This research demonstrates that the self-expressive customization of a product can improve performance on tasks performed using the customized product. Five studies show that the effect is robust across different types of tasks (e.g., persistence tasks, concentration tasks, agility tasks). The evidence further shows that the effect is not due to changes in product efficacy beliefs, feelings of competence, feelings of accomplishment, mood, task desirability, goal activation, or goal attainability. Instead, the self-expressive customization of a product extends an identity (e.g., personal identity, group identity) into the product. When the product is subsequently used to pursue a goal whose desired outcome can affirm the extended identity, performance improves.

Keywords: product customization, motivation, goal pursuit, individuality, identity

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The Self-Expressive Customization of a Product Can Improve Performance

Products can be customized for function, aesthetics, or self-expression. Each type of customization supports a different objective. Functional customization alters a product in ways that enhance performance (Caine, Blair, and Vasquez 2012; Park et al. 2007). For example, Callaway Golf encourages consumers to purchase customized golf clubs, the implication being that the customized clubs will perform better. Aesthetic customization alters a product in ways that enhance the appeal of, or pleasure derived from using, the product (Franke and Schreier 2008; Franke, Schreier, and Kaiser 2010; Moreau and Herd 2010). For example, Timbuk2 allows consumers to customize a briefcase, the intent being that the customized briefcase will be more appealing and more likely to be purchased. Self-expressive customization alters a product to express the identity of the consumer (Franke and Schreier 2008; Moreau, Bonney, and Herd 2011). For example, Nike athletic shoes can be customized to reflect the identity of the person who buys and wears the shoes.

Investigations into product customization suggest that each type of customization (e.g., functional, aesthetic, self-expressive) has a unique consequence: functional customization impacts performance, aesthetic customization elicits an affective response, and self-expressive customization communicates identity (Hunt, Radford, and Evans 2013; Merle et al. 2010). We propose that there may be cases where a specific type of customization has more than one consequence. In particular, self-expressive product customization may have motivational consequences (e.g., increase persistence, enhance concentration, encourage diligence) for tasks performed using the customized product. This occurs because the self-expressive customization of a product extends an identity into the product. If the customized product is subsequently used to pursue a goal and successful goal pursuit can affirm the extended identity, then motivation to pursue the goal should increase and performance should improve.1

The possibility that self-expressive product customization can influence performance is consistent with the literature on

1We assume a positive link between motivation and performance. We acknowledge, however, that there might be situations in which an increase in motivation (e.g., trying harder) does not necessarily lead to better performance (e.g., because the user lacks the necessary skills).
the motivational consequences of shared identification. For example, when couples (e.g., Budworth, Enns, and Rowbotham 2008), families (e.g., McDonald et al. 2006), employees (e.g., Dietz et al. 2015), sports teams (e.g., Fransen et al. 2015), or crowds (e.g., Drury 2012) share an identity, they tend to perform better at tasks that reinforce this shared identity. In the same vein, when a customized self-expressive product is an extension of the self (i.e., there is a shared identity between the self and the product), a person should become more invested in goals that are pursued with the product, provided goal outcomes are relevant to the shared identity. In these cases, customized self-expressive products can improve one’s performance.

**IDENTITY, PRODUCT USAGE, CUSTOMIZATION, AND MOTIVATION**

At first glance, one might assume that the use of a customized self-expressive product has consequences similar to the use of any product with identity-relevant meaning. We contend this is not the case. We propose that there is something uniquely motivating about using a product that one has extended himself/herself into, wherein the intent is to extend an identity into the product, compared with using a product that has a previously established meaning, wherein the intent is to transfer the product’s meaning into the self. To make this case, we begin with a review of self-identity and how product usage can influence self-identity. We then explain how self-expressive product customization has consequences that go beyond what would be predicted by the literature on product usage and identity.

**The Self and Identities**

The self is a “constellation of multiple, context-dependent identities” (Cutright et al. 2104, p. 2209). An identity is “any category label to which a consumer self-associates either by choice or endowment” (Reed et al. 2012, p. 312). Identities include roles (e.g., mother, wife, daughter), socioeconomic classes (upper, middle, lower class), ethnicities (e.g., African American, Asian, Cuban), traits (e.g., athletic, intelligent, hard-working), and states of mind (e.g., happy, hungry, fatigued) (Cutright et al. 2014; Markus and Nurius 1986; McConnell 2011). Importantly, multiple identities coexist within an individual and vary in their relative salience over time (Kleine, Kleine, and Karnan 1993; Reed et al. 2012). People regularly appraise their standing with respect to their identities and use products and behaviors to establish, maintain, adjust, and reinforce these identities (Oyserman 2009; Reed et al. 2012).

Identity roles can be individual or social (Brewer 1991; Brewer and Gardner 1996; Tajfel and Turner 1986). Depending on the context, people can resonate with the parts of themselves that represent their unique identities (e.g., athlete, intellectual) or their shared identities (e.g., couple, family, social group) (Brewer and Gardner 1996; Tajfel and Turner 1986). When people need to differentiate themselves, they tend to focus on roles that demonstrate their autonomy, uniqueness, and differentiation from others (Berger and Heath 2007; Pelham 1993). That is, when personal interests become salient, people adopt a more egocentric focus (Lee, Gregg, and Park 2013). When people need to connect with others, they tend to focus on roles that align their interests, goals, and achievements with relevant social groups (Turner and Onarato 1999). That is, when shared interests become salient, people tend to engage in group-centric thinking (Brewer 1991; Brewer and Gardner 1996).

**Product Usage and Self-Identity**

A large body of consumer research has examined how product possession and usage influence a consumer’s identity (Belk 1988; Kleine, Kleine, and Allen 1995; McCracken 1986; Oyserman 2009; Reed et al. 2012). The accepted wisdom is that products have culturally defined meanings that can be co-opted to help express a consumer’s self-identity (Belk 1988; Kleine, Kleine, and Kernan 1993; Levy 1959; Malhotra 1988). For example, a person’s possessions and consumption habits, in large part, express his or her identities (Belk 1988; Solomon 1983). People can also purchase, possess, and use products to help bolster a threatened identity (Gao, Wheeler, and Shiv 2009; Rucker and Galinsky 2008) or to develop a beneficial or aspirational identity (Escalas and Bettman 2003; Venkatesh et al. 2010).

The research on identity confirmation, bolstering, and development incorporates a fundamental assumption about meaning transfer. Cultural meanings that are associated with a product can transfer from the product to the individual (i.e., product meaning → self) (Solomon 1983). The degree of meaning transfer is moderated by the duration of product possession and the amount of product use (Kleine, Kleine, and Kernan 1993; McCracken 1986; Oyserman 2009) (see Figure 1, Panel A). In general, it is the identity-based meanings of product usage (e.g., smoking cigarettes implies masculinity), as opposed to the benefits of product usage (e.g., smoking cigarettes provides a nicotine high), that an identity-centric individual coopts through product usage.

**Self-Expressive Product Customization**

The self-expressive customization of a product typically involves altering a product to make it more “me,” so that a part of the self has been extended into the product. Examples of self-expressive product customization include putting one’s name on a product (e.g., a golf club), decorating the product in a way that represents one’s unique identity (e.g., designing the color palette of one’s sneakers), or modifying the product to show that one is a member of a group (e.g., creating team uniforms) (Franke and Schreier 2008; Franke, Schreier, and Kaiser 2010; Schouten and McAlexander 1995).

