


Service Locus of Control and Customer Coproduction: The Role of Prior Service Experience and Organizational Socialization

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Abstract

Customer coproduction is highly relevant for service firms and has attracted significant academic attention. Whereas prior research has addressed several drivers of customer coproduction behavior, such as motivation, ability, or knowledge, it has hardly addressed the role of customer control beliefs or their drivers. This research proposes that specific beliefs about the service locus of control (SLOC) influence coproduction behaviors and that SLOC beliefs themselves depend on customers' prior comparable reinforcement experiences and the socialization activities of the service provider. The test of the proposed model includes 2,679 customers of a service firm that provides health-related strength training, a context that relies heavily on coproduction. The results show that SLOC beliefs, especially customers' internal SLOC, drive coproduction. Service providers can influence internal SLOC with organizational socialization activities, particularly when the customer possesses prior experience with the service provider. Prior comparable reinforcement experiences are less relevant drivers though, which emphasizes the importance of proactive, repeated socialization activities by service providers.

Keywords

locus of control, coproduction, organizational socialization, customer participation, reinforcement

Services are characterized by mutual involvement and contributions by both service providers and customers. Different types of services imply different degrees of customer participation (Meuter and Bitner 1998); yet, the debate about customers' roles in service systems centers mainly on comprehensive customer roles. Customers thus appear as resource integrators (Lusch and Vargo 2006) and among the most important assets of a company (Collier and Sherrell 2010). The increasing popularity of self-service applications, codesign tools, and collaborative online services also increases the need for customers to take responsibility and act in self-dependent ways (Dholakia et al. 2009; Fang, Palmatier, and Evans 2008). Such demands are generally contingent on control beliefs about service outcomes, especially if those services have relevant and risky consequences, such as health care or financial services (Bitner et al. 1997). For example, the success of health services depends on the health-conscious behavior of and perceptions of personal control among consumers (Kidwell and Jewell 2002; Peterson and Stunkard 1989). Similarly, debates about the recent financial crisis and its dramatic consequences for customers often included questions about whether mortgage borrowers should have acted with more self-reliance to prevent their financial losses (Crouhy, Jarrow, and Turnbull 2008). Even as these debates continue, along with calls to examine the roles that customers play in

service production and value creation, we face a knowledge gap with regard to customers' beliefs about their own role and the relevance of their outcome-related control beliefs for role adoption and behaviors.

Prior customer participation behavior research, specifically in a self-services context, has revealed that perceptions of behavioral control can predict customer acceptance and adoption of coproduction roles (e.g., Oyedele and Simpson 2007; Van Beuningen et al. 2009). Yet, the outcome-related construct of locus of control (LOC) has received little attention in service research, with the notable exceptions of Bradley and Sparks (2002), who conceptualize a service locus of control (SLOC) as the relative consistency within people's perceptions of control over service quality across service situations, and

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Sierra, Heiser, and McQuitty (2009), who apply the concept. Neither study empirically investigates the relevant antecedents and consequences of different control beliefs in the context of customer participation behavior and corresponding motivation though. Specifically, it is still unknown if service providers can influence the LOC beliefs of their customers.

Other research, linked to customers' perceptions of their impact on joint service production outcomes, relies on attribution theory and investigates causal attributions in collaborative performance situations. Although prior research on attribution theory and self-serving bias provides valuable insights into customers' causal attributions, it is limited mainly to retrospective evaluations of specific situations and their results (Bendapudi and Leone 2003; Hui and Toffoli 2002; Yen, Gwinner and Su 2004). None of these studies includes resulting participation behavior or generalized expectations and beliefs about the coproduction role, as represented by SLOC beliefs.

In response, we offer a threefold contribution: First, we determine whether SLOC can explain customers' motivation to coproduce. Second, we investigate whether different SLOC beliefs vary in their impact on customers' motivation to coproduce. Third, we discern whether service providers can influence SLOC through their efforts to socialize customers, or if SLOC mainly depends on customers' former (reinforcement) experience. Using theoretical insights from social learning theory and organizational socialization, we develop a conceptual model to investigate customer-related and service provider-related influences on different customer SLOC beliefs and the resulting attitudinal and behavioral consequences. We test our model with a sample of 2,679 participants in the context of health-related strength training services, namely, therapeutic training services performed autonomously by customers to treat or prevent musculoskeletal disorders.

