest, Bryan & Hershfield, 2013).

5.5.3 Self-continuity, -connection, -stability, and -similarity from an IBM perspective

Measured and systematically varied self-continuity matters, in the preponderance of studies, people who are led to consider their current and future me as continuous take more future-focus action than led to consider only their future me, as do people who report more self- continuity measurement studies. At the same time, most experiments do not include an "accessible future me" group. Hence, this large body of research does not address the conditions in which people take future-focused action when their future me is on the mind regardless of self-continuity cues. As detailed in Table 3, IBM theory provides a synthesis, articulating why continuity cues matter in the context of a broader formulation of when future me is experienced as relevant to the choices facing current me. Specifically, IBM theory predicts that continuity cues could activate future-focused IBM in one of three ways: First, these cues can shape the dynamic construction of current me to include elements of future me. Second, these cues can make future-focused action feel "for me" in the current context. Third, these cues can make difficulty imagining, starting, or sustaining future-focused action be experienced as a signal of the value of future-focused action for current me.

5.5.4 Proximity systematically varied

Seven experiments varied proximity. Nurra and Oyserman (2018), Studies 3, 5) assigned French children to adult future self-groups (near, far, no modifier), asked them to write about their future selves, and gave them schoolwork. The near group imagined their "near" adult future self, the far group imagined their "far" adult future self, and the no modifier group imagined their adult future self without a modifier. Students in the near group solved more math problems than students in the far group (Study 3) and performed better on a timed concentration task if they viewed school as the path to attaining their adult future selves (Study 5). Students in the accessibility (no modifier) group performed midway between the other groups (Studies 3, 5). A future me's experienced proximity, not its content, mattered –students all wrote about jobs that they wanted to have as adults. The other studies in this group lacked an accessibility comparison group and provided conflicting results. Some report positive effects of proximity (Koo et al., 2020, Studies 3,5; Peetz et al., 2009). People were less likely to plan to exercise if their future self was considered as on the other side of a temporal landmark–far away (Koo et al., 2020, Studies 3, 5). Others found the reverse (Rutchick et al., 2018, Study 2; van Gelder et al., 2013, Study 1). People were more motivated if they considered themselves in the farther future (20 years) than the nearer future (3 years).

5.5.5 Proximity measured

Canadian students imagined their next year "exerciser" self, described how close in time they felt to that self, and their exercise intentions (Evans & Wilson, 2014). Students exercised more at the four-week check-in if they intended to and felt close to their future selves. People who felt that their future was close had more retirement savings (Joshi & Fast, 2013, Study 4).

5.5.6 Making sense of proximity from an IBM perspective

The evidence that experiencing future me as proximal (near) rather than distal (far) from current me encourages people to take future-focused action is equivocal for two reasons. Effects were directional, not significant, in studies that compared proximity and accessibility and varied in studies lacking an accessibility control group. Identity-based motivation theory synthesizes these and results of possible self and self-gap approach studies by suggesting that it is not how near or far the future me feels, but whether it feels relevant to the choices facing current me that matters. Proximity and distance can make future me feel relevant. Proximity can imply that the future is

imminent –so now is the time to act, distance can imply that the future is valuable, a difficulty-as-importance mindset.

5.5.7 Vividness varied

Macrae et al. (2017, Studies 1, 2) assigned people to imagine themselves in 40 years walking on the beach (control group) or that they could see their future self in 40 years walking on the beach (vivid group). People in the vivid group planned to save more of a hypothetical $1500 windfall.

