Variety in Self-Expression Undermines Self-Continuity

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From dating profiles and social media accounts to online streaming services, consumers are often asked to express who they are by constructing an assortment. Apple Music, for example, asks new users to indicate "two or more" of their favorite types of music when they create an account. But while consumers might create such self-expressive assortments to communicate who they are, could the composition of these assortments also affect how people see themselves? Seven studies demonstrate that perceiving greater variety in a self-expressive assortment undermines self-continuity. This occurs because variety leads consumers to infer that their preferences are less stable, thereby decreasing the belief that their identity stays the same over time. Variety's effect generalizes across multiple domains of self-expression (e.g., books, music, television) and has downstream consequences for service evaluation and even unrelated decision-making (e.g., intertemporal tradeoffs). The findings advance understanding of how choice shapes identity, the role of variety in consumers' lives, and factors that affect self-continuity. The results also have implications for the marketers who encourage (and the consumers who construct) self-expressive assortments.

Keywords: identity, variety, choice, self-continuity, self-expression, self-perception

From dating profiles and social media accounts to online streaming services, consumers are often asked to represent their personal tastes by constructing an assortment. Streaming services like Spotify display users' "Top Artists" as part of their personal account information. Dating services like eHarmony solicit and share users' "3 best life skills" or "5 apps they couldn't live without."

Marketing promotions like LivingSocial's "Pick Five" campaign encourage people to list their "five favorite" movies and music genres on their social media profiles (Sullivan 2009). While these lists can serve different functions (e.g., tailoring recommendations, facilitating social connection, promoting customer engagement and word of mouth), all encourage consumers to express who they are by creating an assortment.

Opportunities to create such "self-expressive assortments" are increasingly prevalent. The e-commerce subscription industry—one of the main contexts where consumers create self-expressive assortments—has grown by more than 100% per year over the last five years (Columbus 2018). Forty-six percent of US consumers report using at least one online subscription service (Columbus 2018) and 77% have an online social media account (Statista 2018). The popularity of such virtual service offerings has triggered a shift in how people express themselves in the marketplace—away from physical goods and toward curated lists.

But while consumers may construct self-expressive assortments to communicate who they are, whether to other people or to firms, might these same assortments also

impact how consumers evaluate themselves? What aspect(s) of the assortment might play a role?

The current research proposes that the variety in a self-expressive assortment affects how consumers see their own identity. In particular, we argue that perceiving greater variety in a self-expressive assortment undermines the belief that one's identity stays the same over time (i.e., self-continuity). Seven studies support this prediction across multiple self-expressive choice domains and demonstrate why it occurs. The findings also suggest unintended downsides to this popular marketing trend. Not only can perceiving greater variety in a self-expressive assortment diminish long-term service evaluations, but it can also have deleterious effects on decision-making in unrelated domains (e.g., intertemporal tradeoffs).

This work makes three main contributions. First, while prior research on identity and choice has predominantly focused on how individual choices shape aspects of one's identity at a particular moment in time (i.e., "static" identity; Aaker 1997; Belk 1988; Berger and Heath 2007), we explore how multiple choices (i.e., an assortment) shape beliefs about change in overall identity over time (i.e., "dynamic" identity). Second, while the variety literature has explored consumers' motivations for choosing more or less variety (Kahn 1995; Ratner, Kahn, and Kahneman 1999; Simonson 1990) and what choosing variety communicates to observers (Ratner and Kahn 2002; Sela et al. 2019), we examine how perceiving more or less variety in a chosen assortment affects self-perception. Third, while prior research has demonstrated that self-continuity has important consequences (Bartels and Urminsky 2011; Hershfield et al. 2011), we identify variety as a novel, consumer-relevant factor that spontaneously influences such judgments.

IDENTITY AND CHOICE

Consumer choice plays a critical role in identity. Products contain symbolic value (Aaker 1997; Belk 1988; Levy 1959; McCracken 1986; Richins 1994), and consumers often choose products to communicate something about themselves. Decades of consumer research have examined the processes by which choice shapes identity (Elliott and Wattanasuwan 1998; Gollwitzer 1986; Kleine, Kleine, and Kernan 1993; Oyserman 2009; Richins 1994; Schouten 1991; Sirgy 1982).

One way choice influences identity is through directed or intentional action. Consumers may intentionally choose products to reflect who they are or how they would like to be seen. A person who identifies as "rugged," for example, may buy a Jeep (or another SUV) to express this rugged identity (Aaker 1997). Such purposeful expression of identity through choice can be done for one's own self-knowledge (Belk 1988; Fournier 1998; Reed 2004;

Sirgy 1982) or to influence others' perceptions (i.e., identity signaling; Berger and Heath 2007; Chan, Berger, and Van Boven 2012; Elliott 1997; Sela and Maimaran 2013; White and Dahl 2006, 2007). It can be proactive (as in the example above) or reactive (i.e., in response to identity threat; DeMarree, Petty, and Briñol 2007; Gao, Wheeler, and Shiv 2009; Rucker and Galinsky 2008). If the "rugged" individual got motion sickness driving in his new Jeep, for instance, he might bolster against this identity threat by purchasing another product that symbolizes ruggedness (e.g., hiking boots).

Choice can also shape identity through more indirect or spontaneous means. Self-Perception Theory posits that people draw inferences about who they are based on observing their own actions (Bem 1972; Festinger 1957; Festinger and Carlsmith 1959). Thus, consumers may infer aspects of their own identity by observing what products they choose. If a person just so happens to buy hiking boots, for example, that person may subsequently infer that she is a rugged individual based on having made that choice (Burger and Caldwell 2003; Festinger and Carlsmith 1959; Uranowitz 1975). Research on preference construction also suggests that people learn about their preferences based on what they choose in a given context (Bettman, Luce, and Payne 1998; Lichtenstein and Slovic 2006). Together, these findings suggest that consumers can come to understand who they are based on what their choices communicate about their identity.

Notably, the prior work on how choice shapes identity has predominantly focused on what choice says about the self at a single moment in time. However, in addition to being static, identity is also dynamic. Whereas static identity refers to one's identity at a specific moment in time (this could be thought of as a "snapshot" of who one is at a given point), dynamic identity refers to the change (or lack thereof) in identity over time. Notions of static and dynamic identity have received a great deal of attention in the psychology literature (Allport 1955; Darley and Fazio 1980; Demo 1992; Markus and Kunda 1986; Markus and Wurf 1987; Oyserman, Elmore, and Smith 2012). Philosophers have also discussed this distinction in terms of synchronic (i.e., at a single point in time) versus diachronic (i.e., across multiple points in time) facets of identity (Gallois 2016).

Although dynamic identity can sometimes refer to changes in a specific aspect of identity over time (e.g., whether one is becoming more or less rugged; Quoidbach, Gilbert, and Wilson 2013), scholars often discuss dynamic identity in terms of changes in global identity over time (i.e., changes in the person one is overall). For instance, consumers may evaluate whether the most important aspects of the self have changed over time (Burke 1980; Cross and Markus 1991; Markus and Kunda 1986), or even more generally, whether they have remained fundamentally the same person over time. This summative

evaluation of overall identity change—that is, "the belief that one's identity stays the same over time"—is referred to as self-continuity (Bartels and Urminsky 2011; Hershfield 2011; Parfit 1984; Sedikides et al. 2008). Self-continuity has a variety of important consequences for consumer well-being, from decisions about finances (e.g., saving more for retirement) to decisions about health and education (e.g., less procrastination; Bartels and Urminsky 2011; Hershfield 2011; Urminsky 2017; Urminsky and Zauberman 2015).

Importantly, while the role of choice in shaping static identity is well established, much remains to be learned about whether (and how) choice might influence dynamic identity. Anecdotally, consumers certainly seem to make intentional choices to reduce self-continuity (e.g., getting a dramatic haircut or discarding old possessions to show one is different from a past or future self). A few recent articles also suggest that people make strategic choices to maintain self-continuity (e.g., using vintage or heirloom products to enhance similarity with a past self, Sarial-Abi et al. 2017; Türe and Ger 2016). But whether consumers' self-expressive (i.e., identity-relevant) choices might spontaneously shape judgments of dynamic identity remains to be explored.

Do consumers draw inferences about self-continuity based on their choices? If so, what do they infer, and what aspect of their choices elicits such judgments? The current research addresses these questions.

THE CURRENT RESEARCH

We suggest that people draw inferences about the continuity of their overall identity based on the perceived variety in their self-expressive choices.

Variety has symbolic utility—that is, choosing variety communicates information about the chooser. Consumers construct varied assortments to signal to others that they are interesting (Ratner and Kahn 2002), unique (Ariely and Levav 2000), and autonomous (Kim and Drolet 2003), and these signals are believed to have the desired effect on others' perceptions. Consumers also infer others' expertise (Sela et al. 2019), strength of preference (Sela and Maimaran 2013), and authenticity (Crain, Bettman, and Luce 2019) from observing the variety in their choices. From seeing someone select a varied assortment of chocolates, for instance, an observer may infer that the chooser is a chocolate expert (Sela et al. 2019).

We propose that variety in a self-expressive assortment will undermine self-continuity by signaling (to oneself) that one's preferences in the choice domain are less stable. This prediction is based on the close connection between variety and notions of change. Classic research on variety-seeking suggests that a key reason why consumers choose variety is to allow for change. People choose variety to

hedge against possible changes in their future preferences (Kahneman and Snell 1992; Kreps 1979; Pessemier 1978; Simonson 1990). When selecting grocery items to consume over the course of the week, for example, people may choose a variety of flavors to accommodate the possibility that their tastes will change during that week (Simonson 1990).

Choosing variety can also create change. People choose variety to achieve a desired level of stimulation (Faison 1977; Gullo et al. 2019; McAlister and Pessemier 1982; Menon and Kahn 1995; Venkatesan 1973) and to stave off boredom and satiation (Galak and Redden 2018; Galak, Redden, and Kruger 2009). Repeatedly consuming the same stimulus can become boring, for instance, and choosing (or merely thinking about) variety mitigates this boredom by introducing change (Etkin and Mogilner 2016; Galak et al. 2009; Sevilla, Zhang, and Kahn 2016). Consumers may even strategically choose variety to create change in the self (Yang and Urminsky 2015). When people feel pessimistic about a particular outcome (e.g., their likelihood of winning a difficult game), for example, they seek variety across sequential choices to create the perception of self-change (Yang and Urminsky 2015).

Based on the association between variety and change, we argue that consumers will draw the reverse inference (via self-perception; Bem 1972; Festinger 1957; Festinger and Carlsmith 1959) and evaluate the extent to which their preferences are changing based on the variety in their choices. Specifically, when consumers perceive greater variety in a self-expressive assortment, we suggest that they should see their preferences in the choice domain as less stable and, instead, changing over time. For example, if a music lover perceived more (vs. less) variety among the "Top Artists" on his Spotify profile, we suggest that he will interpret the variety as an indication that his music tastes are less stable and changing over time.