In the next section, we review literature on customer coproduction and the SLOC and develop a set of research hypotheses regarding the effect of SLOC on customer coproduction, drivers of SLOC, and potential differential effects and contingency factors. We then describe our research methodology and results. Finally, we summarize the results and conclude with some managerial implications, research limitations, and directions for additional research.

Research Background and Hypotheses Development

Customer Coproduction

Various authors have addressed the phenomenon of customer participation in the service production process from different perspectives and with different elements, such as coproduction or value cocreation (Bendapudi and Leone 2003; Etgar 2008). Kelley, Donnelly, and Skinner (1990, p. 315) note that customer participation occurs when the "customer . . . provides resources to the service organization in the form of either information or effort." Customer coproduction thus represents a specific form of customer participation, which we define, in

line with Lusch and Vargo (2006, p. 284), as customers' "participation in the creation of the core offering itself."

Health-related strength training demands a particularly high level of customer coproduction (Bitner et al. 1997). That is, service quality perceptions depend to a great extent on customers' own participation in the service process, and it is essential that customers participate beyond a mere interaction with the professional service provider (Bitner 1990). Engaging customers in such a service production process demands three basic requirements, in that customers must possess sufficient knowledge, ability, and motivation to take part in the service production process, though the most important requirement is customers' motivation to engage in such behavior (Bettencourt et al. 2002; Dellande, Gilly, and Graham 2004; Lengnick-Hall 1996).

SLOC

The idea of control is an important factor for predicting consumer motivation and behavior in service contexts (e.g., Bateson 1985; Xie, Bagozzi, and Troye 2008). Control refers to the degree of power and influence over service specification, realization, and outcome (Van Raaij and Pruyn 1998). However, perceived control also comprises diverse notions, such as behavioral, decisional, or cognitive control (Hui and Toffoli 2002), as well as LOC, self-efficacy, and explanatory style (Peterson and Stunkard 1992). The controllability of or perceived responsibility for results generally pertain to control beliefs in terms of LOC, that is, "the degree to which persons expect that a reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable" (Rotter 1990, p. 489).

In this sense, we can distinguish the LOC construct from related constructs, such as self-efficacy, perceived behavioral control, attributions, or explanatory style, in terms of the subjects of control and their time orientations (Ajzen 2002; Bradley and Sparks 2002; Skinner 1996). Unlike LOC, self-efficacy (Bandura 1998) and perceived behavioral control (Ajzen 1991) relate to expectations of control over behaviors rather than outcomes (Ajzen 2002). Accordingly, perceptions of responsibility among service customers and their corresponding motivation to accept and fulfill coproduction roles likely depend more on expectations of control over outcomes, because the outcomes generally represent reinforcing (rewarding or punishing) elements in service production and consumption. Both attributions (Kelley 1972; Weiner 1985) and explanatory style (Abrahamson, Seligman, and Teasdale 1978) refer to outcomes too, but unlike LOC, they pertain to past instead of future events. Therefore, we anticipate that LOC offers a better predictor of customers' prospective coproduction behavior and corresponding attitudes toward their coproduction roles than either attributions or explanatory style.

Despite this logical relevance, this personality construct has received limited service research attention. The extended notion of a context-specific LOC implies that highly generalized measures of this personality construct have limited predictive power when applied to particular contexts, whereas domain-specific personality measures are more suitable (e.g., Ajzen and Fishbein 1980; Blau 1993; Wang, Bowling, and Eschleman 2010). Researchers who address those frame-of-reference effects have encouraged investigators in different research fields to develop their own definitions and design their own instruments to measure context-specific personality constructs (Bing et al. 2004; Lievens, De Corte, and Schollaert 2008).