The self-expressive customization of a product reverses the direction of meaning transfer that typically results from product possession and usage. Instead of meaning transferring from the product to the individual (i.e., product meaning → self), an individual’s identity is transferred to the product (i.e., self-identity → product). That is, self-expressive product customization extends a part of the self into a product and, in effect, makes the product an extension of the self (Franke and Schreier 2008; Kiesler and Kiesler 2005; Moreau and Herd 2010). Consequently, a person should have a stronger attachment to the product (Kleine, Kleine, and Allen 1995), feel the product is more representative of the self (Kiesler and Kiesler 2005), and be more willing to use the product to achieve relevant goals (Behm-Morawitz 2013).

**Motivation and Performance**

We propose that a consequence of the self-expressive customization of a product (i.e., making the product an extension
of the self) is that successful product usage can be identity-affirming. When customized self-expressive products are used to pursue performance goals, the level of performance is a reflection of the self. Consequently, a person has a stronger motivation to perform well because performing well affirms the part of the self that has been extended into the product (see Figure 1, Panel B; H1). In support of this hypothesis, consider Cordova and Lepper’s (1996) investigation of the influence of gamification on the development of math skills in fourth- and fifth-grade students. Cordova and Lepper (1996) created a game in which scoring depended on solving math problems in unique ways, with some solutions enabling better game performance than others. Students who were allowed to personalize their game, by selecting and naming a game token, performed better than those that simply played the game. Although not explicitly intended to be a test of the influence of product customization on performance, Cordova and Lepper’s results could be construed as evidence that extending the self into an activity enhances the motivation to perform well on that activity.

There is additional evidence suggesting that the self-expressive customization of a product can have motivational consequences. First, self-expressive products can represent, or be associated with, desirable identities (i.e., identities people want to affirm) (Belk, Bahn, and Mayer 1982). Second, self-expressive customization should increase attachment to the product (Kleine and Baker 2004; Schultz, Kleine, and Kernan 1989; Wallendorf and Arnould 1988). Third, the stronger the relationship between the product and the person, (1) the greater the emphasis on symbolic over utilitarian product benefits (Wallendorf and Arnould 1988), (2) the greater the likelihood of the person using the product (Belk 1988; Schultz, Kleine, and Kernan 1989), and (3) the more reluctance there is to part with the product (Haws et al. 2012; Mugge, Schoormans, and Schifferstein 2005). Collectively, these three ideas suggest a person should be motivated to perform well when using a customized self-expressive product because effective performance affirms the part of the identity that has been extended into the product (see Figure 1, Panel B).

H1: The self-expressive customization of a product increases motivation and enhances performance on tasks for which the product is instrumental.

**Moderators and Boundary Conditions**

Many types of products can be customized. We refer to prior classifications of products to help anticipate when self-expressive product customization is most likely to increase the motivation to perform well. Customizable products can be differentiated using two dimensions: (1) hedonic versus utilitarian and (2) noninstrumental versus instrumental uses. Hedonic products are consumed for pleasure, fun, or gratification, whereas utilitarian products help accomplish functional or practical tasks (Dhar and Wertenbroch 2000). Instrumental products directly contribute to the completion of a task, whereas noninstrumental products indirectly contribute to the completion of a task, if at all. Of course, products can have both hedonic and instrumental benefits (Batra and Ahtola 1990), and instrumentality can vary by context (Dhar and Wertenbroch 2000). Thus, a product’s hedonic/utilitarian and instrumental/noninstrumental classification are likely to vary by usage situation.

Self-expressive product customization is most likely to have motivational and performance consequences when a product is perceived as utilitarian and is instrumental to the completion of a task. Extending an identity into a utilitarian good (e.g., golf clubs) has more potential to motivate performance than extending an identity into a hedonic good (e.g., a customized cupcake), because most hedonic goods are not instrumental to
the completion of a practical task. For example, while it may be easy to personalize a cupcake so that it is more “me,” there are few performance tasks that can be directly accomplished with a cupcake. Thus, we restrict our investigation to the self-expressive customization of products that are considered utilitarian and are instrumental to the tasks at hand.

Two additional factors should contribute to the consequences of using customized self-expressive products to perform instrumental tasks. First, instrumental tasks are, by definition, goal-driven. Goal achievement results in beneficial outcomes. We anticipate that the beneficial outcomes of goal pursuit must align with the identity that has been extended into a customized self-expressive product in order for the customization to be motivating (see Figure 1, Panel B). For example, if a person has customized a self-expressive product to express his uniqueness, then he should be more motivated to effectively use the product when the ramifications of use (i.e., instrumental outcomes) are consistent with being unique (i.e., showing one is different from, or superior to, others). This prediction is consistent with the extensive evidence that people are more motivated when task performance has implications for an extended or shared self (e.g., Budworth, Enns, and Rowbotham 2008; Dietz et al. 2015; Drury 2012; Fransen et al. 2015; McDonald et al. 2006). Thus, we predict the following:

$H_2$: The self-expressive customization of a product increases performance on tasks for which the performance outcomes are aligned with the identity that has been extended into the product.

A second factor that contributes to the motivational properties of customized self-expressive products is also a consequence of goal theory. Goal theory posits that the desirability of the goal outcome determines the motivation to pursue the goal (Aarts, Custers, and Holland 2007; Custers and Aarts 2005; Förster, Liberman, and Friedman 2009). People work harder to achieve more valued outcomes, the qualitative nature of the outcome held constant (Atkinson 1957; Carver and Scheier 2001; Higgins 1997). For example, if positive affect is subconsciously associated with a mundane task outcome (e.g., solving a puzzle), the desire to achieve the outcome increases (Custers and Aarts 2005). Thus, self-expressive product customization should increase the motivation to perform well only to the extent the outcome of task performance is valued (see Figure 1, Panel B). Thus, we predict the following:

$H_3$: The self-expressive customization of a product increases performance on tasks with valued outcomes.

**STUDY PLAN**

Five studies are used to investigate when and why the self-expressive customization of a product encourages the motivated use of the product and, by extension, improves performance on goal-directed tasks performed using the customized product. Studies 1 and 1a show that the self-expressive customization of a product increases performance on tasks for which the product is instrumental (test of $H_2$). For example, customizing a product for oneself (i.e., self-expressive), but not for another person (i.e., other-expressive), should enhance performance. Study 2 shows that a customized self-expressive product must be used to perform a task whose outcome reinforces the identity that has been extended into the product (test of $H_2$). For example, customizing a product to express one’s individuality (social identity) should enhance performance when a successful outcome differentiates one from others (integrates one with others). Study 3 shows that a customized self-expressive product must be used to pursue a task with a valued outcome in order to see an improvement in performance (test of $H_3$). Study 4 shows that the successful (unsuccessful) use of a customized self-expressive product affirms (disaffirms) the identity that has been extended into the product, provided the identity is pertinent to the performance of the task.

