

## Choice and self: how synchronic and diachronic identity shape choices and decision making

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**Abstract** Research on the role of identity in choice varies widely across fields like psychology, philosophy, consumer behavior, and economics, in both the key questions addressed and the methods of investigation. Although a large literature has established how salient aspects of identity affect attitudes and norms, less is known about how beliefs concerning identity are shaped and how these beliefs affect decision making. In this review, we cover recent insights into these issues and summarize some newer, developing approaches to understanding (i) how people judge the persistence of identity, (ii) how beliefs about future changes in identity are formed and how they affect choices, (iii) the formation of beliefs about future changes in identity and how these beliefs affect decisions, and (iv) the historical and economic antecedents of identity norms and their consequences for economic behavior. We introduce a distinction between synchronic and diachronic approaches, and highlight important

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unresolved questions that will help these fields to more fully understand the role that identity plays in shaping choices.

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Consumer behavior research often focuses on the decision context, such as framing effects or how incentives affect choice. However, people faced with the same choices and incentives in the same context will often make very different decisions. In fact, these differences are often stable over time, and such individual differences often explain a large proportion of the observed variance in choice. Understanding how and why people's preferences differ requires a focus on the individual decision-maker.

Recent research suggests that some of this heterogeneity in individual preferences can be informed by an understanding of *identity*—a person's definition of themselves (sometimes referred to as a “self-concept”). Identity is multifaceted concept (Markus and Wurf 1987) and can relate to the person's social role and group memberships (e.g., a profession, ethnic group, etc.), what they define as unique about themselves (e.g., personality traits, values, ideals, etc.), or even a belief about the persistence of one's identity and past decisions over time. Consumer identity has been defined (Reed et al. 2012) as any aspect of the self-concept that people incorporate into their sense of who they are and which causes them to take actions that they view to be consistent with their self-concept. However, identity can be understood more generally in relation to the persistence of whatever defines an entity (e.g., a person). Thus, any aspect of the self that people regard as self-defining, such that they would be a different person if that aspect were to change, can be thought of as constituting their identity.

This paper surveys research on how identity is construed and how decisions respond to shifts in identity salience, changes in self-concept, and beliefs about the persistence of identity. To organize this review (which spans a number of disciplines), we divide the literature into two broad categories: (1) *synchronic identity*, which refers to the relative salience of different aspects of an individual at one point in time and (2) *diachronic identity*, which refers to changes in the content (and consequences) of a single identity over time. Research on synchronic identity has primarily focused on the ways in which specific aspects of the self-concept affect choice (e.g., examining the prevalence of identity-consistent behaviors as a function of strength of identification; Reed 2004). In contrast, research on diachronic identity has mostly focused on how we track identity over time and on the implications of perceived continuity of the self—across time or over transformations—for choice (e.g., Bartels and Rips 2010).

Next, we provide an overview of the existing research on synchronic identity. The second section reviews research on diachronic identity. The final section discusses potential relationships between these two notions of identity and outlines potential avenues for future research in this area.

## 1 The synchronic dimension of identity

Most identity research in social psychology has emphasized the synchronic dimension of identity, focusing on the multiple aspects of the self-concept and how the shifting

salience of these aspects affect cognition and behavior. For example, messages matching people's self-schemas are processed more deeply, leading to increased (decreased) persuasiveness of high (low) quality arguments (Wheeler et al. 2005). More generally, factors that highlight an aspect of the self-concept increase the probability that this aspect shapes person's attitudes and behavior (Reed et al. 2012).

### 1.1 Synchronic identity and consumer choice

In consumer research, the identity salience principle has been documented by, for example, showing that responses to identity-relevant marketing stimuli improve when the target identity is more salient. For example, participants exposed to ethnic culture cues responded more favorably to same-ethnicity spokespersons, elevating evaluations of ads (Forehand and Deshpandé 2001). And, demonstrating the interplay between chronic and temporary salience of aspects of identity, such prior exposure effects are stronger for second than for first generation immigrants (Lenoir et al. 2013).