Another gap in existing research pertains to the question of whether service providers can influence the LOC beliefs of their customers by increasing their senses of self-reliance or responsibility. It seems desirable to exert influence on this attitudinal construct, though there is no empirical evidence for a corresponding feasibility.

Effect of SLOC on customer coproduction. Prior studies that use perceived control as a predictor of participation behavior support the notion that SLOC beliefs should have an impact on customers' motivation and behavior. For example, Bateson (1985) confirms that perceived control provides an important predictor of the use of self-service offers, and Collier and Sherell (2010) show that customers' control perceptions exert a positive impact on customers' exploration motivation. In line with expectancy theory (Vroom 1964), the LOC construct, referring to the degree to which persons believe they are more likely to obtain desirable outcomes through their efforts, should be a significant predictor of motivation (Colquitt, LePine, and Noe 2000; Ng, Sorensen, and Eby 2006): The stronger the perception of the effort-outcome link, the stronger the motivation to exert effort. In this sense, the LOC construct and motivation clearly are distinct concepts (Spector 1982).

Building on Levenson's (1974) work, we conceptualize three dimensions of LOC: internal control, control by powerful others, and control by chance. We adopt this approach for two reasons. First, initial empirical evidence supports this conceptualization in service contexts (Bradley and Sparks 2002; Sierra, Heiser, and McQuitty 2009). Second, a three-dimensional approach can reflect the context of customer participation in service production when the service is relevant and risky and the outcome is insecure and undetermined. In this setting, customers conceivably could consider themselves the cause of potential results, which represents an internal SLOC. Service customers with strong internal SLOC beliefs should be more involved and motivated to engage in the service provision process.

Alternatively, customers could believe that mainly the service provider causes the result, because the firm controls the overall system, creates the underlying concept, and involves employees in the service production. Such control beliefs represent the powerful others dimension (Levenson 1974) and should go along with compliant customer behavior. Especially

when the customers' contributions are clearly defined within the service concept and communicated as relevant for the service outcome, customers with SLOC beliefs focused on powerful others likely exhibit the intended coproduction behavior.

Finally, it may be equally likely the consumers perceive unpredictable and uncontrollable factors that can affect the service outcome, particularly if the setting entails complex services, such as financial or medical service provision. Therefore, they might expect the outcome to be a function of luck or fate, reflecting a chance SLOC, and be less motivated to engage in coproduction behavior. Thus, we propose:

Hypothesis 1a: Internal SLOC beliefs have a positive impact on customers' motivation to coproduce.

Hypothesis 1b: Powerful others SLOC beliefs have a positive impact on customers' motivation to coproduce.

Hypothesis 1c: Chance SLOC beliefs have a negative impact on customers' motivation to coproduce.

Because firms that offer services with a high demand for customer contributions must identify the key predictors of customers' motivation to coproduce, particular attention should focus on the effect size of the proposed relationships between SLOCs and customers' motivation to coproduce. Service customers with strong internal SLOC beliefs are likely more engaged, put more effort into their coproduction activities, and act with greater self-confidence and autonomy. Those with powerful others SLOC beliefs instead might be more compliant with the service provider's guidelines for coproduction. If customers' contributions are clearly defined within the service concept and communicated as essential for the service outcome, coproduction attitudes among customers with powerful others SLOC beliefs likely are positive, even if they assign more responsibility to the service provider. Overall though, the effect of internal SLOC beliefs should be stronger than that of SLOC beliefs referred to the service provider, because customers claim more responsibility and for many services, coproduction increasingly involves autonomous contributions by customers.

Similarly, the negative impact of chance-oriented SLOC beliefs should be weaker than the positive impact of internal SLOC beliefs. This prediction is based on the theory of cognitive dissonance, which suggests that people aspire for internal consistency in their cognitions and behavior and work to reduce dissonance by reevaluating or changing cognitions or behaviors that are inconsistent as well as easy to reevaluate or change (Festinger 1957; Jones and Gerard 1967). A person who chooses to use a certain service offer likely has a positive attitude toward the service concept and his or her required contributions. A fatalistic attitude (i.e., strong chance SLOC beliefs) should not create inconsistency with this positive attitude, because fatalism is not linked to any particular behavioral direction. However, a negative attitude toward coproduction (i.e., low motivation to coproduce) would be highly incompatible with the

decision to accept the service offer and therefore should induce stronger dissonance. We propose

Hypothesis 2: Compared with internal SLOC beliefs, (a) powerful others SLOC beliefs and (b) chance SLOC beliefs have weaker impacts on customers' motivation to coproduce.