Perceiving one's preferences as less stable, in turn, should affect judgments of overall self-continuity. Preferences are integral to identity (Dichter 1964; Grossack and Schlesinger 1964; Levy 1959; Ross 1971; Sirgy 1982). Consumers strategically shift their preferences to conform to desired identities as well as to disassociate from undesired ones (Berger and Heath 2007; Chan et al. 2012; White and Argo 2009; White, Argo, and Sengupta 2012). That people reflect on who they are as a whole based on their self-relevant preferences (Markus and Kunda 1986; Sedikides 1993) suggests that inferences about preference stability may impact judgments of overall identity continuity. Indeed, a common way scholars measure self-continuity is by asking people to consider their self-relevant preferences and whether they may be changing over time (Bartels and Rips 2010; Bartels and Urminsky 2011). Based on this, we suggest that when consumers see their preferences in a self-expressive domain as less stable and changing, they will believe their identity as

FIGURE 1

THEORETICAL FRAMEWORK AND EMPIRICAL OVERVIEW
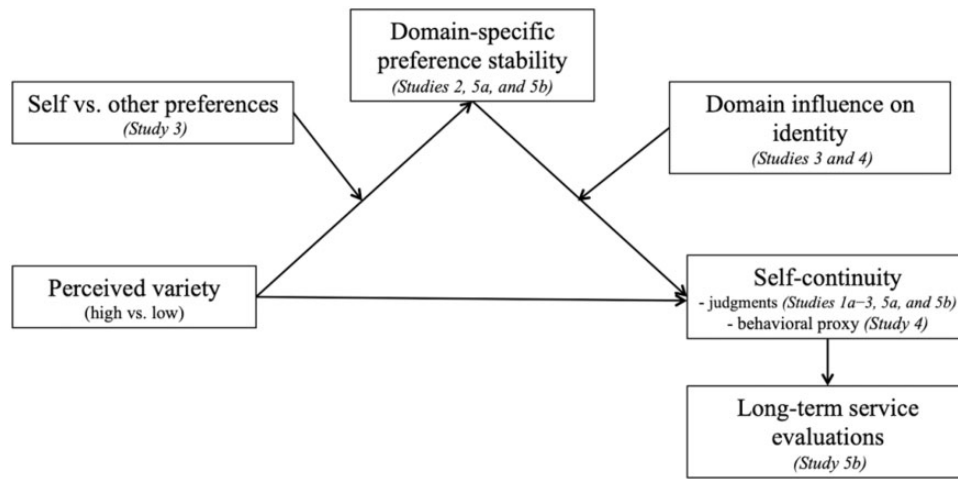
a whole is less stable and changing (i.e., less consistent over time).

In sum, we propose that, by making domain-specific preferences seem less stable, perceiving greater variety in a self-expressive assortment will undermine self-continuity.

> **H1:** Perceiving greater variety in a self-expressive assortment reduces self-continuity.
>
> **H2:** This effect (hypothesis 1) occurs because variety makes one's preferences in the choice domain seem less stable.

Notably, the notion that people make judgments about self-continuity based on observing multiple *sequential* choices (i.e., multiple choices over time) may seem intuitive. For instance, that a person would evaluate whether she is becoming healthier over time by observing what she ate for lunch each day last week might seem straightforward. We suggest, however, a more nuanced possibility—that consumers make judgments about self-continuity by observing multiple *simultaneous* choices (i.e., multiple choices at a single point in time), and specifically, by observing the variety among those self-expressive choices. Thus, although static and dynamic facets of identity are often treated as distinct (Gallois 2016), we suggest that aspects of one's choices at a single moment in time (i.e., the variety in an assortment) may shape omnibus judgments of identity over time (i.e., self-continuity).

OVERVIEW OF STUDIES

Seven studies test these predictions. All followed a similar structure. Participants considered signing up for an online service (e.g., a subscription service or a social media account) and constructed a self-expressive assortment for their personal profile. We either manipulated (studies 1a–4) or measured (studies 5a and 5b) the perceived variety in the assortment and tested its effect on self-continuity (figure 1).

Study 1a provided an initial test of our theory. Participants created a personal profile for a (fictitious) social media platform. We manipulated the perceived variety in their self-expressive assortment and measured self-continuity, testing whether perceiving greater variety undermines self-continuity. Study 1b manipulated perceived variety in a different way and included a control condition, testing whether perceiving more or less variety affects self-continuity (relative to control). Study 2 measured the proposed underlying mechanism and potential alternative explanations, testing whether the effect is driven by inferences of less stable preferences (rather than other possible inferences, such as being well-rounded). Studies 3 and 4 further explored the proposed underlying process through moderation, testing whether factors that attenuate variety's effect on preference stability (study 3) and the relationship between preference stability and self-continuity (studies 3 and 4) moderate the effects on self-continuity. In addition, study 4 tested consequences for decision-making in unrelated domains.

Finally, studies 5a and 5b measured the perceived variety among preexisting self-expressive assortments, examining whether the effect emerges spontaneously (i.e., without experimental manipulation) and for assortments crafted as part of consumers' natural lives. Importantly, study 5b further explored downstream implications, testing how variety influences evaluations of the service that elicited the self-expressive assortment (e.g., Spotify).

Importantly, the current research focuses on the perceived variety in *self-expressive assortments*—that is,

assortments that are self-relevant and therefore communicate information about one's identity. Self-relevance is critical to self-perception; consumers draw stronger inferences about the self when they make choices seen as more strongly linked to the self (Burger and Caldwell 2003; Festinger and Carlsmith 1959; Uranowitz 1975). Accordingly, in all studies, participants first indicated which of two domains was more self-relevant (which we included as a covariate; unadjusted means are presented for ease of interpretation) and then constructed an assortment in that domain.[1] Study 1a underscores this emphasis on self-expressive choice, demonstrating its role as a boundary condition and motivating our focus on self-expressive domains in subsequent studies.

Also worth noting is that across studies (and even within some studies), we measured self-continuity in multiple ways. Following prior research, in some studies, we asked people to compare their current self with their future self in one year's time (e.g., the three-item future-self connectedness [FSC] scale; Bartels and Urminsky 2011). In others, we more directly and intuitively assessed expectations of self-change over time (e.g., "How much do you think your identity will change over the next year?"). Study 4 also leveraged a previously established behavioral proxy for self-continuity: intertemporal patience (Bartels and Urminsky 2011). Using multiple measures of self-continuity enabled us to capture our core interest—the extent to which people believe their identity stays the same over time—while both showing generalizability and mitigating potential response or method biases.[2] To streamline our exposition, in studies with repeated measures of self-continuity (studies 1a, 2, 5a, and 5b), we combined these into an overall self-continuity index and analyze this index in the main results section of each study. Results hold when we analyze each measure separately (see the web appendix for details and results).

STUDY 1A: VARIETY IN SELF-EXPRESSION UNDERMINES SELF-CONTINUITY

Study 1a explores how the perceived variety in a self-expressive assortment shapes self-continuity. Participants created a personal profile for a fictitious social media platform. After they selected an assortment of entertainment genres to represent their personal tastes, we manipulated the perceived variety among participants' selections and then measured self-continuity. We predicted that encouraging participants to perceive more (vs. less) variety in their self-expressive assortment would undermine self-continuity.

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1 Results also hold without this covariate.
2 The effects also hold for past-self continuity; this study is not reported for the sake of brevity.

In addition, study 1a directly tests the proposed role of self-expressiveness as a boundary condition. Participants viewed four types of entertainment domains (music, TV, books, and public radio), and we randomly assigned them to construct an assortment in the domain that they identified as either the most or least expressive of who they are. Given that people draw stronger inferences about the self from actions that are more self-relevant (Festinger and Carlsmith 1959), if our theory is correct, then variety should undermine self-continuity only when the chosen assortment expresses the chooser's identity. We therefore expected that only perceiving greater variety in a self-expressive assortment would undermine self-continuity.

Design and Method

Two hundred twenty-two university lab participants (27.5% male, $M_{age} = 26.64$) were randomly assigned to a condition in a 2 (variety: high vs. low) × 2 (self-expressiveness: high vs. low) between-subjects design. In this and subsequent lab studies, participant availability and lab resources determined the sample size.

Participants viewed a list of four choice domains commonly used for self-expression (music, books, TV, and public radio) and indicated which domain was most and least expressive of who they are (see web appendix A for descriptive statistics). They then moved to the next page and began the main study.

First, participants constructed an assortment, and we manipulated the self-expressiveness of the choice domain. Participants read about a new social media platform for local members of their community. They read that they had just signed up for an account and were being asked to create a personal profile. Participants viewed a list of 16 options (e.g., book genres) from the choice domain previously marked as their most self-expressive (high self-expressiveness condition) or least self-expressive (low self-expressiveness condition), and selected five items from this list to represent their personal "ideal collection" (see web appendix B for stimuli).

Second, we manipulated perceived variety. After participants made their selections, we provided (false) feedback about the composition of their choices (adapted from Sela and Berger 2016). In the high variety condition, participants read, "Our results indicate that your choices include 82% *more* variety than the average response from a prior sample that completed this task. In other words, the options you selected represent a more *diverse* set than was chosen by the majority of participants in a prior study." In the low variety condition, participants read, "Our results indicate that your choices include 82% *less* variety than the average response from a prior sample that completed this task. In other words, the options you selected represent a more

similar set than was chosen by the majority of participants in a prior study."[3]

Third, we measured self-continuity. Following prior work (Bartels and Urminsky 2011), we asked participants to think about the fundamental aspects that make up who they are now (including their values, ideals, and aspirations), as well as who they would be in one year, and then to respond to three items: (1) a six-option Likert scale depicting two circles that overlapped to differing extents (circles labeled "Person Now" and "Person in One Year"; 1 = Not at all overlapping, 6 = Completely overlapping); (2) a similarity rating between current and future selves (0 = Completely different, 100 = Exactly the same); and (3) a connectedness rating between current and future selves using the overlapping circles from item 1 (0 = Completely disconnected, 100 = Completely connected). Together, these three items reflect "future-self connectedness" (Bartels and Urminsky 2011). For items as they appeared, see web appendix C.

In addition, participants reported how similar they felt to the person they would be in one year as well as how much they had in common with that person (Hershfield, Cohen, and Thompson 2012; both items, 1 = Not at all, 7 = A great deal). After we standardized all five items, a principal axis factor analysis with direct oblimin rotation yielded one factor (Eigenvalue for one factor = 3.41). We therefore averaged the five items to create a single self-continuity index for analysis (α = .88, M = .00, SD = .83). For details and results with separate measures, see web appendix D.