5.5.8 Vividness measured

Adults who experienced their retiree possible identity more vividly reported being more financially prepared for retirement (Ellen et al., 2012). Adults (Strauss et al., 2012, Study 1a), and doctoral students (Strauss et al., 2012, Studies 1b, 3) who found it easier to imagine their professional possible future identities reported more career-focused behaviors (e.g., networking, sharing career goals with supervisors). Undergraduates who reported that it was easy to imagine their work possible future identities reported doing more to develop their skills and career network (Taber & Blankemeyer, 2015). Undergraduates who reported having a clear and vivid image of their future selves self-reported more self-control (Bixter et al., 2020). Female undergraduates who reported clearly and often imagining their hoped-for or feared future "body" on a 2-item scale were motivated to diet (Dalley, 2016). van Gelder et al. (2015) assigned Dutch high school students to an accessible future me or a current me group and sent students seven daily messages from a future-me (digitally aged) or current-me avatar (not digitally aged) who asked them about their future or current daily activities for 7 days. Then students reported the vividness of their future me and (a week later) their delinquent involvement that week. Group assignment had an indirect effect; when future me vividness increased, delinquency decreased, and students in the future me condition were more likely to experience increased experienced vividness.

5.5.9 Making sense of vividness from an IBM perspective

Vividness, like proximity, can trigger future-focused action. Though vividness studies do not address the specific process by which it should influence future-focused action, the IBM theory does. It predicts that it is not vividness that matters –any feature of an accessible future me that implies that the future me is relevant to the choices facing current me is likely to trigger future-focused action. Close things can be seen vividly and are more likely to be relevant to the current me, thereby requiring action even if starting or sustaining that feels difficult.

6. Broadening the lens

6.1 When future me counts

The present is for sure and requires attention, while the future is uncertain and probabilistic—it may or may not unfold in a given way. But it is always now and never later. Some mechanism of making the future feel relevant to the choices current me faces is required. Otherwise, current concerns will push long-term goals—of learning, preparing for a career, maintaining health, saving money, or investing in relationships aside.

IBM theory provides needed integration of the siloed possible self, self-gap, and self-continuity literature. Each approach focuses on different aspects of the future self and ignores the larger question of how they fit together. Integration has escaped notice because researchers focus on their approach and cite others using it, producing knowledge silos (e.g., self-continuity, Hershfield, 2019; possible selves, Oyserman & James, 2011; self-gap, Oettingen, 2012). Even reviews that include more than one approach assume more consistency across approaches than warranted (e.g., Oyserman & James, 2009).

The seminal formulation of possible selves (Markus & Nurius, 1986) implied that having a positively-valence possible self was all people that need. But the English-language literature reporting on a measured or systematically varied aspect of the future self does not support this simple prediction. IBM theory predicts that thinking (about the self) is for doing. People act in ways that fit the identities on their minds which feel relevant to the affordances and constraints of their immediate situation (Oyserman, 2015a, 2015b). Though the self (and the identities it includes) is experienced as stable if not fixed, which identities come to mind and what these identities imply for meaning-making and action are dynamically constructed in context (Oyserman, 2007). A future me is like any other identity, affecting people's choices and actions if experienced (implicitly or explicitly) as relevant and not otherwise. IBM theory predicts that the missing underlying process is that a future me sometimes, but not always, facilitates a shift from present-focused to future-focused identity-based motivation. Shifts can happen in three ways (dynamic construction, action readiness, and procedural readiness). First, consider dynamic construction, that what current me entails is dynamically constructed in context. In some contexts, future me feels like part of the current me, implying that future-focused action is relevant to the current me. Action-readiness can also yield a shift. Finding oneself taking future-focused action implies that future me is

relevant to current me. The reverse is also true—experiencing future me as part of the current me should trigger readiness to act in future-focused ways. Procedural readiness is the third way that shifts occur. If the future me feels like part of the current me, people are more likely to interpret their experiences of difficulty as implying the importance of investing in the future me and not the impossibility of attaining that future. The reverse should also hold—finding oneself interpreting difficulty as importance implies that future me is relevant to the choices facing current me. IBM theory clarifies that possible-self, self-gap, and self-continuity approaches each highlight some of the specific features of a future me that may increase the likelihood it is experienced as relevant to the choices facing current me in a particular situation.