**STUDY 1**

Study 1 had three objectives. First, we wanted to show that the performance on a task would improve when a customized self-expressive product, as opposed to a standard product, was used to complete the task. Second, we wanted to show that the more the self was extended into a product, the better a person’s performance when using the product (mediation). Third, we wanted to show that self-expressive customization does not influence other potential mediators including product-based beliefs (e.g., the product being more liked), a sense of accomplishment, mood (i.e., feeling pleased with one’s creation), or task desirability. All of these explanations compete with the claim that extending one’s identity into a product increases a person’s performance when using the product ($H_3$).

These objectives were met by allowing people to select a standard pen or customize a pen for themselves or someone of the opposite sex. Subsequently, the pen was used to complete an anagram task. We anticipated that the self-expressive customization of a pen would extend the self into the pen, which should increase the motivation to perform well and, by extension, improve performance relative to a standard pen chosen for the self (see Figure 1, Panel B). We expected no difference in performance when the pen was customized/chosen for a person of the opposite sex. This latter condition was included to address the alternative hypothesis that any form of product customization increases commitment to, and involvement with, a task performed using the product.

**Method**

Sample and design. Participants were 295 business students (51% females, average age: 23.1 years) who each received €10 to participate in a two-session study. The experiment was a 2 (pen type: standard, customized) × 2 (target user: self, opposite-sex other) design. Participants were randomly assigned to conditions.

Procedure. Participants were recruited to partake in a generically described “marketing experiment.” Upon arriving at the lab, participants were told that the study was about the university’s promotional items, namely, a new pen that the participants would receive for free. To manipulate the target user, participants were told to “choose (design) a pen that expresses your unique personality” or “choose (design) a pen which will be liked by a student of the opposite sex.” Participants in the standard choice condition were invited to choose a pen from a set of five standard university pens. The five designs were created by the researchers and were pretested to be appealing. Participants in the customization condition designed a university pen themselves, using an online customization tool kit. As a starting point, participants were given the five default designs that were available in the standard choice condition. These standard designs could be customized by replacing existing logos with alternative...
Participants in both groups were then informed that their
university logos and pictures, as well as adding text elements
and uploaded graphic elements or pictures from the Internet.
Participants in both groups were then informed that their
customized pen would be ordered and that they could pick
it up in approximately two weeks.

Next, all participants indicated how much they liked the
chosen/design pen (three items: “The design of the pen is
appealing / is attractive / looks great”; 1 = “strongly disagree,”
and 7 = “strongly agree”; α = .91) and the degree of choice
(design) task difficulty (three items: “Choosing (designing) a
pen was difficult / complex / time-consuming”; 1 = “strongly
disagree,” and 7 = “strongly agree”; α = .82). Finally, par-
ticipants reported their age and gender.

Two weeks later, participants returned to the lab to pick up
their pen, complete a set of ostensibly unrelated studies, and
receive their compensation. Participants sat at individual ta-les, received their pen, and were informed that they should
use their pen to complete some studies. The critical study was
an anagram task (e.g., Damisch, Stoberock, and Mussweiler
2010; Lee, Keller, and Sternthal 2010; Shah 2003). Par-
ticipants were presented with eight letters (D, S, E, T, N, R, I, and
E) and instructed to generate as many two- to eight-letter words
as possible from the set of letters. There was no time limit to
complete the anagram task.

The amount of time spent on the task (motivation) and the
number of correct words generated (performance) served as
dependent variables. The time spent on the task was self-
reported. Before starting the anagram task, participants indi-
cated the current time in the upper right-hand corner of the
page. After finishing the anagram task, they again indicated the
current time. The number of correct solutions (performance)
was assessed by the experimenter.

After solving the anagram task, participants completed a
short questionnaire. Three measures were used to assess how
much of the self was extended into the pen (“The pen expresses
my unique personality”; “When I think about the pen, I feel
unique,” and “The pen reflects my uniqueness”); 1 = “strongly
disagree,” and 7 = “strongly agree” (α = .91). Tests of com-
peting alternative explanations included (1) the sense of ac-
complishment (four items: “The pen makes me feel proud,” “I
am proud about the chosen (self-designed) pen,” “When I think
about the pen, I feel good because I accomplished something,”
and “When I think about the pen, I feel that I did a good job”;
1 = “strongly disagree,” and 7 = “strongly agree”; α = .92), (2)
mood (five items; “I feel cheerful/depressed,” “...relaxed/stres-
sed,” “...satisfied/upset,” “...happy/unhappy,” “...in good
mood/in bad mood”; measured on seven-point scales; α = .87),
(3) task desirability (two items; “Completing the task was fun”
and “I enjoyed working on the task”; 1 = “strongly disagree,”
and 7 = “strongly agree”); r = .90, and (4) reluctance to use the
pen (two items; “I tried not to wear out the pen” and “I tried to
write little so that the pen would still be new after finishing
the study”; 1 = “strongly disagree,” and 7 = “strongly agree”; r = .72). Finally, we asked about the likelihood of keeping the
pen (1 = “I will definitely keep the pen,” and 7 = “I will definitely
give the pen as a gift to someone else”). Additional details on
this study and all other studies are provided in Web Appendix A.

Results

Sample. Out of the original sample, 38 participants failed to
return to the lab; 20 in the standard choice conditions (of which
8 chose the pen for themselves) and 18 in the customization
conditions (of which 11 designed the pen for themselves). Four
participants who designed the pen for themselves were ex-
cluded owing to pen production errors (i.e., the designs could
not be produced with adequate quality). Two participants were
excluded due to experimenter errors. This resulted in a final
sample of 251 participants. Five participants did not record
their participation time; thus, the analyses of motivation have
fewer degrees of freedom.

Data preparation. An initial analysis of the motivation and
performance measures indicated there were extreme values.
For example, the correct solutions measure showed a mean of
23.5, a median of 20, a standard deviation of 13.9, and range of
0–74 with a long tail after 40 correct solutions. Given the
propensity of extreme values to bias statistical tests, the ex-
reme values were truncated (McClelland 2000). We used the
median absolute deviation method (MAD) to determine ex-
reme values (Leys et al. 2013). The MAD method does not
rely on the mean or standard deviation to identify cutoffs for
extreme values; thus, it is not subject to the criticism that
outliers influence the criteria that determine their classification,
as is the case with the deviation from the mean method. The
MAD method (1) determines the median, (2) assesses absolute
deviations from the median, (3) determines the median of these
absolute deviations, and (4) determines a threshold deviation
from the median, after adjusting for normality. Leys et al.
(2013) recommend a threshold value of 2.5 median deviations,
implying a cutoff that should capture 98.8% of the distribution.
When we applied this method to the data on correct solutions,
19 observations above 45.95 were truncated to this value
(standard self: n = 5, customized self: n = 4, standard other:
n = 2, customized other: n = 9). When we applied this method
to the data on amount of time spent on the task, 20 observations
above 17.12 minutes (1,027 seconds) were truncated to this
value (standard self: n = 6, customized self: n = 4, standard other:
n = 4, customized other: n = 6). Three participants provided
extreme values on both variables.