Finally, in this and subsequent studies, participants answered basic demographic questions and were debriefed.[4]

Results

A 2 (variety) × 2 (self-expressiveness) between-subjects ANCOVA (with choice domain as the covariate) revealed the expected interaction ($F(1, 217) = 4.37$, $p = .038$, $\eta^2 = .019$), with no main effects (variety: $F < 1$; self-expressiveness: $F(1, 217) = 1.78$, $p = .184$; figure 2).
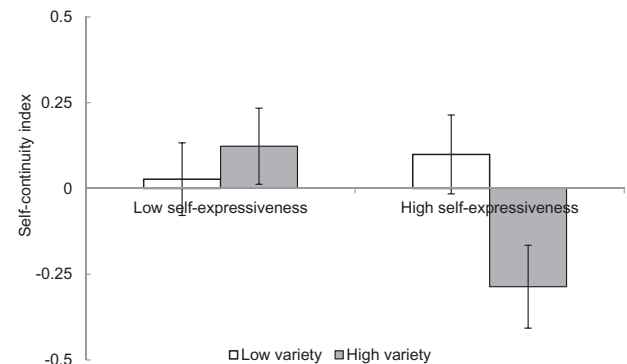
As predicted, when the choice domain was self-expressive, perceiving greater variety undermined self-continuity ($F(1, 217) = 5.43$, $p = .021$, $d = .48$). Compared to the low variety condition (M = .09, SD = .76), participants encouraged to perceive more variety in a self-expressive assortment felt less continuity between who they are now and who they will be in the future (M = −.29, SD = .83).

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3   A pretest (N = 199) demonstrated that the variety feedback had the intended effect (ANCOVA; $F(1, 196) = 62.48$, $p < .001$). Compared to the low variety condition (M = 4.05, SD = 1.81), participants perceived more variety in the assortment (1 = Very little variety, 7 = A lot of variety) in the high variety condition (M = 5.70, SD = 1.06).

4   We also collected preliminary service evaluation measures; see web appendix D for details and results.

FIGURE 2

VARIETY IN SELF-EXPRESSIVE ASSORTMENTS UNDERMINES SELF-CONTINUITY (STUDY 1A)

When the choice domain was not self-expressive, however, variety had no such effect. Supporting our theory, when participants did not see their choices as expressing who they are, encouraging them to perceive greater variety in the assortment did not influence self-continuity ($F < 1$; $M_{high-variety}$ = .12, SD = .86 vs. $M_{low-variety}$ = .03, SD = .81).

Discussion

Study 1a provides initial support for our predictions. Participants constructed a self-expressive assortment, and encouraging them to perceive more (vs. less) variety in that assortment undermined self-continuity. The perceived variety in a self-expressive assortment can thus shape how consumers see their overall identity, and specifically, whether that identity remains the same over time.

Importantly, consistent with prior work and with our theory, variety undermined self-continuity only when the choice domain was self-expressive. When participants constructed an assortment from a domain that did not relate to their identity, variety had no impact on self-continuity. This finding supports our suggestion that self-expressive choice is a critical boundary condition for the proposed effects. Accordingly, our subsequent studies exclusively focus on self-expressive choice domains to test our predictions.

STUDY 1B: VARIETY UNDERMINES SELF-CONTINUITY RELATIVE TO CONTROL

Study 1b extends study 1a in two ways. First, we included a control condition in which perceived variety was not manipulated. Because the self-concept is assumed to be relatively stable (Cialdini, Trost, and Newsom 1995;

Kelly 1955; Lecky 1945), judgments of self-continuity may be relatively high at baseline. If this is the case, then perceiving greater variety in a self-expressive assortment should reduce self-continuity relative to both perceiving less variety and the control condition.

Second, we manipulated perceived variety in a different way. Prior work finds that categorizing the same set of items into a larger number of distinct groups makes those items seem more varied (Mogilner, Rudnick, and Iyengar 2008; Redden 2008). Thus, rather than simply providing explicit feedback about the variety in their assortments, we organized participants' selections into different numbers of categories and then measured self-continuity.

Design and Method

Two hundred fourteen US Amazon Mechanical Turk (MTurk) workers (48.6% male; M_{age} = 36.68) were randomly assigned to one of three conditions: high variety, low variety, and control. A target rule of at least 60 participants per condition determined the sample size.

First, participants constructed a self-expressive assortment. Participants indicated which of two choice domains they engaged with more frequently (books or public radio) and were sorted into a choice task based on their response (books [68.2%] vs. public radio [31.8%]). Participants then read about a "new online service for MTurkers" (MTurk workers), called "TurkMe," for which they were being asked to create a personal profile. They viewed a list of 24 book genres (e.g., fantasy, young adult, nonfiction) or public radio program genres (e.g., world news, current events talk shows, podcasts), based on their previous response, and selected an assortment of 12 items from this list as their personal "ideal collection" (see web appendix B for stimuli).

Second, we manipulated perceived variety. After making their selections, participants viewed a simple profile that had ostensibly been created for them based on their responses. In the high variety condition, we displayed their 12 chosen genres as six distinct categories and told participants that their "chosen genres fall into six main categories." In the low variety condition, we displayed the 12 chosen genres as two distinct categories and told participants that their "chosen genres fall into two main categories." In the control condition, we displayed the 12 chosen genres without any categorization, and participants received no additional information (see appendix A for manipulation as it appeared). Thus, all participants viewed a simple, computer-generated personal profile populated with their selections; the only aspect that differed across conditions was the description and visual presentation of categories (or lack thereof).

Third, we measured self-continuity. Participants answered the two questions from study 1a about how similar they felt to the person they would be in one year and how

HIGH VARIETY UNDERMINES SELF-CONTINUITY RELATIVE TO LOW VARIETY AND CONTROL (STUDY 1B)
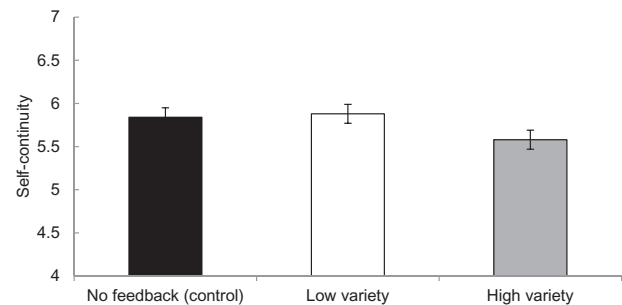
much they had in common with that person (both items, 1 = Not at all, 7 = A great deal), which we combined (r = .76, M = 5.77, SD = .93).

Results

A one-way ANCOVA (with choice domain as the covariate) revealed a marginal effect of variety on self-continuity ($F(2, 210)$ = 2.36, p = .097; η^2 = .022; figure 3). Consistent with study 1a, perceiving greater variety undermined self-continuity ($F(1, 210)$ = 4.10, p = .044, d = .32). Compared to the low variety condition (M = 5.89, SD = .89), participants encouraged to perceive more variety in a self-expressive assortment felt less continuity between who they are now and who they will be in the future (M = 5.58, SD = 1.06).

Further, consistent with our suggestion, perceiving greater variety also reduced self-continuity relative to the control (i.e., no feedback) condition (albeit marginally; $M_{control}$ = 5.84, SD = .81; $F(1, 210)$ = 2.86, p = .092, d = .28), and the control and low variety conditions did not differ ($F(1, 210)$ = .12, p = .733).

Discussion

Study 1b further supports our predictions. Perceiving greater variety in a self-expressive assortment undermined self-continuity. That we found consistent results across multiple self-expressive domains and with a different variety manipulation underscores their generalizability.

Further, perceiving greater variety undermined self-continuity relative to a control condition (which was identical to the low variety condition). Although the effect was marginal, the finding is consistent with the notion that self-continuity is relatively high at baseline and that perceiving greater variety reduces (rather than perceiving less variety enhances) self-continuity.

Although our focus is on how the perceived variety of a self-expressive assortment shapes self-continuity, an important driver of perceived variety is actual variety (Kahn and Wansink 2004); thus, a natural question is whether the actual (i.e., chosen) variety in people's choices has a similar effect on self-continuity. To explore this, a hypothesis-blind research assistant examined participants' choices in the control (i.e., no variety manipulation) condition and scored each assortment based on (1) categorization (i.e., the number of distinct genre categories represented in participants' selections, used to create a Herfindahl index; higher scores indicate less variety; $M = .04$, SD $= .01$) and (2) overall perceptions of chosen variety (1 = No variety at all, 5 = A great deal of variety, $M = 3.08$, SD $= 1.18$). Both showed a negative and marginally significant relationship between actual variety and self-continuity (Herfindahl index: $r = .22$, $p = .061$; overall perception: $r = -.21$, $p = .083$). While perceived variety may matter more, incorporating greater actual variety into a self-expressive assortment is also negatively related to self-continuity (see web appendix E for details).

STUDY 2: THE UNDERLYING ROLE OF PREFERENCE STABILITY

Study 2 explores the proposed underlying process through mediation. In addition to measuring self-continuity, we had participants evaluate the stability of their preferences in the choice domain, and we tested whether this drove variety's effect. We predicted that perceiving greater variety in a self-expressive assortment would make people see their domain-specific preferences as less stable, and that this decrease in perceived preference stability would mediate the reduced self-continuity.

In addition, study 2 explores alternative explanations based on other possible inferences. As previously discussed, variety has multiple associations, and one could wonder whether alternative inferences based on these other associations—such as one's preferences being well-rounded, interesting, or complex—could also play a role. While perceiving greater variety in a self-expressive assortment may indeed make one's preferences seem more well-rounded (complex, interesting, etc.), because these inferences relate to "static" judgments about preferences (i.e., at a specific moment in time), they should be less likely to influence dynamic judgments of self-continuity. To test this, in addition to the proposed underlying mechanism (preference stability), we measured alternative inferences and tested each as a potential driver. We expected that (only) reduced preference stability would mediate variety's effect.

Design and Method

Two hundred forty-nine US MTurk workers (49.4% male, $M_{age} = 35.8$) were randomly assigned to a variety condition: high vs. low. To increase the power to detect alternative mechanisms, a target rule of at least 120 participants per condition (approximately double that in study 1b) determined the sample size.

First, participants constructed a self-expressive assortment. Similar to study 1b, participants indicated which of two choice domains they engaged with more frequently (books or magazines) and were sorted into a choice task based on their response (books [77.9%] vs. magazines [22.1%]). They then read about a "new entertainment subscription service" that would send monthly recommendations in the chosen domain (books or magazines). They read that they had just signed up for an account and were being asked to create a personal profile to serve as input for the recommendations. Participants viewed a list of 16 items (book or magazine genres, based on their preference), and selected five as their "ideal personal collection" (see web appendix B for stimuli).