6.2 IBM and other approaches to future time and goals

Using IBM theory implies that future-focused action is context-sensitive but accessible to everyone. Though individuals vary based on development, socialization, chronic context, and individual differences, anyone will take future-focused action if, at the moment, future me feels relevant to the choices facing current me. In this regard, an IBM lens contrasts with an individual differences approach, which, we detail next, predicts that some people take future-focused action—they are efficacious, higher in future orientation, individualistic, or reason abstractly. The empirical literature includes people in Austria, Bosnia and Herzegovina, Canada, China, England, France, Germany, the Netherlands, Norway, and the U.S. from preschool to post-retirement. Though the literature is not set up to test for differences in culture or development, developmental changes in reasoning about the future likely matter (e.g., Hoerl & McCormack, 2019). Chronic differences in place in the social structure (e.g., Fisher et al., 2017) and future orientation (e.g., Strathman, Gleicher, Boninger, & Edwards, 1994; Zimbardo & Boyd, 1999) may also shape the likelihood that future me is on the mind and feels relevant to choices facing current me as detailed next.

6.2.1 Social structural and cultural differences in future time perspective

Our English-language-based review focused on the effects of bringing future me to mind on future-focused action. We included life phase, socioeconomic, and national information in our summaries. Most studies include

American, German, Canadian, or Dutch students –middle school to college-aged, or retirees, though data from other countries is beginning to be published. We did not have evidence of moderation -nor is the literature set up to test this. However, some studies test the possibility that social structure and culture affect future time-perspective (e.g., Antonoplis & Chen, 2021; Ashkanasy, Gupta, Mayfield, & Trevor-Roberts, 2004; Carter, McCollough, Kim-Spoon, Corrales, & Blake, 2012; Dahl, 2000; Lee, Liu, & Hu, 2017). For example, religious people are, on average, more future-focused than non-religious people (Carter et al., 2012), while poverty is associated with being present-focused (Bertrand, Mullainathan, & Shafir, 2006; Griskevicius, Tybur, Delton, & Tobertson, 2011; Lawrance, 1991). People may be less likely to experience future me as relevant to the choices facing current me when stigma and structural barriers limit choices (e.g., for health, Oyserman & Fisher, 2017; Lewis & Oyserman, 2016; for education, Oyserman & Lewis, 2017; Lewis & Yates, 2019). For example, students whose families are low in social-economic status are just as likely to have school-focused possible identities as other students (Azmitia, Sumabat-Estrada, Cheong, & Covarrubias, 2018; Destin & Svoboda, 2017; Oyserman et al., 2006; Oyserman, Terry, & Bybee, 2002; Stephens, Hamedani, & Destin, 2014; Stephens, Townsend, Hamedani, Destin, & Manzo, 2015). But they are less likely to have linked strategies that are concrete and address barriers in their social context (Oyserman et al., 2011). At the same time, having strategies to attain school-focused possible identities is just as effective for low-income children (Bi & Oyserman, 2015).

Americans associate difficulty with impossibility more than with importance, but people in India and China are equally likely to associate it with importance and impossibility (O'Donnell, Yan, Bi, & Oyserman, 2022). Regarding other aspects of culture, some studies suggest that cultural axes of individualism and collectivism are associated with experiencing the future as close or far (Spassova & Lee, 2013). However, the mechanism is unclear. It might be the mental procedures associated with each mindset that matter. A collectivistic mindset is associated with a connect-and-relate procedural mindset. In contrast, an individualistic mindset triggers a separate-and-distinguish mindset. The former may make future me connected and the latter separate, in a different bin, from the current me. (e.g., Oyserman, 2017). However, the future orientation literature strongly suggests that between-country differences are not simply due to country-level differences in wealth, development, or axes such as individualism-collectivism

(Dahl, 2000; Lee et al., 2017). Instead, this literature points to language differences in whether the future must be distinguished from the present or can be described continuously (Chen, 2013). This linguistic difference, for example, yields a contrast between high future time orientation Germany and low future time orientation France (Dahl, 2000; Lee et al., 2017). Our IBM-based prediction is that people can take future-focused action if their future me is on the mind and feels relevant to the choices faced by the current me. The social structural, cultural, and language literature suggest that experiencing relevance will be easier in some contexts than in others. As we outline next, the same may be true when considering individual differences.