Expression of individuality. There was a pen type × target
user interaction on the ability of the pen to express indi-
individuality (F(1, 247) = 3.44, p = .06). Planned contrasts
showed that participants felt the customized pen was more
expressive of their individuality than a standard pen when it
was chosen for themselves (Mstandard = 3.20, Mcustomized =
4.16; F(1, 247) = 12.99, p < .01), rather than for an opposite-
sex other (Mstandard = 3.09, Mcustomized = 3.36; F(1, 247) = 1.02,
p > .1).

Motivation and performance. There was a pen type × target
user interaction on the amount of time spent on the task
(F(1, 241) = 5.92, p < .05, η² = .02), controlling for incorrect
solutions (F(1, 241) = 18.17, p < .01) (see Figure 2). Planned
contrasts showed that participants spent more time on the
anagram task when they used their customized pen (M = 507)
as opposed to a standard pen (M = 411), provided the pen was
for themselves (F(1, 241) = 3.99, p < .05 [one-tailed], η² =
.02).2 There was no difference between the experimental
conditions when the pen was for an opposite-sex other
(Mstandard = 494, Mcustomized = 426; F(1, 241) = 2.02, p > .1).
It should be noted that there were three extreme values for the
incorrectly generated solutions covariate (M = 1.39, med = 0,
SD = 7.99, range = 0–118). A break in the distribution was used

2All directional hypotheses were tested using one-tailed tests. This is the
case for all studies.
Mediation. We predicted that the effect of self-expressive customization on performance would be moderated by the target user and serially mediated by the degree to which the self was extended into the pen (i.e., amount of individuality expressed by the pen) and the amount of time spent on the task (i.e., motivation). We tested these predictions using PROCESS model 6 with serial mediation, controlling for incorrect responses (Hayes 2013). In support of our predictions, when the target user was oneself, the pathway from customization to performance through the expression of individuality and task persistence was significant and did not include zero (indirect effect = .62; 90% confidence interval [CI]: [.00, 1.71]). When the target user was an opposite-sex other, the pathway from customization to performance through the expression of individuality and task persistence was not significant (indirect effect = -.02; 90% CI: [-.47, .16]).

Two additional mediation pathways were informative, when the target user was the self. First, the pathway from customization to performance through the expression of individuality was not significant (indirect effect = .02; 90% CI: [-1.02, 1.03]). This, along with the mediation reported previously, suggests that individuality had to increase motivation for performance to increase. Second, the pathway from customization to performance through task persistence did not reach significance (indirect effect = 2.33; 90% CI: [-.05, 5.08]). This is likely a function of the less-than-perfect alignment of the measure of motivation (time spent on the task) with performance (number of correct answers as opposed to total number of correct or incorrect answers).

Ancillary analyses. Ancillary analyses assessed processes that are known to influence motivation and performance. During the first session (design session), there was a pen type × target user interaction on the liking of the pen (F(1, 247) = 3.38, p = .07). Follow-up simple effect tests showed that liking of the pen did not vary in the self (Mstandard = 5.28, Mcustomized = 5.65; F(1, 247) = 2.25, p > .1) or other (Mstandard = 5.33, Mcustomized = 5.07; F(1, 247) = 1.21, p > .1) condition. The difficulty of choosing (designing) the pen was not sensitive to the pen type × target user interaction (F(1, 247) = .13, p > .1) or the target user (F(1, 247) = .45, p > .1). There was a main effect of pen type (Mstandard = 1.91, Mcustomized = 2.95; F(1, 247) = 43.26, p < .001), as would be expected, but this main effect did not account for the performance results.

During the second session (measurement session), the experimental manipulations did not interact to influence the sense of accomplishment (F(1, 247) = 1.09, p > .1), mood (F(1, 245) = 1.49, p > .1), desirability of the anagram task (F(1, 245) = 1.14, p > .1), or reluctance to use the pen (F(1, 246) = .36, p > .1). All main effects were nonsignificant (p > .1) except for the influence of pen type on the accomplishment measure (F(1, 247) = 16.16, p < .01), suggesting that accomplishment was a potential mediator. A mediation analysis found that when the target user was oneself, accomplishment was not a mediator (indirect effect = .40; 90% CI: [-.36, 1.43]).

Ancillary Study 1a. We used an ancillary study to investigate other processes that could account for the increase in performance. Self-expressive product customization could create more satisfaction, increase feelings of competence (Franke, Schreier, and Kaiser 2010; Moreau and Herd 2010), encourage one to set a more aggressive goal ( Förster, Liberman, and Higgins 2005), or lead one to believe the product was...
more efficacious. A 2 (customized or standard pen) × 2 (gift pen used or not) pen/anagram study investigating these alternative mediating processes (n = 267) replicated the self-expressive customization effect of Study 1 (Mstandard = 21.84, Mcustomized = 26.94; F(1, 230) = 4.11, p < .05 [one-tailed], η² = .02) but found that none of these alternative factors mediated performance. The study also found that self-expressive product customization did not alter product efficacy beliefs (i.e., the belief that the pen led to better performance). Details of this study are provided in Web Appendix B.

Discussion

Study 1 provides four critical findings. First, a customized self-expressive product, as opposed to a standard product, enhanced performance on a task for which the product was instrumental. Second, there was a serial mediation path: customization → expression of individuality → motivation → performance. Third, the consequences of using a self-expressive product were not a function of mood (Study 1), product liking (Study 1), sense of accomplishment (Study 1), product efficacy beliefs (Study 1a), task desirability (Study 1), goal activation (Study 1a), or goal attainability (Study 1a). Finally, the standard pen resulted in directionally better performance than the customized pen when it was chosen for a person of the opposite sex (task persistence p = .16; task performance p = .21). It could be that a standard pen better expressed the shared identity between the participant and an opposite-sex other (e.g., being students at the same university) and that this shared identity had a small motivational impact. This idea is more formally tested in Study 2.

STUDY 2

In Study 2, we wanted to provide better evidence that the improvement in performance observed when using a customized self-expressive product depends on the alignment between (1) the identity that is extended into the product and (2) the identity-based consequences of using the product (H2). The study was based on the observation that self-expressive products allow a person to individuate (i.e., to communicate that one is unique; Brewer 1991; Lee, Gregg, and Park 2013) or associate (i.e., to communicate that one is part of a self-defining social group; Schouten and McAlexander 1995). We anticipated that customizing a self-expressive product to express individuality would increase performance when a task was framed as an indicator of personal achievement (as in Study 1) but that customizing a self-expressive product to express group membership would increase performance when a task was framed as an indicator of group achievement. This latter prediction is consistent with the observations that sharing a corporate identity increases job performance (Walton et al. 2012) and sharing a group identity enables a person to internalize others’ interests, thus increasing the motivation to excel at group-centric tasks (Greenaway et al. 2015).

Method

Sample and design. Participants were 207 female students (average age: 20.1 years) who participated in the study for course credit. We selected female students because a pretest showed they were more homogeneous with respect to the measure of performance that would be used in this study. The design was a 2 (type of customization: customize to express an individual identity, customize to express a shared identity) × 2 (task outcome: a strong performance affirms an individual identity, a strong performance affirms a shared identity) experimental design. The task was a beer coaster flip game. Data collection sessions were randomly assigned to one of the four treatment conditions. There were 16 sessions, with 7–20 students per session. The procedure involved (1) the customization of a beer coaster, (2) information about the meaning of the task outcome, (3) a practice round, and (4) the final game. Performance in the practice round served as the critical dependent measure. Performance in the final game did not lend itself to analysis, as will be discussed later.