Second, we manipulated perceived variety using the feedback manipulation from study 1a. In the high (low) variety condition, participants read that their choices included more (less) variety relative to peers.

Third, we measured the proposed underlying mechanism: perceived preference stability in the choice domain. Participants indicated their agreement with two items (both 1 = Strongly disagree, 7 = Strongly agree): "My [book/magazine] preferences are stable" and "My book/magazine preferences change a lot" ($r = -.73$, second-item reverse-scored and combined, $M = 5.10$, SD $= 1.50$).

Fourth, we measured self-continuity. Similar to study 1a, participants responded to the three future-self connectedness items ($\alpha = .80$; Bartels and Urminsky 2011) as well as two simple measures of self-continuity. In particular, we prompted participants to think about their identity overall and "the ways in which you may or may not change over the next year" and then asked, "How much do you think your identity will change over the next year?" (1 = Not at all, 7 = A great deal) and "In one year, I will likely be..." (1 = Very similar to who I am now, 7 = Very different from who I am now").[5] After we reverse-scored (to be consistent with the scaling of prior studies) and standardized all five items, a principal axis factor analysis with direct oblimin rotation yielded one factor (Eigenvalue for one factor $= 3.49$). We therefore averaged the five items into a single self-continuity index ($\alpha = .89$; $M = .00$, SD $= .83$). For details and results with separate measures, see web appendix F.

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5   For ease of responding, we reversed the anchors on the future-self connectedness items to match this "expected identity change" scaling—that is, higher scores indicating less self-continuity.

Fifth, we measured other inferences that could be drawn from the variety feedback. After reminding participants of the variety in their choices (to avoid manipulation wear-off), we asked them to rate their agreement with three statements (all items $1 =$ Strongly disagree, $7 =$ Strongly agree): "My [book/magazine] preferences are... interesting [well-rounded, complex]" ($M_{interesting} = 5.67$, SD $= 1.18$; $M_{well-rounded} = 5.22$, SD $= 1.40$; $M_{complex} = 4.65$, SD $= 1.63$).

Results

Self-Continuity. As predicted, and consistent with the prior studies, variety undermined self-continuity ($F(1, 246) = 4.89$, $p = .028$; $d = .29$). Compared to the low variety condition ($M = .12$, SD $= .81$), participants in the high variety condition reported less self-continuity ($M_{high-variety} = -.12$, SD $= .85$).

Preference Stability. Supporting our theory, variety reduced preference stability ($F(1, 246) = 13.03$, $p < .001$, $d = .45$). Compared to the low variety condition ($M = 5.43$, SD $= 1.28$), participants in the high variety condition viewed their preferences in the choice domain as less stable ($M = 4.77$, SD $= 1.63$).

Mediation. To test whether reduced preference stability drives variety's effect, we used bias-corrected bootstrapping to generate a 95% confidence interval around the indirect effect of preference stability (where mediation occurs if the confidence interval excludes zero; Hayes 2013, model 4 in PROCESS; 5,000 samples; domain included as a covariate). As predicted, perceiving greater variety in a self-expressive assortment undermined self-continuity by making domain-specific preferences seem less stable ($ab = -.14$, SE $= .04$, 95% CI: [−.23, −.07]). See web appendix H for pairwise correlations and detailed mediation results.[6]

Alternative Explanations. Consistent with the notion that variety has multiple associations (which could signal something about the chooser's preferences), perceiving greater variety in a self-expressive assortment made one's preferences seem more well-rounded ($M_{high-variety} = 5.49$, SD $= 1.11$ vs. $M_{low-variety} = 4.95$, SD $= 1.61$; $F(1, 246) = 9.43$, $p = .002$, $d = .39$), more complex ($M_{high-variety} = 4.90$, SD $= 1.44$ vs. $M_{low-variety} = 4.40$, SD $= 1.77$; $F(1, 246) = 6.15$, $p = .014$, $d = .31$), and (directionally) more

interesting ($M_{high-variety} = 5.75$, SD $= 1.09$ vs. $M_{low-variety} = 5.58$, SD $= 1.26$; $F(1, 246) = 1.32$, $p = .251$, $d = .14$). But importantly, none of these perceptions were significantly correlated with self-continuity, nor did they mediate variety's effect, casting doubt on their ability to explain the results. See web appendix F for details.

Discussion

Study 2 provides additional support for our predictions by demonstrating the proposed underlying process. Perceiving greater variety in a self-expressive assortment made participants see their preferences in the choice domain as less stable, and this perception of reduced preference stability drove the decrease in self-continuity. Variety can therefore undermine self-continuity by shaping how consumers evaluate the stability of their preferences.

In addition, study 2 also casts doubt on potential alternative explanations based on other inferences. Although variety did lead people to see their preferences as more well-rounded, complex, and interesting (directionally), these inferences did not impact self-continuity and therefore cannot explain the results.

STUDY 3: CHOOSING FOR ANOTHER PERSON ATTENUATES THE EFFECT

Study 3 examines the underlying process through moderation. We have argued that perceiving greater variety in a self-expressive assortment undermines self-continuity by eliciting inferences about the self (i.e., that one's preferences in the choice domain are less stable). If our theory is correct, then when the variety in the assortment does not lead to inferences about preference stability, it should not impact self-continuity. Put differently, even if people choose from a domain that they personally find self-expressive, when choice does not depend on one's personal preferences, variety should not affect self-continuity. To test this, we manipulated whether participants constructed an assortment for themselves or on behalf of another person. We expected that when choice was based on one's personal preferences (as in the prior studies), perceiving greater variety would undermine self-continuity. When choice was based on another person's preferences, however, the effect should be attenuated.

Note, if choosing for another person attenuates variety's effect, as we expect, this would also cast doubt on an alternative explanation based on priming (i.e., that variety reduces self-continuity by priming general notions of change).

In addition, study 3 further explores the underlying process by measuring the influence of domain-specific preferences on overall identity. A key aspect of our theory is that inferences about preference stability influence judgments of self-continuity. Not all choice domains, however,

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6   Following prior work (Bagozzi, Yi, and Phillips 1991; Zhao, Lynch, and Chen 2010), we tested the discriminant validity of the proposed mediator (preference stability) and dependent variable (self-continuity) with correlation and factor analysis. Demonstrating that these constructs are empirically distinct, the 95% confidence interval for the correlation excluded one ($r = .38$, 95% CI: [.27, .49]; bootstrapped from 1,000 samples) and a principal axis factor analysis yielded two factors (Eigenvalue $= 1.36$), with the preference stability items loading on one factor and the self-continuity items loading on the other. See web appendix H.

necessarily have the same impact. Components of identity can differ in their "causal centrality," with more central aspects exerting a greater influence on the overall self-concept (Chen, Urminsky, and Bartels 2016). Even among domains all considered to be self-expressive, some may be perceived as more (or less) influential. For example, while music and public radio could both be self-expressive consumption domains, music may be seen as exerting a stronger influence on one's overall identity than public radio. Accordingly, if our theory is correct, then the extent to which variety impacts self-continuity should also depend on the perceived influence of the (self-expressive) choice domain on overall identity. To explore this, we measured this influence and tested how it shaped variety's effect. We expected that perceiving greater variety in a self-expressive assortment would more strongly affect self-continuity when preferences in the choice domain were seen as exerting a stronger influence on overall identity.

Design and Method

Two hundred thirteen university lab participants (35.9% male, M_{age} = 23.63) were randomly assigned to a condition in a 2 (variety: high vs. low) × 2 (profile: self vs. other) × domain influence (measured) between-subjects design.

Participants indicated which of two choice domains best expressed who they are (music [75.1%] vs. TV [24.9%]) and provided the name of a classmate or coworker whom they liked and knew reasonably well. They then moved to the next page to begin the main study.

First, participants constructed a self-expressive assortment, and we varied whether the assortment was for themselves or another person. Participants read about the entertainment subscription service from study 2 and were asked to create a membership profile. In the "self" condition, this profile was for themselves (as in the prior studies). In the "other" condition, this profile was for the person they had previously identified, who had ostensibly just signed up for an account and asked the participant to set up a profile on their behalf. Participants viewed a list of 16 items (music or television genres, based on their preference) and selected five as the "ideal personal collection" for themselves or for another person, depending on condition.

Second, we manipulated perceived variety using the feedback manipulation from studies 1a and 2.

Third, we measured self-continuity using the two "expected identity change" items from study 2, which we combined (and reverse-scored for consistency; r = .74; M = 4.06, SD = 1.51).

Fourth, we measured the extent to which domain-specific preferences influenced overall identity: "How big a role do your [music/television] preferences play in determining your identity?" (M = 3.84; SD = 1.76; 1 = A very small role, 7 = A very big role).

Results

Regressing self-continuity on variety condition (0 = Low variety, 1 = High variety), profile condition (0 = Self, 1 = Other), measured domain influence (mean-centered), and all two- and three-way interactions (with choice domain as a covariate) revealed a variety × domain influence interaction (B = –.47, SE = .17, $t(204)$ = –2.87, p = .005) and a profile × domain influence interaction (B = –.29, SE = .16, $t(204)$ = –1.83, p = .069), qualified by the predicted three-way interaction (B = .42, SE = .23, $t(204)$ = 1.78, p = .077; figure 4).

Examining the effects in each profile condition supports our theory. As expected, when participants constructed a profile for the self, the variety × domain influence interaction was significant (B = –.47, SE = .16, $t(204)$ = –2.87, p = .005; panel A of figure 4). A floodlight analysis (Spiller et al. 2013) further revealed that, when participants constructed a profile for the self, the simple effect of variety on self-continuity became significant at >.22 SD of domain influence (B = –.58, SE = .29, $t(204)$ = –1.97, p = .050). Among people who believed that domain-specific preferences had at least a moderate influence on identity, perceiving greater variety reduced self-continuity.

Among people who believed domain-specific preferences had a weaker influence on identity (< .22 SD), however, the effect was attenuated. This suggests that the relationship between variety and self-continuity depends on the extent to which preferences are believed to influence overall identity.

Importantly, as expected, when constructing a profile for another person, neither the simple effect of variety, nor the variety × domain influence interaction, was significant (ts < 1.60, ps > .11; panel B of figure 4). Consistent with our theory, when the assortment was constructed with another person's preferences in mind, variety no longer reduced self-continuity.

Discussion

Study 3 provides additional evidence for the proposed underlying process in two ways. First, manipulating whether or not the assortment was constructed based on one's own preferences moderated variety's effect. When participants constructed an assortment based on their personal preferences, variety reduced self-continuity (as in prior studies); when participants constructed an assortment based on another person's preferences, however, this effect was attenuated. Supporting the theorized self-inferential process, variety undermined self-continuity only when the variety in the assortment reflected one's personal tastes.