Identity salience effects are not always positive. Heightened gender identity salience among women can instead trigger defense mechanisms which interfere with an intended breast cancer message—increased gender identity salience lowered women's perceived vulnerability to breast cancer, resulting in lower donations to ovarian cancer, and decreased memory for breast cancer banner ads (Puntoni et al. 2011).

The consequences of highlighting a threatening aspect of identity can be countered in various ways. When people's views of themselves are threatened, they are motivated to restore confidence in their self-view. Participants in one study were asked to write an essay about their intelligence using either their dominant or nondominant hand. Writing the essay with the nondominant hand increased the likelihood of choosing intelligence-related products in a subsequent and unrelated task (Gao et al. 2009). Furthermore, Puntoni et al. (2011) found that when a self-affirmation procedure preceded the gender identity primes or when women were given an opportunity to voice their fear of breast cancer prior to rating their perceived vulnerability, the negative effect of gender identity salience was eliminated.

More generally, lacking confidence, clarity, and consistency in the self-concept can also be aversive, inducing attempts to regain it, by taking actions that are seen as defining the self. For example, when people do not perceive themselves as having a certain, clear, and coherent sense of themselves, they will strategically adopt and express unique and controversial opinions that help them regain clarity (Rios et al. 2012). Also, those lacking clarity in the self-concept are also more likely to choose products that are polarizing, even when those products are rated more negatively overall, because polarizing products are perceived to be more self-defining (Rozenkrants et al. 2013).

Yang and Urminsky (2014) suggest that even absent an identity threat, optimism (or pessimism) about the future may increase peoples' preference for choice options that signal identity-consistency (or identity-shifts, respectively). Optimism and pessimism were manipulated in a ball-rolling game. Optimism was induced (independently of prior outcomes) when participants were either doing poorly and led to believe outcomes were primarily due to chance or when they were doing well and led to believe outcomes were primarily due to skill, while pessimism was induced in the other two combinations. After participants wrote about an aspect of their identity and

then played the game, participants in the pessimism conditions favored identity-change, and were more likely to write about a different aspect of the self, compared to the optimism conditions. However, no effect was found for non-self-relevant consistency vs. change choices. In another study, participants who read a gambling scenario inducing pessimism (vs. optimism) preferred a novel (vs. identity consistent) drink, but only when anticipating a future gamble, rendering the pessimism or optimism relevant. Thus, pessimism about future outcomes induced a preference for signaling a shift in identity, as if to psychologically separate the prior pessimism-inducing outcomes from future ones.

The emerging literature on identity and choice suggests that choices may be influenced by identity in multiple ways: by the preference to signal a desired facet of identity (Escalas and Bettman 2003; Stephens et al. 2007), to avoid or counteract an identity threat or lack of identity clarity, or even by a preference for identity consistency or inconsistency.

## 1.2 Synchronic identity and economic decision-making

Also, incorporating a synchronic approach to identity, the theory of identity in economics has its origin in the self-categorization theory from social psychology (Turner 1978). According to this theory (Akerlof and Kranton 2000), a person's self-concept consists of multiple social categories (gender, ethnicity, political identity, etc.) prescribing different norms on how one should behave. Which facet of identity is more salient in a person's mind depends, in part, on the presence of relevant cues.

Research on how different aspects of identity affect economic behavior is still in its early stages. Some experiments have groups (defined by race or ethnicity) to show that belonging to a given group plays a role on how people play in a dictator or ultimatum game. Other methods experimentally make an identity salient, either by priming different facets of identity in the laboratory or creating social categories inside the laboratory, using the minimal group paradigm (for a review, see Akerlof and Kranton 2010).

Here, too, identity salience has been shown to affect choices. For example, Cohn et al. (2013) experimentally test whether highlighting bankers' professional identity promotes unethical business practices in the financial sector. Employees of a large bank were asked to toss a coin ten times and report the outcomes online, which should yield a 50 % rate of successful outcomes if honestly reported. While, on average, employees behave honestly in the control condition, highlighting the professional identity caused employees to behave less honestly, reporting a significantly higher than chance 58.2 % success rate. This effect was specific to bank employees, and was not found when professional identities were made salient for nonbanking managers and students. Similar manipulations affect dishonest behavior in a sample of maximum-security prisoners when criminal identity is made salient (Cohn et al. 2014) and savings preferences in a population when different ethnic identities are made salient (Chen et al. 2005; Benjamin et al. 2010).