Procedure. Upon arriving at the lab, students were assigned to groups of three or four students (there was also one team of two students in the sample). Group members did not know each other prior to the study. If friends arrived together, they were assigned to different groups. Group members were seated in adjacent carrels. First, participants were told they would have to customize a beer coaster and they would be interacting with other students. Students were then asked to assemble into their group. In the “customize to express an individual identity” condition, they were instructed to spend three minutes discussing “what makes you unique and different from the others.” After the meet and greet, they were instructed to return to their carrels and customize a coaster to express their individuality. In the “customize to express a shared identity” condition, students were instructed to spend three minutes discussing “what you have in common.” They were then instructed to decide on a team logo and customize a coaster using an identity shared by team members (i.e., each team member customized a coaster using the theme). In both conditions, participants received pictures illustrating how one might decorate the coaster (for pictures, see the Appendix). After the customization task, participants returned to their desks and proceeded with the study individually.

All participants were then told that they would use their decorated coaster to play a coaster flip game. In the “individual identity game” condition, participants were told that they would compete as an individual and that the best-performing student would win a candy bar. In the “shared identity game” condition, participants were told that they would compete as a team and that the best-performing team would win candy bars. Next, the rules were explained in more detail (i.e., place the coaster on the edge of the table, flip it over using the back of the hand, catch it with the same hand). The instructions included a video illustrating how to flip and catch coasters.

Next, performance was assessed. Participants were told that they could practice because it would help them perform better in the final game. The practice session involved flipping and catching as many coasters as possible in 60 seconds. Participants in the individual identity game condition practiced on their own. They were told to click an on-screen timer and practice until the timer expired (60 seconds). Participants in the shared identity game condition practiced concurrently. They were told, “All team members can practice for 60 seconds, but you need to make sure that everyone in your team practices at the same time. This requires some coordination. Decide who on your team will give the start signal. When everyone in your team is ready, this person will say ‘ready, set, go.’ All team members should then click on their ‘Start Countdown’ button at the same time.”

After the practice round, participants self-recorded the number of coasters caught. Then they responded to mediators,
measures needed to assess alternative hypotheses, and covariates. The mediator was measured using two items about the extent to which the coaster expressed one’s individual identity or shared identity (“The decorated coaster reflects...”; 1 = “me as a unique individual”/“how I am unique and different from others,” and 7 = “me as a team member”/“how I am similar to others”; r = .84). Task desirability, an alternative hypothesis, was measured with three items (“I thought I would feel good if I performed well in the practice round”; “Catching many coasters in the practice round seemed something that was very desirable”; “I thought that the better I would perform in the practice round the better I would feel”; 1 = “strongly disagree,” 4 = “neutral,” and 7 = “strongly agree”; α = .79). Possible covariates were familiarity with the game (“I was familiar with this type of game before today”), expertise (“I was already an expert at this game before participating in this study”), and age.

After completing the questionnaire, participants competed in a final game. In the individual identity game condition, participants competed on their own (i.e., flip and catch as many coasters as possible in 45 seconds). Participants were not required to compete in the individual game. In the shared identity game condition, teams competed against each other in a coaster relay (i.e., one after the other, each team member flipped and caught five coasters as fast as possible). The experimenter awarded prizes to the top individual scorer or the fastest team. Performance scores were not recorded because the individual identity game (level of performance) and shared identity game (speed of performance) measures were not comparable.

Results

Data preparation. There was a disturbance in one data collection session that resulted in participants not taking the procedure seriously. The mean of this session was 2.92 standard deviations below the means of the other sessions, so participants in the session (n = 9) were removed from the analysis. An initial analysis of the remaining data (n = 198) showed that the number of coasters caught was heavily skewed to the right (i.e., a high concentration of low values). Thus, the natural log of the measure was used in the analysis. The means are expressed in the original metric (number of coasters caught) in Figure 3 and thereafter.

Performance. There was a significant type of customization × task outcome interaction on the number of coasters caught (F(1,194) = 4.38, p < .05, η² = .02). Planned contrasts showed that participants caught more coasters practicing for the individual identity game when they customized the coaster to express their individual identity (M = 8.44) as opposed to their shared identity (M = 7.58; F(1, 194) = 1.72, p < .1 [one-tailed], η² = .01). Participants caught more coasters practicing for the shared identity game when they customized the coaster to express their shared identity (M = 9.95) as opposed to their individual identity (M = 7.25; F(1, 194) = 2.87, p = .05 [one-tailed], η² = .01).

Mediation. We tested moderated mediation using PROCESS model 8 (Hayes 2013). First, the extent to which the coaster reflected one’s individual, as opposed to shared, identity was influenced by the customization instructions (b = 3.69, SE = .23, t(194) = 15.89, p < .01). Second, individual/shared identity predicted performance (b = -.08, SE = .05, t(194) = -1.76, p = .08). Finally, the extent to which the coaster expressed one’s individual/shared identity mediated the relationship between identity and performance in the individual identity game condition (indirect effect = -.31; 90% CI: [-.64, -.02] and the shared identity game condition (indirect effect = -.23; 90% CI: [-.51, -.02]).

Other measures. Task desirability did not exhibit a type of customization × task outcome interaction (F(1, 194) = .44, p > .1) or main effect of type of customization (F(1, 194) = .01, p > .1). However, task desirability was higher in the individual identity game condition (M = 5.47) as compared with the shared identity game condition (M = 5.03; F(1, 194) = 6.20, p < .05). This main effect cannot account for the observed two-way interaction on performance.

Discussion

Study 2 specifically directed participants to extend an individual identity or shared identity into the customized product. People that extended individuality into their product performed better when the ultimate task emphasized rewards associated with individual performance, whereas people who extended a shared identity into the product performed better when the ultimate task emphasized rewards associated with group performance. A mediation analysis showed that the identity imbued into the product mediated the influence of self-expressive product customization on performance.

STUDY 3

We have argued that the self-expressive customization of a product increases performance only to the extent there is an aligned performance goal (i.e., task performance is instrumental to the identity that has been extended into the product). In Study 2, we provide evidence that the type of identity extended into the product was critical to improvements in performance. In Study 3, we provide evidence that it is the consequences of goal pursuit that are the source of the boost in motivation—and,
by extension, performance—from the self-expressive customization of a product. We do this by manipulating the desirability of the outcome of the performance goal. The use of the self-expressive product should only influence performance when the consequences of successfully performing the task are aligned with the identity that has been extended into the product (H2) and the outcome is desirable (H3).

**Method**

**Sample and design.** Participants were 185 female business students (average age: 22.7 years) who each received €10 to participate in a series of unrelated studies. We selected female students because a pretest showed they were more homogeneous with respect to the measure of performance that would be used in this study. The procedure involved the customization of a paper dart flight and subsequent performance in a darts game. The experiment was a 2 (product used: own self-expressive, other’s self-expressive) × 2 (goal desirability: high, low) design. The procedure involved (1) customizing a dart flight to express one’s individuality, (2) a goal desirability manipulation, and (3) a round of darts played with one’s own or another’s customized dart. The dependent measure was the total number of points in the dart game.