Second, this moderation further depended on the perceived extent to which one's preferences in the choice domain influenced overall identity. When participants constructed an assortment based on their personal

FIGURE 4

VARIETY UNDERMINES SELF-CONTINUITY ONLY WHEN THE ASSORTMENT REFLECTS PERSONAL PREFERENCES (STUDY 3)

Panel A: "Self" condition
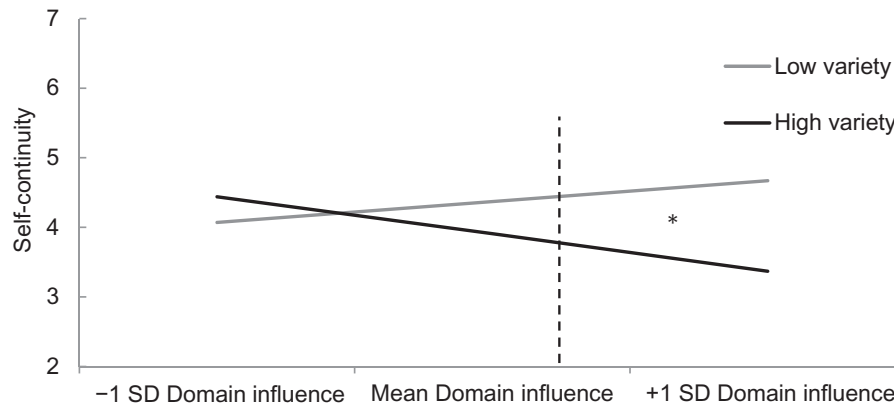
Panel B: "Other" condition
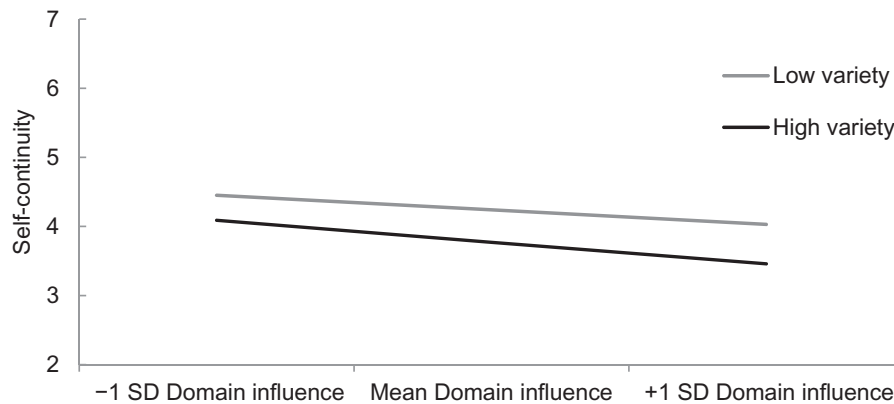
preferences, the more that they believed their preferences in that domain influenced their identity, the more that perceiving greater variety in the assortment undermined self-continuity. This suggests that variety undermines self-continuity to a greater extent when consumers' domain-specific preferences are more central to their overall identity. We test this idea directly in study 4 by manipulating the perceived impact of domain-specific preferences on identity and examining whether it moderates variety's effect.

Notably, together with study 1a, study 3 also casts doubt on a potential alternative explanation based on priming. If variety undermines self-continuity simply by priming notions of change, then the effect should persist regardless of the self-expressiveness of the choice domain (study 1a)

and whether the (self-expressive) assortment was constructed based on one's personal preferences (study 3). That both of these factors moderated variety's effect casts doubt on the possibility that a priming account can explain the full pattern of results.

STUDY 4: REDUCING DOMAIN INFLUENCE ATTENUATES THE EFFECT

Study 4 has two main goals. First, building on study 3, we further test the underlying process by manipulating the perceived influence of the choice domain on one's overall identity. As previously discussed, beyond just being self-expressive (i.e., relevant to one's identity), self-expressive

choice domains can differ in the extent to which they are perceived to influence one's overall identity (Chen et al. 2016), and this should moderate variety's effect. To test this causally, all participants first constructed an assortment in a self-expressive choice domain, and we then manipulated the perceived influence of that domain on overall identity (i.e., domain influence). We expected that when the choice domain was framed as influential to overall identity, variety should undermine self-continuity due to reduced preference stability (as in study 2). When the choice domain was framed as less influential, however, variety should still reduce preference stability, but its effect on self-continuity should be attenuated.

Second, study 4 begins to explore implications for decision-making. If variety undermines self-continuity, as we suggest, then it should also impact behaviors that follow from perceiving low self-continuity. An important class of these behaviors is intertemporal preferences (Bartels and Urminsky 2011; Hershfield 2011). Prior work finds that when people feel less connected to their future selves (i.e., low self-continuity), they exhibit reduced intertemporal patience (e.g., are more likely to prefer a smaller-sooner reward to a larger-later reward; Bartels and Urminsky 2011). Accordingly, rather than measure self-continuity via explicit measurement as in the prior studies, study 4 measures self-continuity through this behavioral proxy (intertemporal patience). In addition to showing robustness, finding that perceiving greater variety in a self-expressive assortment makes consumers less patient would demonstrate that the effect has implications for even unrelated decisions and behaviors.

Design and Method

Two hundred one university lab participants (34.8% male, $M_{age} = 24.73$) were randomly assigned to a condition in a 2 (variety: high vs. low) × 2 (domain influence: high vs. low) between-subjects design.

First, participants constructed a self-expressive assortment. Participants indicated which of two domains best expressed who they are (music [66.2%] vs. TV [33.8%]) and then created a personal profile for the entertainment subscription service from studies 2 and 3.

Second, we manipulated perceived variety using the feedback manipulation from the prior studies.

Third, we measured preference stability in the choice domain using the two items from study 2 ($r = -.73$, second-item reverse-scored and combined, $M = 4.59$, SD = 1.51).

Fourth, we manipulated the relative impact of domain-specific preferences on identity. In the high-influence condition, participants viewed the silhouette of a human head with the relevant choice domain (music or TV) prominently featured and read, "...in general, people's [music/TV] preferences tend to be an important part of their overall identity." In the low-influence condition, participants

viewed a similar sketch with the relevant choice domain (music or TV) minimally featured and read, "...in general, people's [music/TV] preferences tend *not* to be an important part of their overall identity" (see appendix B for stimuli).

Fifth, as a proxy for self-continuity, participants completed two intertemporal decision-making tasks (from Bartels and Urminsky 2011). Each task involved a series of choices between receiving a smaller-value gift card in one week or a larger-value gift card in one year (see web appendix G). We varied the specific values of the two gift card options, following prior work, to observe the point at which people switched from preferring the smaller-sooner reward to the larger-later reward. For each task, we counted the number of times participants selected the larger-later option (i.e., were more patient); thus, higher scores indicated greater patience. Standardized scores were highly correlated ($r = .78$, $p < .001$), so we combined them to form a patience index ($M = .00$, SD = .94).

Results

Intertemporal Patience.   A 2 (variety) × 2 (domain influence) ANCOVA (with choice domain as the covariate) revealed only the expected interaction ($F(1, 196) = 4.71$, $p = .031$; $\eta^2 = .023$, figure 5), with no main effects ($Fs < 1$). When domain-specific preferences were framed as having more of an influence on overall identity, perceiving greater variety in the assortment reduced intertemporal patience ($M_{high-variety} = -.18$, SD = 1.03 vs. $M_{low-variety} = .13$, SD = .93; $F(1, 196) = 3.39$, $p = .067$, $d = .32$). When such preferences were framed as having less of an influence on identity, however, this effect was attenuated ($M_{high-variety} = .13$, SD = .92 vs. $M_{low-variety} = -.11$, SD = .87, $F(1, 196) = 1.56$, $p = .213$, $d = .27$).

Preference Stability.   A similar 2 × 2 ANCOVA on preference stability revealed only the expected main effect of variety ($F(1, 196) = 3.87$, $p = .051$, $d = .25$), with no

FIGURE 5

VARIETY REDUCES INTERTEMPORAL PATIENCE ONLY WHEN PREFERENCES INFLUENCE IDENTITY (STUDY 4)
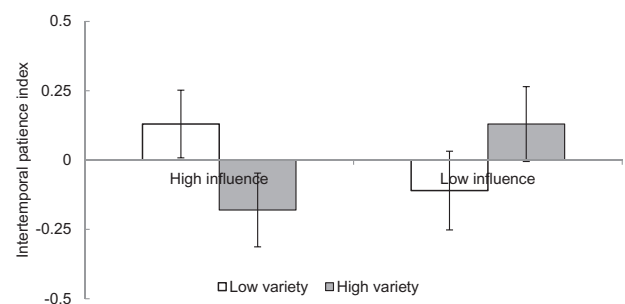
interaction ($F < 1$). Supporting our theory, perceiving greater variety in a self-expressive assortment made participants see their preferences in the domain as less stable ($M_{\text{high-variety}} = 4.40$, SD $= 1.59$ vs. $M_{\text{low-variety}} = 4.78$, SD $= 1.42$).

Moderated Mediation. To test for moderated mediation, we used bias-corrected bootstrapping to generate a 95% confidence interval around the indirect effect of preference stability in each domain influence condition (Hayes 2013, model 14 in PROCESS; 5,000 samples; domain included as a covariate). As predicted, when preferences were framed as having a greater influence on overall identity, variety reduced intertemporal patience by making domain-specific preferences seem less stable ($ab = -.06$, SE $= .04$, 95% CI [$-.18$, $-.001$]). When preferences were framed as having less of an effect, however, the indirect effect was not significant ($ab = -.03$, SE $= .03$, 95% CI [$-.14$, $.01$]).[7]

Alternative Explanation. One could wonder whether perceiving greater variety creates anxiety (about personal change), and if this negative affect is what underlies the effect. To test this possibility, after the main measures, we asked participants to what extent the notion of personal change makes them feel anxious ($1 =$ Not at all, $7 =$ A great deal, $M = 3.49$, SD $= 1.64$). Casting doubt on this possible alternative account, a 2×2 ANCOVA revealed no significant effects on anxiety (all Fs < 1), and a multiple regression including anxiety (and all higher-order interactions) yielded no significant anxiety effects (all ts < 1). Together, these results cast doubt on the possibility that anxiety alone drives the effects (see web appendix G for details).

Discussion

Underscoring the proposed underlying process, study 4 shows that manipulating the perceived influence of domain-specific preferences on overall identity moderates variety's effect. When domain-specific preferences were framed as having a stronger influence on overall identity, variety reduced self-continuity by making preferences seem less stable. However, when domain-specific preferences seemed to have less influence, although variety still reduced preference stability, it no longer decreased self-continuity. Together with the results of study 3, the findings show that perceiving greater variety in a self-expressive assortment undermines self-continuity only when one's choices reflect one's personal preferences (study 3) and when the resulting inferences about one's preferences impact overall identity (studies 3 and 4).