Going beyond common social categories, Kranton et al. (2012) studied the interaction of both manipulated minimal group divisions and preexisting political identity. Subjects allocated money to themselves and to others in three within-subject conditions: a nongroup control, a minimal group treatment, and a political group treatment. The subjects' allocations could maximize fairness (similarity of absolute payoffs),

social welfare, (sum of absolute payoffs), or own status/dominance, (difference between own and other subject's payoff). In the nongroup condition, about 37 % of subjects had preferences that maximized social welfare, 33 % aimed for fair allocations, 25 % of subjects were selfish, and 5 % dominance-seeking. In the group treatments, more than half of the subjects were neither fair nor social welfare maximizing when allocating to out-group subjects. In particular, about 21 % were dominance-seeking and 35 % were selfish. However, social preferences for group divisions also varied with individual identities. Democratic-independents did not respond to the minimal group treatment, but when they faced subjects who were significantly different in terms of political identity, they were also less likely to be fair or social welfare maximizing.

These findings suggest that synchronic variation in aspects of identity may be an important and understudied influence on consumer behavior that is often missing from models of economic decision making.

## 2 The diachronic dimension of identity

At the most basic level, identity is what defines an entity as distinct and as persisting as that same entity from one moment to the next. How people recognize and conceive individual objects is then fundamental to understanding identity, including consumers' diachronic identity and the consequences for consumer choice and economic behavior.

### 2.1 Diachronic identity and the persistence of individual objects

Judgments about identity can be seen as an example of a general process for how people think about individual concepts. Most research on concepts in cognitive psychology has to do with categories, like dogs or tables. But it's clear that we also have concepts—mental representations—of specific objects that are important to us, such as particular friends, relatives, and celebrities. We might also have a concept of Rover if he's our pet or a concept of a particular table if it's a familiar one. According to some theories of concepts (e.g., Medin and Schaffer 1978), concepts of categories might boil down to concepts of individuals—particular exemplars. Our representation of dogs, for example, might consist of just representations of specific dogs. But even these exemplar theories haven't yielded much detail about the representation of the individuals themselves.

A potential reason for this lack of research on individual concepts is that these individuals are often perceivable; so psychologists may feel that they don't need a cognitive explanation, apart from some sort of *perceptual* theory of object recognition. But perception can't be the whole story. We can follow individual objects over long periods of time, even when there are big stretches where we don't see the objects. For example, suppose you see a nice mahogany table in the office of the department where you work, and it later disappears. Several months later, you see a very similar-looking table in the dining room of one of your colleagues, prompting you to wonder whether these could be the same table. But the two tables may just be close copies, ordered from the same manufacturer, for example. So how do you decide whether they're really the same table?

One proposal asserts that whether or not an object is the same individual depends on an object's category membership, and accordingly, for something to be the same individual over time, it has to be the same kind of thing. For example, if Rover is somehow transformed so that he is no longer a dog, he cannot be Rover. However, several studies find that people judge that an individual persists despite a change in category membership (Blok et al. 2001; Blok et al. 2005; Rips et al. 2006). For example, participants report that when the brain of an individual (Jim) is transplanted to a cybernetic body, the result is still "Jim," though it is no longer a person (see Rips et al. 2006; Blok et al. 2007). By the same logic, consumers may feel as if their identity is preserved even when they experience substantial changes in social categorization, such as becoming a doctor or a parent, particularly if that possibility had previously been part of their self-concept.

An alternative proposal is the Causal Continuer view (Rips et al. 2006) which maintains that people use causal-historical information in tracing identity. Determining an object's identity over time depends on following the object's autobiographical path, which in turn depends on the causal features that support the object's continued existence. Evidence for the theory comes from people's judgments about possible transformations that objects can undergo (e.g., Blok et al. 2001, 2005; Rips et al. 2006).