**Procedure.** Participants were processed one by one, following a procedure guide. Upon arriving at a lab, participants were told that they would play a round of darts and that the goal was to score as many points as possible. Next, they were asked to decorate a paper dart flight to express “who you are” using a set of 12 colored markers. Participants received instructions on how to decorate the dart flight. Three pictures provided illustrations of how one might decorate the flight (for picture, see Appendix). When the participant was done, the experimenter told the participant to take the flight into the next room.

Participants were then led into a room where they saw a target (a printout attached to a corkboard) that was 2.3 meters from the throw line. A new experimenter attached the participant’s paper flight to a dart or put the participant’s flight aside and handed over the dart of another student (product use manipulation). The participant then received one of two instructions designed to manipulate goal outcome desirability (i.e., the perceived value of scoring points). In the high desirability condition, participants were told that a pilot study had revealed that most students manage to score only few points and that doing well in the game is “something special that will make you stand out from the crowd.” While receiving these instructions, participants saw a printout of the “average” pattern from the pilot study (see Appendix). The printout showed many dart holes in low-point areas, suggesting that points were highly desirable. In the low desirability condition, participants were told that most students manage to score many points and that doing well in the game is “nothing special and will make you like everyone else.” The printout of the average pattern showed many dart holes in high point areas, suggesting that points were not as desirable. Participants then took ten shots while the experimenter sat at the back of the room. The experimenter recorded the score of each throw.

After playing the game, participants completed a short paper-and-pencil questionnaire. Unless indicated, items were measured on seven-point agreement scales (1 = “strongly disagree,” and 7 = “strongly agree”). A manipulation check of the individuality expressed by the flight used to play the game was measured with four items (“The dart flight that I used in the game shows who I am,” “...reflections my uniqueness,” “...reminds me of my unique personality,” and “...expresses that I am unique”; $\alpha = .90$). A single item measured goal attainability (“I thought that doing well in the game was difficult”). Two questions captured how well participants could recall the verbal instructions (“I thought hardly anyone manages to score high” and “I thought that doing well in the game is something special”).

A three-item manipulation check of goal desirability asked participants to recall their expectations prior to playing the game (“I thought that I would feel good if I scored many points,” “Scoring many points was very desirable,” and “I thought that the more points I scored the better I would feel”; $\alpha = .83$). Next, participants responded to a single item measuring self-confidence (“How confident did you feel prior to the game?”; $1 =$ “not at all confident,” and 7 = “very confident”) and two items assessing accomplishment (“During the game I thought that I had designed a great dart flight,” “...I felt proud about my customized dart flight”; $r = .84$). Finally, there were two questions about participants’ thoughts (“During the study I thought a lot about myself” and “During the study I thought a lot about others”), one question to measure game familiarity (“How often do you play darts?”; $1 =$ “seldom,” and 7 = “very often”), and a measure of age.

**Results**

**Manipulation checks.** A dart with one’s self-expressive flight expressed more individuality than a dart with another’s flight (M(use own) = 4.82, M(use other) = 2.63; F(1, 181) = 120.9, $p < .01$). The individuality expressed by the dart was not influenced by goal desirability (F(1, 181) = 1.79, $p > .1$) or an interaction of the flight used and goal desirability (F(1, 181) = .13, $p > .1$). We note that the individuality expressed in the dart flight was not used as a mediator, for the same reasons discussed in Study 1.

There was a main effect of goal desirability on the perceived desirability of the goal outcome (M(desirable) = 5.08, M(not desirable) = 4.52; F(1, 181) = 7.35, $p < .01$). The perceived desirability of the goal outcome was not influenced by the flight used (F(1, 181) = 0, $p > .1$) or an interaction of the flight used and goal desirability (F(1, 181) = .24, $p > .1$).

**Performance.** There was a flight used × goal desirability interaction on the number of points scored (F(1, 181) = 5.63, $p < .05$; $\eta^2 = .03$, see Figure 4). Planned contrasts showed that participants scored more points when a self-expressive flight was used (M = 36.15) relative to when another’s flight was used (M = 27.81), provided the outcome was desirable (F(1, 181) = 8.06, $p < .01$ [one-tailed], $\eta^2 = .04$). Participants scored a similar number of points when a self-expressive flight (M = 31.83) or another’s flight (M = 33.21) was used and the outcome was not desirable (F(1, 181) = .23, $p > .1$).

**Other measures.** Goal attainability (F(1, 181) = 1.72, $p > .1$), self-confidence (F(1, 181) = 1.95, $p > .1$), and design accomplishment (F(1, 181) = .15, $p > .1$) did not exhibit a flight used × goal desirability interaction. Mediation analyses showed that these factors could not account for the simple main effect of the flight used when the perceived outcome of the goal was desirable.

**Ancillary Study 3a.** Using the same darts paradigm (n = 257 females), we tested the instrumentality assumption underlying H2: the self-expressive customization of a product increases the performance at tasks for which the product is instrumental. Due to space constraints, and because this boundary condition
does not appear particularly controversial, we refer the reader to Web Appendix C for a more detailed reporting.

The procedure was similar to the high goal desirability condition of Study 3. Participants customized a flight and used it or another’s flight to play a game of darts. The second factor in the experimental design, instrumentality, was manipulated by saying nothing (high instrumentality) or casually mentioning, “It does not really matter which flight you use for the game” and saying that the design of the flight was irrelevant because “performance mainly depends on your ability to concentrate” (low instrumentality).

As predicted, there was a flight used x instrumentality interaction on the number of points scored $F(1, 241) = 5.01$, $p < .05$, $\eta^2 = .02$. Participants scored more points when a self-expressive flight was used ($M = 36.55$) relative to when another’s flight was used ($M = 31.41$) when they believed the product was instrumental to performing well ($F(1, 241) = 4.12$, $p < .05$ [one-tailed], $\eta^2 = .02$). There was no difference in points scored when they believed the product was not instrumental to performing well ($M_{use own} = 32.92$, $M_{use other’s} = 34.60$; $F(1, 241) = .56$, $p > .1$).

Discussion

The results of Study 3 show that the performance consequences of the self-expressive customization of a product depends on the alignability of the identity that has been extended into the product ($H_2$) and the desirability of the outcome ($H_3$). The results also provide evidence against a collection of alternative hypotheses. If self-expressive customization influenced goal attainability, self-confidence, or feelings of accomplishment, then (1) there should have been an effect of self-expressive customization regardless of the desirability of the goal outcome, and (2) one of these measures should have mediated the influence of the flight used in the desirable goal condition. This was not the case.

STUDY 4

Studies 1–3 demonstrate that using a customized self-expressive product to perform an instrumental task improves performance, to the extent the consequences of task performance are aligned with the part of the self that has been extended into the product ($H_2$) and the task outcome is valued ($H_3$). Implicit to these demonstrations is the assumption that the effective use of the customized self-expressive product affirms the part of the self that has been extended into the product (see Figure 1, Panel B) and, similarly, ineffective use of the customized self-expressive product disaffirms the part of the self that has been extended into the product. After all, the results of the prior studies should not have occurred unless a person implicitly expected that successful goal pursuit would affirm the identity that had been extended into the product.