Importantly, study 4 also demonstrates that variety's effect has implications for decision-making. Consistent with prior work showing that self-continuity is associated with intertemporal patience (Bartels and Urminsky 2011), perceiving greater variety in a self-expressive assortment made participants less patient in unrelated decision tasks. By undermining self-continuity, variety may therefore have downstream implications for even unrelated decisions and behaviors.

STUDY 5A: NATURAL RELATIONSHIP BETWEEN VARIETY AND SELF-CONTINUITY

Study 5a has two goals. First, to explore whether the predicted effects emerge naturally and in the absence of external cues that make variety more salient (e.g., experimental artifacts), we measured (rather than manipulated) perceived variety. If spontaneous perceptions of variety in a self-expressive assortment correspond to lower self-continuity, as we expect, this would further underscore the generalizability of the effect.

Second, to enhance the ecological validity of our findings, we consider self-expressive assortments that consumers had previously constructed as part of their everyday lives. To this end, we recruited current users of mobile dating apps and asked them to consider information on their personal profiles. Participants identified a specific self-expressive assortment on their profile and we measured the perceived variety among items in that assortment. Consistent with our theory and the prior results, we expected that perceiving greater variety would correspond to reduced preference stability and self-continuity.

Design and Method

Two hundred fifteen Prolific Academic workers (58.7% male, $M_{\text{age}} = 28.8$) completed the screener for this all-measured study. Given its correlational nature, we targeted a final sample size of at least $N = 100$ and terminated data collection once recruitment slowed significantly (i.e., no new participants within a single business day).

To be screened in, participants had to indicate (a) that they were currently using a mobile-enabled dating app, and (b) that they would be willing to upload a screenshot of their dating profile (to encourage honest responding).

Participants who passed this screener then indicated whether their dating profile contained a self-expressive assortment. They were given the following definition: "Many dating apps ask you to build your profile by constructing an assortment (i.e., several items) of things you like or find personally important. For instance, you may have a section of your dating profile displaying your favorite / top 5 music artists, interests, movies, TV shows, songs, hobbies, inspirational quotes, or travel destinations." Consistent with

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7   While the overall index of moderated mediation did not reach significance ($ab = .03$, SE $= .05$, 95% CI [$-.03$, $.16$]), the indirect effects are consistent with our predictions.

self-expressive assortments being a prevalent part of service/subscription-based consumption, 72% of participants indicated that their profile contained at least one self-expressive assortment. This subset of people ($n = 155$) proceeded to the main survey.

First, participants provided descriptive information about their self-expressive assortment, including how many items were listed ($M = 12.8$, SD $= 38.4$) and the domain (see web appendix I for details). Participants who indicated having multiple self-expressive assortments on their profile were asked to focus on the one that was most self-expressive. As in the prior studies, we performed all analyses controlling for domain (i.e., partial correlations).

Second, we measured preference stability using the same two items from the prior studies ($r = -.41$; second-item reverse-scored and combined, $M = 5.07$, SD $= 1.49$), piping in the domain based on participants' prior response.

Third, we measured self-continuity using the three future-self connectedness items ($\alpha = .76$, $M = .00$, SD $= .82$; Bartels and Urminsky 2011) and two expected identity change items from study 2 ($r = .77$, $M = .00$, SD $= .99$), combined to form a single self-continuity index ($\alpha = .87$, $M = .00$, SD $= .83$).[8]

Fourth, we measured the perceived variety among the items in participants' self-expressive assortment: "How much variety is there among the items in this assortment?" ($1 =$ None at all, $7 =$ A great deal, $M = 4.76$, SD $= 1.67$).

Fifth, we collected several control variables, including the app (Tindr, Coffee Meets Bagel, Bumble, OkCupid, eHarmony, other), duration of dating service membership (less than a week, 1 week–1 month, 1–2 months, 2–3 months, etc.), and the main goal for using the app (find one or more short-term relationships, find a long-term relationship, etc.). All results hold when we control for these additional variables; see web appendix I for details.

Finally, participants uploaded a screenshot of their self-expressive assortment (see appendix C for examples).

Results and Discussion

Self-Continuity. Consistent with the prior results, perceiving greater variety in one's self-expressive assortment was associated with lower self-continuity ($r = -.28$, $p < .001$).

Preference Stability. Also as expected, perceiving greater variety was associated with reduced preference stability in the assortment domain ($r = -.31$, $p < .001$).

Mediation. Further, increased preference stability was associated with enhanced self-continuity ($r = .39$, $p <$

.001),[9] and preference stability mediated the relationship between variety and self-continuity ($ab = -.05$, SE $= .02$, 95% CI: [$-.09$, $-.02$]).

These results demonstrate that the predicted relationships between variety, preference stability, and self-continuity emerge spontaneously when consumers reflect on authentic, self-expressive assortments created for their personal online dating profiles. Consistent with the prior findings, perceiving greater variety in a self-expressive assortment corresponded to lower self-continuity, driven by seeing one's preferences in the assortment domain as less stable. That these results emerged in the absence of experimental manipulation and without first cuing participants to consider the variety in their choices underscores their generalizability.

STUDY 5B: VARIETY UNDERMINES LONG-TERM SERVICE EVALUATION

Our final study further explores real-world, self-expressive assortments and examines downstream consequences for service evaluation. For subscription-based services, beliefs about whether the service will provide value in the future can play a critical role in customer satisfaction and enrollment decisions. By undermining self-continuity, perceiving greater variety in a self-expressive assortment may harm such judgments of long-term fit. Study 5b tests this possibility by measuring long-term (and short-term) evaluations of the service eliciting the self-expressive assortment. We expected that, although variety may not influence how consumers evaluate the service in the present, it might damage long-term evaluations.

Design and Method

One hundred seventy-two US MTurk workers (47.4% male, $M_{age} = 31.2$) completed the screener for this all-measured study. We targeted a final sample size of at least $N = 100$, as in study 5a, and terminated data collection after a single day.

To be screened in, participants had to indicate that (a) they currently had an account on Facebook, Spotify, or Hulu, and (b) they would be willing to upload a screenshot of their profile (to encourage honest responding). If participants had an account on a single platform, they answered questions about that platform. If participants had accounts on multiple platforms, they were randomly assigned to a platform and answered questions about just that one. As in prior studies, we performed all analyses controlling for platform (i.e., partial correlations).

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8   Again, after we reverse-scored (to be consistent with the prior scaling) and standardized all five items, a principal axis factor analysis with direct oblimin rotation yielded one factor (Eigenvalue for one factor = 3.33).

9   Supporting discriminant validity, the confidence interval surrounding this correlation excluded 1 (95% CI: [.22, .55]), and a principal axis factor analysis with direct oblimin rotation yielded two factors (Eigenvalues = 1.11).

Based on pilot results, we used the following self-expressive assortments for each platform: for Facebook, the "About Me" profile section (populated with favorite items in domains such as music, movies, sports, and books); for Spotify, either the "Top Artists" feature (i.e., viewers' most-played artists), the "Your Daily Mix" feature (i.e., a recommended playlist) if they could not find "Top Artists," or the "Jump Back In" feature (i.e., recently played albums or artists) if they could not find the prior two features; and for Hulu, the "Keep Watching" feature (i.e., recently watched TV shows).[10] Participants had to indicate that they could find these specific features on their accounts prior to moving on; those who could not identify these features were redirected out of the study. Participants that passed the screener ($n = 135$) proceeded to the main survey.

First, we measured preference stability using the same two items from the prior studies ($r = -.66$; second-item reverse-scored and combined, $M = 4.84$, SD = 1.75), piping in the appropriate domain based on the platform (e.g., for Spotify, music).

Second, we measured self-continuity using the three future-self connectedness items ($\alpha = .83$, $M = .00$, SD = .87; Bartels and Urminsky 2011) and two expected identity change items from studies 2 and 5a ($r = .88$, $M = 4.90$, SD = 1.65), combined to form a single self-continuity index ($\alpha = .92$, $M = .00$, SD = .87).[11]

Third, we measured short-term and long-term service evaluations. Participants indicated how well their profile reflects who they are right now (1 = Not at all well, 7 = Very well, $M = 5.35$, SD = 1.35) and their concern about whether it would reflect their preferences and identity in the future (1 = Not at all concerned, 7 = Very concerned, $M = 2.30$, SD = 1.79). In addition, we asked participants how well their assortment revealed their long-term interests (i.e., what would matter to them into the future; 1 = Very well, 7 = Not well at all, $M = 3.19$, SD = 1.80).

Fourth, we measured perceived variety in the assortment using the measure from study 5a (1 = None at all, 7 = A great deal, $M = 4.45$, SD = 1.71).

Fifth, we collected several control variables, including app membership duration (less than a week, 1 week–1 month, 1–2 months, 2–3 months, etc.) and the self-monitoring ability subscale of the Revised Lennox and Wolf Self-Monitoring Scale (e.g., "In social situations, I have the ability to alter my behavior if I feel that something else is called for," 1 = Strongly disagree,

7 = Strongly agree; six items; $\alpha = .85$; $M = 5.09$, SD = .99; O'Cass 2000), and asked participants to upload a screenshot of their assortment. All results hold when we control for these additional variables; see web appendix J for details and appendix D for profile examples.

Results

Self-Continuity. Consistent with study 5a, perceiving greater variety in one's self-expressive assortment was associated with lower self-continuity ($r = -.23$, $p < .001$).

Preference Stability and Mediation. Also consistent, perceiving greater variety was associated with reduced preference stability in the assortment domain ($r = -.40$, $p < .001$). Further, increased preference stability was associated with enhanced self-continuity ($r = .32$, $p < .001$), and preference stability mediated the relationship between variety and self-continuity ($ab = -.06$, SE = .02, 95% CI: [–.09, –.02]).[12]

Service Evaluation. Importantly, as expected, perceiving greater variety in one's self-expressive assortment corresponded to reduced expectations about long-term value. Variety was associated with greater concern about how well one's profile would reflect one's identity in the future ($r = .28$, $p = .001$) and the belief that one's profile would be worse at revealing one's long-term interests ($r = .25$, $p = .004$).

Further, two separate serial mediation models (Hayes 2013, model 6 in PROCESS; 5,000 samples; domain included as a covariate) showed that preference stability and self-continuity sequentially mediated concerns about long-term fit ($adb = .06$, SE = .03, 95% CI: [.02, .12]) and ability to reflect one's future interests ($adb = .03$, SE = .02, 95% CI: [.007, .07]). Variety's relationship with self-continuity thus extends to shape (and harm) evaluations of long-term service value.