The question of how we judge whether something is the same individual over time is important in part because it has implications for our judgments of an object's value. Objects sometimes have pedigrees that determine their worth or their entitlements. Developmental research shows that even children prefer a silver spoon said to belong to Queen Elizabeth over an exact copy of the spoon (Hood and Bloom 2008) and know that pedigreed objects, like the President's flag pin, are more worthy of being in museums than similar objects with no pedigree (Frazier and Gelman 2009).

Artwork represents an interesting case in which authenticity and value are deeply related—an original work of art may be worth millions of dollars, while a perceptually identical duplicate is virtually worthless. Studies find that merely labeling the same object as either "art" or a "tool" can dramatically change the importance that people place on the item's authenticity (Newman et al. forthcoming). Moreover, this difference seems to come from people's lay theories about the concept of art—Newman and Bloom (2012) found that even when the artist was unknown (or even unnamed) and the artwork was of little value, people still placed considerable value on the original object over perfect duplicates.

## 2.2 Diachronic identity and the persistence of individual persons

In the case of individual persons, identity goes along with rights and responsibilities and even has important implications for our legal system. Someone who impersonates another person can be amusing, but someone who assumes the identity of someone else in order to gain some benefit is an identity thief. These kinds of judgments of personal identity can be seen in everyday discourse. For example, research suggests that the causal relationship between an individual named in a sentence (e.g., *Fred invited Calvin to dinner*) and a pronoun in a subsequent sentence (e.g., *He spent hours cleaning the house*) determines which antecedent people choose for the pronoun (Sagi and Rips 2014). Correspondingly, how people determine the persistence of their own identity

may affect how they think about the future and the choices they make. The relationship that a person has with her future self is special insofar as, if the right relations hold, her future self is entitled to the things she owns now and will be held responsible for her current self's actions. Also, importantly, benefits to her future self can compensate for burdens imposed on her now in a way that benefits to others typically cannot—this is what offers us the rationale for doing things that benefit us in the long run even if they're less pleasant in the short run (e.g., saving for retirement, foregoing an energy-dense desert). So, understanding how people make judgments about the continuity of their identity could help us to understand why people don't do these things as often as they should and might offer us new methods of helping people to act in accordance with their long-term interests.

One way by which people could make judgments about identity continuity would be to rely on physical similarity. However, as long as the causal path is known, we clearly can track individuals across fairly substantial changes in appearance without feeling like they've gone out of existence (as we do when we watch a baby develop into an adult or when we observe a person persisting despite altering his appearance through elective procedures like hair replacement or plastic surgery). In fact, because we expect a person to change in appearance as they age, we might actually conclude that someone is not the same person they used to be if their appearance remains unchanged for a considerable length of time (Rips et al. 2006; Rips 2011). Studies that have compared the influence of bodily-physical continuity versus continuity in psychological properties—like memories, beliefs, and values—find that people's judgments of identity continuity in others are more predicated on the continuity of psychological properties (Nichols and Bruno 2010).

Several studies have investigated the implications of how people think about the continuity of their own psychological properties for their decisions. Parfit (1984) argues that a person can be construed as a temporal sequence of partially-overlapping selves and that if a person's future self is sufficiently different in terms of personality and values from the person's current self, these two people are not (fully) the same person. This theory has a number of important implications for the way we should treat people (i.e., others as well as our future selves) which appears to have some descriptive validity. For example, one recent study induced people to believe that they had undergone a great deal of (versus not much) personal change in the last year and asked how much punishment they would deserve for cheating on an exam a year ago. When people viewed themselves to be psychologically very different from a past self, they regarded their current self as less deserving of punishment (Tierney et al. *forthcoming*).

The bulk of evidence related to this theory of psychological connectedness concerns perceptions of change in the future and forward-looking choices. The general prediction is that the more one anticipates change in the aspects of identity currently regarded as self-defining—the less “connected” she feels with the future self—the more weight she will attach to the interests of the current self, relative to the future self. While anticipated change is likely complex, judgments about identity seem to be especially sensitive to changes in moral qualities, relative to changes in memories and desires (Strominger and Nichols 2013).