In the theoretical background of this article, we argued that using a customized self-expressive product is not equivalent to using a product that contains identity-relevant meaning. If this is so, we should be able to identify conditions under which the use of each type of product leads to different behaviors. The first differentiating condition involves motivation. Customized self-expressive products are motivating because an identity has been extended into the product. Identity-relevant products, in contrast, are not necessarily motivational. The act of usage allows the product to provide identity-based benefits (e.g., affirm identity), but these benefits are not motivation-based. The second differentiating condition involves the influence of performance feedback on identity. A positive performance should affirm the identity that has been extended into a customized self-expressive product, whereas a negative performance should disaffirm this identity. Feedback is less likely to influence the benefits of using an identity-relevant product, as product usage itself is sufficient to affirm the identity (Kleine, Kleine, and Allen 1995; McCr开着 1986; Oyserman 2009; Reed et al. 2012).

We tested our hypotheses about motivation, performance, performance feedback, and identity affirmation using a four-cell design with two types of product customization and two types of performance feedback (i.e., feedback indicating effective or ineffective product use). In the first customization condition, people customized a product with an identity that was aligned with task performance (task-aligned identity). In the second customization condition, people customized a product with an identity that was not aligned with task performance (task-nonaligned identity), but could still be identity-relevant (i.e., via product usage). We expected performance would be higher in the task-aligned identity condition than the task-nonaligned identity condition.

After participants performed a task with the product, they received false feedback indicating effective or ineffective product use. The influence of feedback on identity affirmation should vary by the type of product customization. We expected that a person’s identity should be influenced by feedback about the use of the product when the product was customized with an aligned identity. Effective use of the product should bolster the extended identity, and ineffective use of the product should undermine the extended identity. We expected that a person’s identity should not be influenced by feedback about the use of the product when the product was customized with a nonaligned identity. A nonaligned identity-relevant product should bolster self-identity owing to its use, no matter the feedback.
Method

Sample and design. Participants were 118 female undergraduate students who participated for course credit. The design was a 2 (identity imbued in product: task-aligned, task-nonaligned) x 2 (performance feedback: effective, ineffective) between-subjects experiment. The task was an individual coaster flip game similar to the one played in Study 2. The dependent measures were performance (coasters caught) and the change in identity from pregame to postgame. The procedure included a manipulation check to assess whether the performance feedback was believed. Eight people indicated they did not believe the feedback and were excluded from the analysis, leaving a final sample of 110.

Procedure. Upon arriving at the lab, participants were seated in individual carrels. Participants were told that the study was about hand–eye coordination and that they would be flipping a cardboard beer coaster. The study began by asking participants two questions about their identity. The first question pertained to aspects of identity that were relevant to playing a coaster flip game (i.e., task-aligned identity): “People think about themselves in different ways. At this moment, how are you thinking about yourself?” Participants then allocated 100 points across the identities of “strong competitor,” “partier,” “athlete,” and “someone that gets lucky.” The second question pertained to aspects of identity that were irrelevant to playing a coaster flip game (i.e., task-nonaligned identity). Participants were told there were other ways they could think about themselves and allocated 100 points across the identities of “good friend,” “willing volunteer,” “fashionable,” and “family person.”

Next, participants in the task-aligned identity and task-nonaligned identity conditions were asked to customize their beer coasters. In the task-aligned identity condition, participants were asked, “Please select the identity that you think will help you excel at the coaster flip game.” They selected an identity from “strong competitor,” “partier,” “athlete,” and “someone that gets lucky.” In the task-nonaligned identity condition, participants were asked, “Please select the identity that you can best relate to.” They selected an identity from “good friend,” “willing volunteer,” “fashionable,” and “family person.” Participants were then given five minutes to decorate their coaster to be consistent with their chosen identity.

All participants were given detailed instructions on how to play the coaster flip game, including a video. Participants were given 90 seconds to play the game. We extended the time of play to 90 seconds, versus the 60 seconds in Study 2, to mitigate issues of skewed data. Unlike in Study 2, the game was not framed as a competition.

After playing the game, participants reported their score and then received false feedback on their performance. The feedback stated that 247 business students had previously participated in the study and the participant was in the 81st percentile (positive performance feedback) or 19th percentile (negative performance feedback). After receiving the false feedback, participants once again responded to the two identity questions. Participants were told, “Please have a look at the coaster you were using to play the coaster flip game. We are interested in the conclusions you can draw about yourself.” They then allocated 100 points among the relevant identity items and 100 points among the irrelevant identity items. The procedure ended with questions assessing the believability of the feedback and demographics.

Results

Performance. Feedback was provided after playing the coaster game, so only the “identity imbued in the product” factor was relevant to the performance analysis. We predicted people would perform better in the task-aligned identity condition than in the task-nonaligned identity condition. The main effect of imbued identity was significant (Mtask-aligned = 20.22, Mtask-nonaligned = 14.64; F(1, 106) = 5.91, p < .05 [one-tailed], \( \eta^2 = .05 \)).

Identity. An identity change score was calculated by comparing the participant’s selected-identity score at the beginning of the experiment with the selected-identity score reported after postgame feedback. To illustrate, if participants in the task-aligned identity (task-nonaligned identity) condition chose “partier” (“fashionable”) as their identity, their score on this identity dimension at the beginning of the study (e.g., 40) was subtracted from their score on this dimension after postgame feedback (e.g., 60) to calculate the identity change score (e.g., 20).

There was an interaction between identity imbued in the product and performance feedback (F(1, 110) = 7.90, p < .05) (see Figure 5). In the task-aligned identity condition, we anticipated that feedback indicating effective performance would bolster the relevant identity (i.e., the change in identity would be positive and greater than zero) (M = 10.04; t(25) = 2.76, p < .05 [one-tailed], \( \eta^2 = .08 \)), feedback indicating ineffective performance would undermine the relevant identity (i.e., the change in identity would be negative and less than zero) (M = −7; t(28) = −2.02, p < .05 [one-tailed], \( \eta^2 = .06 \)) was subtracted from their score on this dimension after postgame feedback (e.g., 60) to calculate the identity change score (e.g., 20).

In the task-nonaligned identity condition, we anticipated that

![Figure 5](image-url)

**THE INFLUENCE OF THE TYPE OF PRODUCT CUSTOMIZATION AND PERFORMANCE FEEDBACK ON IDENTITY AFFIRMATION (STUDY 4)**
the relevant identity would be bolstered regardless of performance feedback (i.e., the change in identity would be positive and greater than zero) \((M_{\text{effective}} = 4.26, M_{\text{ineffective}} = 6.25, M_{\text{collapsed}} = 5.26; t(54) = 2.24, p < .05 \text{ [one-tailed]}, \eta^2 = .04)\) and that there would be no difference between the feedback conditions \((F(1, 106) = .17, p > .10)\).

**Discussion**

Study 4 produces three important results. First, a customized self-expressive product that was aligned with a performance outcome increased performance. Second, performance feedback on the use of an aligned, customized self-expressive product determined the product’s influence on a person’s identity. Positive performance feedback affirmed identity, whereas negative performance feedback disaffirmed identity. Third, performance feedback on the use of a nonaligned, customized self-expressive product did not determine the product’s influence on a person’s identity. Use of this product affirmed identity regardless of feedback.