6.2.2 Individual differences in future time perspective

Individual difference approaches ask for whom future me affects future-focused action. They make two predictions: people higher in future time perspective will be more likely to have future me on their mind and engage in future-focused action when this is the case. Though conceptualized and measured in slightly different ways, future time perspective measures seek to quantify how much people plan for and achieve their future goals (Zimbardo & Boyd, 1999) or base their decisions on the future rather than the immediate consequences of their actions (Strathman et al., 1994; for a review, Andre, van Vianen, Peetsma, & Oort, 2018). Studies measuring future-time-perspective suggest that people higher in future time perspective take more future-focused action. They are more likely to eat healthily (van Beek, Antonides, & Handgraaf, 2013), are less at risk of alcohol and substance abuse (Keough, Zimbardo, & Boyd, 1999), spend more time studying (Zimbardo & Boyd, 1999), report more proactive career behavior (Fouarge, Schils, & De Grip, 2013), less impulsive buying (Joireman, Sprott, & Spangenberg, 2005), and shorter periods of homelessness after losing their housing (Epel, Bandura, & Zimbardo, 1999).

An individual differences perspective differs in focus from an IBM-based approach. An individual differences perspective highlights the possibility that only people high in future time perspective take future-focused action, IBM that everyone will when a future me is on the mind and feels relevant to the choices facing a current me. People who are low in future orientation may require clearer contextual cues than high scorers. The two models yield conflicting predictions at the extreme—if the context or individual differences never matter. Hence, individual differences and IBM can be integrated by considering individual difference measures as quantifying individual

variation in the tendency to chronically experience future me as relevant to the choices facing current me. IBM predicts three ways people higher in future time perspective might more frequently experience a future me as relevant to the choices facing current me. First, future me may be on the mind more often. Second, future me may be more likely to be experienced as part of the current me. Third, difficulty imagining future me and starting or persisting in future-focused action may be more likely to be seen as a signal of importance and not of impossibility. That is, people higher in future orientation are more likely to interpret their experiences of difficulty as implying the importance of investing in future me and not the impossibility of attaining that future me.

We found some evidence supporting our prediction that individual differences and IBM are compatible. Ouellette et al. (2005) measured future-time-perspective and randomly assigned participants to two groups. People in one group imagined their healthy future me and people in the other group imagined the prototypical healthy person. People higher in future time perspective benefited more from imagining their healthy future me than those with lower scores. In a Norwegian adult representative sample, Pozolotina and Olsen (2019) find that both future-focus and experiencing future me as continuous with me current me are associated with healthy habits.

6.2.3 Goal highlighting and goal balancing

Beyond individual differences, another obstacle to taking future-focused action is that people have more than one goal, and working on one necessarily means not working on another. Fishbach, Zhang, and Koo (2009) focus on this question of how people toggle between goals—when they focus on one and when they shift to another. Rather than take an individual difference approach, they ask what situational forces affect people's choices regarding which of their goals to focus on at the moment. They document that people can infer two things from their progress: commitment, that they are committed to the goal and should keep going, and sufficiency, that they can shift to another one given the progress they have made. This perspective is congruent with self-gap approaches like control theory (Carver & Scheier, 2016), which assume that people pay attention to their goal progress. However, unlike control theories, it does not focus on the speed of progress but on whether people infer from their progress that they should keep going or shift to another goal. By providing a more nuanced analysis of how people might interpret goal progress, this approach is relevant to an understanding

of self-gap studies. At the same time, this is a goal theory and does not make specific predictions about when a future me is likely to feel relevant to the choices facing current me.