Studies have found that the motivation to sacrifice one's consumption on behalf of future selves sometimes depends on how connected the current self feels toward those future selves—operationalized as how much overlap the person perceives with respect

to beliefs, values, and other defining features of personal identity. Psychological connectedness has been implicated as a driver of people's temporal discounting (i.e., a preference for smaller awards that are available sooner over larger rewards available later). For example, Bartels and Rips (2010) found that changes in perceived connectedness across time mirror changes in patience over time. Ersner-Hershfield et al. (2009a) and Mitchell et al. (2010) showed that neural correlates of connectedness correlate with discounting.

Connectedness has also been shown to affect consumer financial decision making. For example, Bartels and Urminsky (2011) found that people made to feel disconnected from the future self demanded more money to wait for a gift card and were less willing to wait to save money on a purchase, and Bartels et al. (2014) have found that manipulating connectedness increases people's willingness to forego discretionary spending in favor of savings when financial tradeoffs are made silent. Bartels et al. (2013) found that people who were induced to feel less connected to the future self placed lesser value on the welfare of that future self, resulting in greater generosity toward others in a year in a dictator game with charity, as compared to those who were induced to feel more connected to their future self.

While connectedness has been implicated as a factor affecting people's motivation to provide for their own future material interests (versus their own current interests or others' material interests), it does not appear to be implicated in anxiety over future pain (Tierney et al. *forthcoming*). Perceptions of future pain seem to be more affected by people's intuitions about the continuity of their own consciousness than their intuitions about personal change.

### 2.3 The stickiness of identity content

Thus far, we have reviewed research on the persistence of identity, taking the perspective of an individual. From a longer-term view, the content of identities themselves, beyond specific individuals, may differ in persistence over time. The roles and stereotypes of specific social identities can but can often be surprising persistent, impacting people's choices across time and distance. Alesina et al. (2013) provide a dramatic illustration, documenting the deep, historical origins of current gender identity norms.

The authors test the hypothesis that the origin of differences in gender norms lies in the different types of agriculture traditionally practiced across pre-industrial societies, shifting versus plough agriculture (cf., Boserup 1970). Shifting, which uses hand-held tools like the hoe and the digging stick, is labor intensive, with women actively participating in farm work. By contrast, plough agriculture is more physically demanding insofar as it involves pulling the plough or controlling the animal that pulls it. It's also less compatible with women's childcare. As a result, centuries of a gender-based division of labor in plough agriculture societies created a cultural belief that it is more natural for men to work outside the home than women. According to the hypothesis, these cultural beliefs then continue to persist even after the economy transitions from agriculture to industry and services.

Alesina et al. test this hypothesis by combining preindustrial ethnographic data on plough use with contemporary measures of people's views on gender roles and female participation in activities outside the home. They find that descendants of societies that traditionally practiced plough agriculture currently have less equal gender norms,



measured using reported gender-role attitudes and female participation in the workplace, politics, and entrepreneurial activities. The results hold looking across countries, across ethnicities, and across ethnicities within countries. Even among the children of immigrants in Europe and the USA, all born and raised in the same country, people from plough cultures have less beliefs about gender roles today. This paper suggests that fully understanding differences in how we construe social identities, and thereby how the social identity affects behavior, may require looking back in time at the economic factors influencing their evolution and persistence.

### 3 Future directions

This review highlights the need for disparate approaches, synchronic and diachronic, psychological and economic, to fully understand how people think of their identity and how identity influences their choices. What determines people's conceptions of their identities? How do anticipated or observed changes over time affect people's identity and, consequently, their choices? When do people conform to or react against the norms associated with identities? How do people respond to challenges to their identity? How do people make choices between identity-relevant options and how do people deliberately shape and manage their identities? While current research is beginning to shed light on these issues, much remains to be explored in fully understanding the role that identity plays in shaping choices.

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