Notably, as expected and consistent with our theory, there was no relationship between variety and how well one's profile reflects one's identity at the present moment ($r = .11$, $p = .132$). Variety's negative association with self-continuity therefore uniquely detracts from expectations of the service's long-term (vs. short-term) value.

Discussion

Study 5b further supports our predictions with measured (rather than manipulated) perceptions of variety in real assortments pulled from consumers' preexisting profiles. That we find consistent results across multiple platforms (e.g., multimedia streaming services, social media), and

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10   These platforms were chosen based on the results of a pilot study ($N = 150$) revealing that a substantial proportion of MTurkers had profiles on these platforms (Hulu: 39%; Spotify: 50.7%; Facebook: 84%) and could locate these specific, predetermined self-expressive assortments.

11   Again, after we reverse-scored (to be consistent with the prior scaling) and standardized all five items, a principal axis factor analysis with direct oblimin rotation yielded one factor (Eigenvalue for one factor = 3.79).

12   Supporting discriminant validity, the confidence interval around this correlation excluded 1 (95% CI: [.17, .46]), and a principal axis factor analysis with direct oblimin rotation yielded two factors (Eigenvalues = 1.46).

ones without obvious self-presentation motives, underscores their generalizability. Together with study 5a, the findings show that consumers spontaneously monitor the variety in their self-expressive assortments and draw inferences based on it, which in turn shapes how they perceive their preferences and overall identity stability.

Importantly, study 5b also reveals a potential negative consequence of variety in self-expression for service evaluation. The more variety people perceived in their self-expressive assortment, the less valuable they thought the service would be for them in the future. By undermining self-continuity, products and services that elicit varied self-expressive assortments may unintentionally diminish perceptions of long-term customer value.

GENERAL DISCUSSION

Rapid growth in the subscription-based economy has created an abundance of new opportunities for self-expression. A growing number of companies—from Spotify, Facebook, and eHarmony to Stitch Fix, Blue Apron, and Apple Music—ask consumers to express who they are by creating an assortment. But while consumers may construct such self-expressive assortments to share or communicate who they are, might these assortments also shape how people see their own identity?

Seven studies demonstrate that perceiving greater variety in a self-expressive assortment undermines self-continuity. Across multiple domains of self-expression (e.g., music, television, books, public radio) with different purported audiences (e.g., firms, peers), and across multiple measures of self-continuity with both manipulated (studies 1a–4) and measured (studies 5a and 5b) perceptions of variety, encouraging consumers to perceive more (vs. less) variety in a set of self-expressive choices reduced self-continuity.

Results also support the proposed underlying process. Perceiving greater variety in a self-expressive assortment undermined self-continuity by making consumers see their preferences in the choice domain as less stable (studies 2, 4, 5a, and 5b). Further, consistent with prior work on self-perception (Bem 1972), the effects depended on the self-expressiveness of the choice domain (study 1a), whether choice was based on personal preferences (study 3), and the influence of domain-specific preferences on overall identity (studies 3 and 4).

Finally, the studies identify downstream consequences for long-term service evaluation and unrelated decisions. Study 4 shows that perceiving greater variety in a self-expressive assortment reduces intertemporal patience (i.e., unrelated decisions about whether to choose a smaller-sooner vs. larger-later reward). Study 5b shows that the more variety people perceive, the less long-term value they anticipate deriving from the service eliciting the assortment.

Theoretical Contributions

The findings make three main contributions. First, they further understanding of how choice shapes identity. Extant research has predominantly focused on how choice influences identity at a single moment in time (i.e., "static identity," Aaker 1997; Belk 1988; Berger and Heath 2007). Consumers may choose products to signal a specific aspect of their identity (e.g., buying a Jeep to express a rugged identity), or they might infer a specific aspect from observing a given choice (e.g., inferring one is rugged based on one's having bought a Jeep). Extending these findings, we demonstrate that self-expressive choices can also influence judgments about identity over time (i.e., "dynamic identity"; Demo 1992; Markus and Kunda 1986; Markus and Wurf 1987). Further, although intuition and a few recent articles suggest that people can make intentional choices to influence dynamic identity (e.g., discarding or using old possessions; Sarial-Abi et al. 2017; Türe and Ger 2016), our findings are among the first to show that self-expressive (i.e., identity-relevant) choices can spontaneously shape judgments of dynamic identity.

Notably, in so doing, our findings contribute to ongoing philosophical discussions about the relationship between static and dynamic identity. Although philosophers have discussed these as distinct (Gallois 2016), the current work suggests that people may sometimes conflate static and dynamic identity, such that perceptions of one influence the other. Future research could further explore the relationship between aspects of static and dynamic identity, and in particular, whether reverse-causal pathways—for instance, whether changes in overall identity dynamics influence specific, preference-level judgments—may also be possible.

In addition, the findings contribute to research on how choice shapes identity by examining self-expression through *assortments* (i.e., multiple simultaneous choices; see also consumption constellations; Crain et al. 2019; Englis and Solomon 1996; Solomon 1988) rather than through individual choices (e.g., signaling ruggedness by buying a Jeep; Aaker 1997; Belk 1988; Berger and Heath 2007). We further identify a unique feature of assortments—the perceived variety among items—that shapes the inferences consumers draw about their own preferences and, in turn, how they see their overall identity.

Second, the findings contribute to the literature on variety-seeking. Building on the extensive body of work exploring what drives people to choose variety (see Kahn 1995 for a review), recent research has begun to explore the consequences of perceiving more or less variety in one's choices (e.g., for product evaluation and post-purchase satisfaction, Etkin and Sela 2016; Mogilner et al. 2008; see also Etkin and Ratner 2012, 2013). But while a few prior articles have examined what choosing variety communicates to observers (Ratner and Kahn 2002; Sela et al. 2019), whether the perceived variety in one's choices impacts

self-evaluation is an open question. Shedding light on this question, the current work demonstrates that perceiving greater variety in a self-expressive assortment can lead people to infer that their preferences in the choice domain are less stable, which in turn undermines self-continuity.

This work also suggests a novel way to conceptualize the role of variety in consumers' lives. Whereas prior work largely considers variety as a tool for consumption (e.g., to hedge against preference uncertainty; Kahn 1995; Simonson 1990), we explore variety as a tool for communication (e.g., signaling something about one's identity; Sela et al. 2019). Unlike "variety for consumption," such "variety for communication" is unhampered by typical constraints such as time, money, and others' needs, preferences, and judgments (Ariely and Levav 2000; Etkin 2016; Ratner and Kahn 2002). Given recent shifts in how consumers express themselves in the marketplace—away from products and toward curated lists and profiles—understanding the intra- and interpersonal consequences of variety for communication is a promising avenue for future research. For example, future work could examine whether and when consumers strategically express (or perceive) variety in their choices to manage personal assessments of self-continuity.

Third, the findings advance understanding of self-continuity. That self-continuity has important consequences for consumer welfare has been firmly established (e.g., saving more money for retirement; Bartels and Urminsky 2011; Hershfield 2011; Urminsky and Zauberman 2015). Building on this, recent research has turned to examine antecedents of self-continuity, such as memory and morality (Chen et al. 2016; Hershfield et al. 2011; Joshi and Fast 2013; Molouki and Bartels 2017; Sedikides et al. 2008; Strohminger and Nichols 2014, 2015). Contributing to this emerging stream, we identify variety in self-expressive choice as a novel, consumer-relevant driver of what makes people feel they are more or less the same person over time. Moreover, our findings offer some of the first evidence that self-continuity may impact managerially relevant outcomes (i.e., evaluations of a product or service's long-term value and fit), which we hope will spur additional research on the topic.

Practical Implications

The current research has practical implications for marketers. Across diverse industries (e.g., social networks, media consumption, food deliveries), the practice of asking consumers to construct self-expressive assortments is increasingly prevalent. This "ask" serves diverse goals (e.g., to facilitate connection, to tailor curated subscriptions), but whether it will be beneficial or detrimental to the firm in the long run is an open question. On one hand, our findings provide preliminary evidence that reduced self-continuity (due to perceiving greater variety in the assortment) may discourage consumers from engaging in desirable long-term

behaviors (e.g., signing up for long-term memberships, subscriptions, or rewards programs). Marketers may therefore benefit from *not* highlighting variety and instead focusing consumers' attention on the coherence of their choices.

On the other hand, in some situations, reduced self-continuity may be beneficial to firms. Innovative brands that rely on new and early adopters (e.g., technology startups) or industries that promote impulse purchases (e.g., junk food, risky experiences), for instance, may prefer consumers to be less concerned with the future implications of their actions.

The findings also have implications for consumers. Variety plays an important role in consumers' lives. Choosing (or merely perceiving) variety can reduce boredom and enhance enjoyment and choice satisfaction (Etkin and Mogilner 2016; Galak et al. 2009; Kahn 1995; Mogilner et al. 2008; Redden 2008). That said, variety can also have drawbacks—for example, reducing happiness over shorter periods of time and undermining post-purchase product evaluation (Etkin and Mogilner 2016; Etkin and Sela 2016). The current research reveals that variety may also have unintended negative consequences for self-perception and judgments of identity. Moreover, because self-continuity is a critical component of well-being (Sedikides et al. 2008), perceiving greater variety in a self-expressive assortment may make consumers worse off. Future work could build on the current findings to further explore the affective consequences of variety and its downstream implications for well-being.

Conclusion

Consumers often construct assortments to express who they are. Our findings suggest a potential downside to perceiving such self-expressive assortments as varied. By making one's preferences in the choice domain seem less stable, perceiving greater variety in a self-expressive assortment undermines self-continuity. Although the goal of self-expression may underlie many of consumers' choices, aspects of those choices—namely, the perceived variety among them—may have unintended consequences for self-evaluation, service evaluations, and consumer well-being.

DATA COLLECTION INFORMATION

Both authors supervised data collection, and the first author conducted analyses for all studies. Study 1a was conducted at Duke University, supervised by the first author and lab manager, in fall 2016. Studies 1b, 2, and 5b were conducted online using Amazon Mechanical Turk workers in winter 2017, winter 2018, and fall of 2018, respectively. Studies 3 and 4 were conducted at the Wharton Behavioral Lab, supervised by the lab manager, in summer 2018 and winter 2018, respectively. Study 5a was conducted online using Prolific Academic workers in summer of 2018.

APPENDIX A

CATEGORIZATION MANIPULATION OF VARIETY (STUDY 1B)

LOW VARIETY CONDITION

A sample profile has been generated for you below.

Most people's chosen genres fall into 4 main categories.

Your chosen genres, however, fall into <u>2 main categories.</u>

You do not need to select anything; simply view your profile **and the two categories** and click >> to proceed.