**GENERAL DISCUSSION**

Across five studies, we explore the influence of self-expressive product customization on motivation and performance. Studies 1 and 1a show that the use of a customized pen increased the motivation to engage in, and by extension performance on, an anagram task. Study 2 (coaster flip) shows that an individual or shared identity can be imbued into a product, each having performance consequences for pursuing an aligned goal. Study 3 (darts) shows that the performance consequences of self-expressive customization depend on goal desirability (and instrumentality, as documented by Study 3a). Study 4 (coaster flip) shows that a customized self-expressive product that aligns with a performance outcome has different effects from a customized self-expressive product that does not align with a performance outcome: whereas the successful use of a customized, aligned self-expressive product affirmed an identity, the unsuccessful use of a customized product disaffirmed an identity; when the use of a customized, self-expressive product had identity implications that were not aligned with a performance goal, identity was affirmed regardless of the consequences of use (i.e., product usage in and of itself was sufficient to affirm identity).

**Theoretical Consequences**

The studies contribute to the emerging literature on mass customization. To date, extant research has mostly tried to identify and quantify the benefits of functional, aesthetic, and self-expressive customization. Each type of customization has been assumed to have a specific and independent consequence. Yet, our evidence shows that self-expressive customization has consequences for outcomes (i.e., task performance) that should only be influenced by functional customization. This raises the possibility that there are other cross-consequence effects. For example, it is possible that aesthetic customization can influence task performance, although the motivational consequences of aesthetics might be attributable to additional product usage rather than a motivation to use the product effectively. Similarly, functional customization might support self-expressive outcomes, such as when customization allows one to affirm a personality characteristic (e.g., controlled, efficient, innovative).

On a more general note, the research contributes to the literature on goal pursuit. In this literature, there are three sources of motivation to pursue a goal: (1) goal activation, (2) goal desirability, and (3) expectation of goal attainability. We add the affirmation of the self, as afforded by successful product usage, as a fourth source of motivation to perform well. More specifically, our results support the idea that self-expressive product customization allows a person to imbue a product with personal qualities, which, in turn, increases the motivation to perform well using the product. Interestingly, this increased motivation may occur whenever an important identity has been extended into a product. That is, products may become imbued with a person’s identity because of the circumstances surrounding acquisition (e.g., a self-gift) or past usage (e.g., memorable uses, expressive uses). In turn, viewing the product as expressing one’s identity should enhance motivation, independent of beliefs about product efficacy.

The results also speak to the literature on placebo effects (Price, Finniss, and Benedetti 2008). Placebo effects have typically been explained by expectancy theory or classical conditioning theory (Shiv, Carmon, and Ariely 2005). To illustrate, consider how price acts as a placebo. The expectancy explanation assumes that people have beliefs about price–quality relationships. These beliefs influence the perceived performance of the product (e.g., low-priced energy drinks are less efficacious). The classical conditioning explanation assumes that responses become conditioned to the cognitive representation of a product feature. The use of the product produces a conditioned response (e.g., high-priced wines taste better). Our results suggest that when products express an existing self-identity, performance can improve independent of beliefs about the efficacy of the product. For example, self-expressive identification with a brand positioning (e.g., extreme imagery of Red Bull), brand slogan (e.g., “Find your greatness” from Nike), or a meaningful demarcation (e.g., the color pink for breast cancer survivors) could motivate better performance with a product.

**Managerial Implications**

Our findings have managerial implications. Mirroring extant research, brands offering mass customization typically promote design utility to potential customers (e.g., Adidas Eyewear: “Millions of combinations”; Salvatore Ferragamo: “Your own shoe to reflect your personal style”). Our results suggest that performance utility might be another way to market mass customized products. For example, one could say, “Compete better with custom Nike sneakers,” “Score lower with customized Callaway clubs,” or “Drive better with your custom Mini.” These ideas are not farfetched: Nike recently advertised its customization site with slogans like “Customize for fit, style, and performance” and “Put your personal goal on your shoe and stay motivated.” That is, it may be the case that some of the managerial implications of this research are already being executed in the marketplace, though the believability of these claims may moderate their effectiveness.

**Limitations**

One limitation of the studies is that the observed effect sizes are small, ranging from 1% (Study 2) to 5% (Study 4) of the variance explained. We believe there are three reasons for the small effect sizes. First, all the experiments involved performance on tasks (solving anagrams, throwing darts, and flipping coasters) for which there are considerable individual differences. Second, except for the first study
(pen customization), our instances of product customization were uncommon for most of our participants; thus, they were less involving than would be optimal. Third, task performance was likely a consequence of both intrinsic (i.e., a person wants to do well) and extrinsic (i.e., the experimenter asks that the person do well) motivation. Intrinsic motivation should enable the self-expressive customization effect, whereas extrinsic motivation should increase the noise associated with measurement. Yet, despite these limitations, the performance improvement in the seven critical tests reported in this article ranged from 11% (Study 2, individual condition) to 38% (Study 4) and averaged 25%. Thus, self-expressive customization does enhance performance by a meaningful amount, though this effect will be statistically small in noisy environments.

A second limitation concerns the causal link of self-expressive product customization \( \rightarrow \) the degree of identity expressed in the product \( \rightarrow \) motivation \( \rightarrow \) performance (Figure 1, Panel B). Our evidence for this link is weak because of the difficulty of getting participants to uniformly extend a similar identity (a measurement issue) into a product and the difficulty of obtaining unique measures of motivation and performance (a discriminant validity issue). Except for Study 1, in which there were unique indicators of motivation (time spent on a task) and performance (total number of correct responses), there was not strong evidence for the type of motivation (e.g., increase persistence, enhance concentration, encourage diligence) that increased performance. A greater understanding of the type of motivation that enables the customization-based performance effect would help one better anticipate boundary conditions.

Conclusion

In summary, this research demonstrates that self-expressive product customization may do more than merely communicate one’s identity: it may also have performance consequences for tasks performed using the customized product. This is particularly true when successful product usage (e.g., performing well) can affirm the identity that has been extended into the product (e.g., individuality). The interesting conclusion from this research is that by customizing products to express who we are, not unlike soccer star Lionel Messi (Barcelona), who customized his soccer shoes with the Argentine flag and the name of his son (Thiago), we might be implicitly effecting a change in our downstream behavior. Put differently, people might self-expressively customize utilitarian equipment before competing on the football field, golf course, tennis court, or gym. Marketers of self-expressive product customization, in turn, could add the warning “Attention: Customization may boost your performance” on their products’ package inserts.

Appendix

EXPERIMENTAL STIMULI

A: Sample Coaster (Study 2)

<table>
<thead>
<tr>
<th>Individual Identity</th>
<th>Team Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>STUDENT A</td>
<td>TEAM A</td>
</tr>
<tr>
<td>STUDENT B</td>
<td>TEAM B</td>
</tr>
</tbody>
</table>

B: Sample Dart Flight (Study 3)

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C: Experimental Setup (Study 3)

Desirable
“The majority of people do not score many points. Doing well in the game is something special and will make you stand out from the crowd.”

Not Desirable
“The majority of people score a lot of points. Doing well in the game is nothing special and will make you like everyone else.”

REFERENCES