6.2.4 Construal level

Trope and Liberman's (2003) construal level theory describes the cognitive and motivational consequences of people's experience of psychological distance. It predicts that people are instrumental when considering psychologically close events (How should I do this?) and value-driven when considering distal ones (Why should I do this?). Construal level theory does not make predictions about when the future me feels relevant to the choices facing the current me. But it has been applied to the self to predict and show that people experience their distal future self as more like their true self (Wakslak et al., 2008). Moreover, people tend to believe that their future selves will be better versions of themselves, see particularly large improvements in the closer, rather than the more distal future (termed temporal self-compression, Brietzke & Meyer, 2021). The idea of psychological distance is relevant to the IBM prediction that people are more likely to take future-focused action when their future me is on their minds and feels relevant to the choices facing their current me. Relevance can occur when a future me feels psychologically close, strategies to attain a future me come to mind, and difficulties starting and keeping going signal their importance rather than their impossibility. Empirically, abstract construal and difficulty-as-importance are associated, implying that the two constructs may or may not conceptually overlap (average correlations are 0.3, Fisher & Oyserman, 2017).

6.2.5 Self-regulatory focus

Higgins' (1998) self-regulatory focus model outlines two ways people can imagine and pursue their goals. They can imagine the self-goals they desire or the ones they ought to attain. They can strive to avoid failures and preserve what they have (*prevention focus*) or to have more successes and build on what they have (*promotion focus*). People experience value from fit –when they work on their prevention self-goals (who they ought to become) by avoiding failures and their promotion goals (who they desire becoming) by striving for successes (Higgins, 2000). Value from fit is compatible with the IBM prediction that people take future-focused action when their future me is on their minds and feels relevant to the choices facing current me. "Fit" is a way a strategy can feel identity-congruent. When a person is

prevention-focused, future me should feel relevant when it cues vigilance or avoidance strategies. When a person is promotion-focused, future me should feel relevant when it cues eagerness and approach strategies. At the same time, the IBM prediction is broader than what the Self-Regulatory Focus theory would predict. Experiencing the future me as relevant to the choices facing current me is broader than a match between promotion and prevention goals, and self-regulatory focus and fit do not synthesize the results of possible self, self-continuity, and self-gap research.

6.3 Final remarks and moving forward

We applied the IBM theory in three ways: to predict when and how imagining a future self might increase the likelihood of taking future-focused action, synthesize the otherwise siloed bodies of possible self, self-gap, and self-continuity research results, and connect research on the future self to social-structural, individual difference, temporal-construal, and self-regulatory focus perspectives. IBM theory highlights the role of relevance and yields predictions about when the features of future me highlighted in possible self-based, self-gap, and self-continuity approaches are likely to matter. To experience future me as relevant to the choices facing current me, the possible self approach predicts a possible identity has to be available and the self-continuity predicts it should feel close to or part of the current me. The self-gap approach that what is necessary is to hold future me in mind as a standard, attend to the gap between that standard and future me, consider what can be done and whether one can do it. Each approach provides some supporting evidence but does not address the evidence of other approaches.

IBM theory suggests that what matters is whether the future me feels relevant to the choices facing current me. If an accessible future me feels irrelevant to the choices facing current me, difficulties taking or imagining taking future-focused action will imply that this is not "for me," and present-focused action will continue. However, if an accessible future me feels relevant to the choices facing current me, difficulties taking or imagining taking future-focused action will imply that this is "for me," triggering future-focused action. IBM illuminates potential moderators by tying the influence of a future me to whether actions to attain it fit with the current me. This allows other identity-relevant factors—including race-ethnicity, social class, and culture to be integrated into theorizing about when a future me will be most influential. This integration is likely to ultimately produce more stable findings and more effective behavioral interventions.

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Further reading

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