YOUR PROFILE

NAME: [Your name here]

PROFILE SECTION: Ideal Book Collection
MEMBER SINCE: February 2017
LAST LOGGED IN: Today

LOCATION: [Your location here]

YOUR IDEAL BOOK COLLECTION, BY CATEGORY:

Category A   Category B

HIGH VARIETY CONDITION

A sample profile has been generated for you below.

Most people's chosen genres fall into 4 main categories.

Your chosen genres, however, fall into <u>6 main categories.</u>

You do not need to select anything; simply view your profile **and the six categories** and click >> to proceed.

YOUR PROFILE

NAME: [Your name here]

PROFILE SECTION: Ideal Book Collection
MEMBER SINCE: February 2017
LAST LOGGED IN: Today

LOCATION: [Your location here]

YOUR IDEAL BOOK COLLECTION, BY CATEGORY:

Cat. A   Cat. B   Cat. C   Cat. D   Cat. E   Cat. F

NO FEEDBACK CONDITION

A sample profile has been generated for you below.

You do not need to select anything; simply view your profile and click >> to proceed.

_____

YOUR PROFILE

NAME: [Your name here]

PROFILE SECTION: Ideal Book Collection
MEMBER SINCE: February 2017
LAST LOGGED IN: Today

LOCATION: [Your location here]

YOUR IDEAL BOOK COLLECTION:

APPENDIX B

MANIPULATION OF DOMAIN INFLUENCE ON IDENTITY (STUDY 4)

HIGH INFLUENCE CONDITION

Prior research shows that, in general, people's music preferences tend to be an important part of their overall identity. In other words, while some other domains might be relatively unimportant to people's overall identities (like fashion or travel), **music tends to play a large and important role in determining the state of our overall identity.**

To illustrate this concept, consider this diagram.

LOW INFLUENCE CONDITION

Prior research shows that, in general, people's music preferences tend NOT to be an important part of their overall identity. In other words, while some other domains might be relatively important to people's overall identities (like fashion or travel), <u>music tends NOT to play a large and important role in determining the state of our overall identity.</u>

To illustrate this concept, consider this diagram.
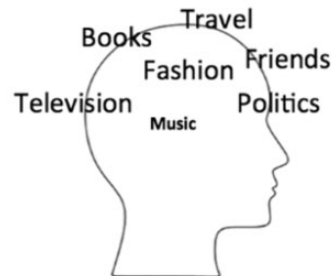
APPENDIX C

EXAMPLES OF SELF-EXPRESSIVE ASSORTMENTS (STUDY 5A)

EXAMPLE 1 (MUSIC)
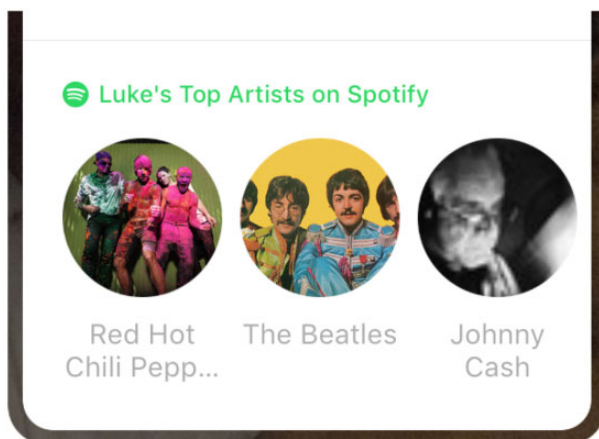
EXAMPLE 2 (TV, MOVIES, MUSIC)
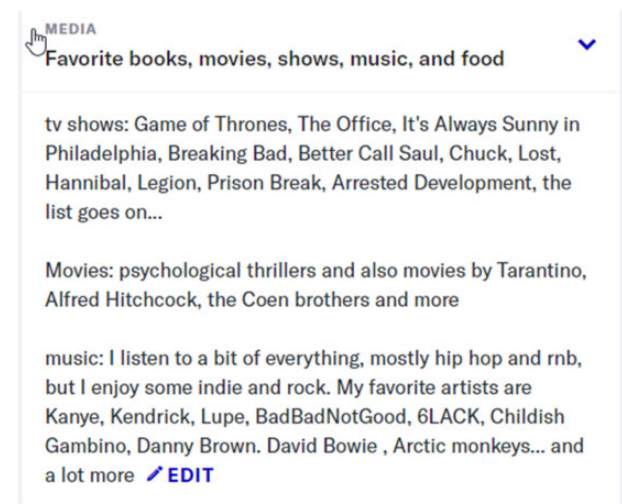
EXAMPLE 3 (HOBBIES)
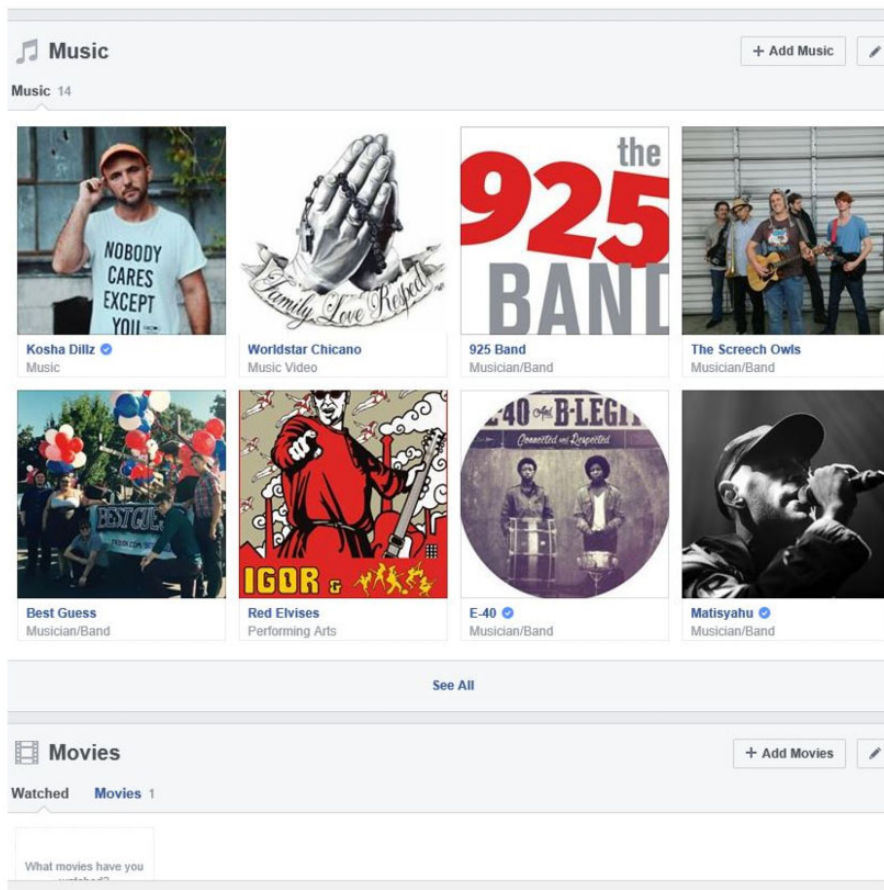
APPENDIX D

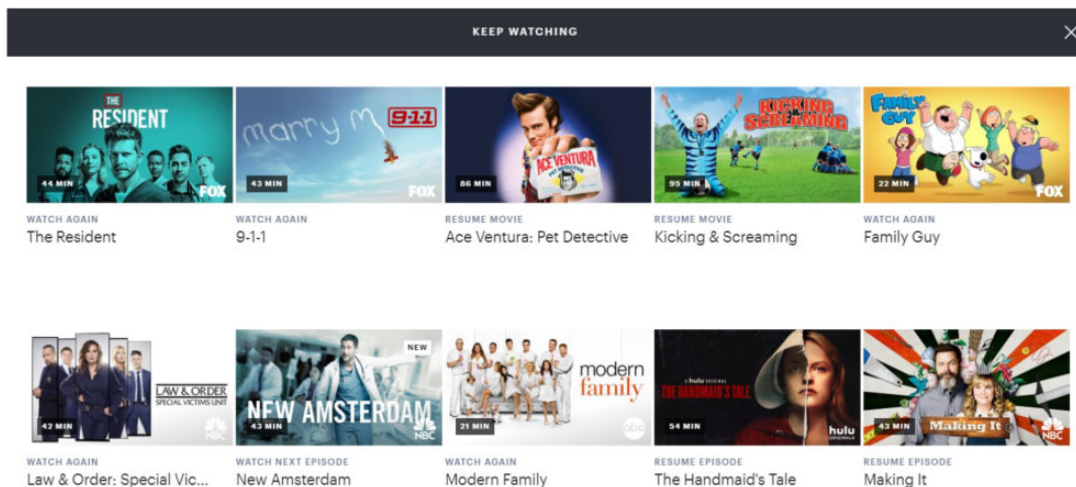# EXAMPLES OF SELF-EXPRESSIVE ASSORTMENTS (STUDY 5B)

EXAMPLE 1 (SPOTIFY)
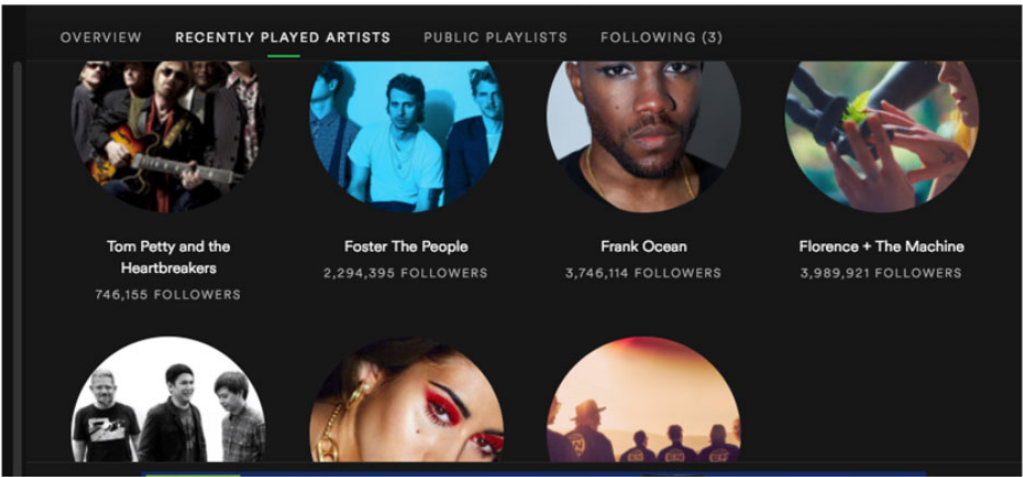
EXAMPLE 2 (FACEBOOK)

EXAMPLE 3 (HULU)

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