Most conceptual work on customer participation (e.g., Kelley, Donnelly, and Skinner 1990; Lengnick-Hall 1996; Mills and Morris 1986), as well as a few empirical studies that conceptualize and measure customer participation as a behavioral construct (e.g., Bettencourt et al. 2002; Kelley, Skinner, and Donnelly 1992) suggest that customer motivation for participation is an important predictor of actual participation behavior. Therefore, we also predict:

Hypothesis 3: Customers' motivation to coproduce has a positive effect on customer coproduction behavior.

Reinforcement experiences and organizational socialization as antecedents of SLOC and customers' motivation to coproduce. As a general personality trait or disposition, LOC depends mainly on a person's general life experiences (Rotter 1966). The construct is embedded in social learning theory, which suggests that through learning, experience leads to changes in knowledge and behavior (Hoch and Deighton 1989). The learning effect of experience refers to the consequences of behavior, which may be perceived as rewarding or punishing and therefore have a reinforcing or reducing impact on future behavior. With regard to LOC beliefs, the consistency of a person's experiences regarding the behavior-consequences relationship is important. People who experience a consistent relationship between their behavior and outcomes (i.e., rewards or punishments) are more likely to believe in their ability to control events (internal LOC). People who instead perceive no pattern in behavior-outcome relationships likely ascribe the consequences they experience to external factors, whether fate (chance LOC) or powerful others (powerful others LOC).

Bradley and Sparks (2002) argue that in a service context, consumers' SLOC beliefs result from their general life reinforcement histories but are disproportionately influenced by past experiences in comparable service settings. Social learning theory further suggests that experiences accompanied by rewards or punishments should be sufficiently similar to a current situation to create an association with current behavior and induce a corresponding reinforcement effect (Bandura 1977). This precondition should be relevant for context-specific LOC beliefs: Experiences of behavioral consequences shape SLOC beliefs only if the person perceives them as comparable with the current coproduction situation. In a health-related service setting such as a physical therapy, patients might have prior reinforcement experiences with performing physical training on a regular basis and believe that accomplishing recommended exercises consistently improves the rehabilitation process. These consumers should expect to influence their own

convalescence. We thus propose that reinforcement experiences of service customers, if they are comparable to the current coproduction situation and indicate adequate rewards, affect both SLOC beliefs and customers' motivation to coproduce. As the reinforcement experiences relate to customers' own input in service production, they should increase customers' beliefs about the importance of their own contribution. At the same time, rewarding experiences with these contributions should decrease the perceived impact of uncontrollable factors, such as luck or chance. As the reinforcement experiences are not associated with the service provider's input, they should not affect the perceived importance of the service provider for a positive service outcome. Furthermore, if customers consistently experience positive consequences of a dedicated coproduction behavior, they should be motivated to repeatedly show this kind of behavior. Therefore, we propose:

Hypothesis 4a: Comparable reinforcement experiences of service customers have a positive impact on their internal SLOC beliefs.

Hypothesis 4b: Comparable reinforcement experiences of service customers have no impact on their powerful others SLOC beliefs.

Hypothesis 4c: Comparable reinforcement experiences of service customers have a negative impact on their chance SLOC.

Hypothesis 5: Comparable reinforcement experiences of service customers have a positive impact on their motivation to coproduce.

Similar to new employees, service customers as "partial employees" (Mills and Morris 1986) undergo a socialization process when they initiate a relationship with the service provider, especially if the service is delivered on a long-term basis and characterized by ongoing interactions between the customer and the company. Following Schein (1968), we define organizational socialization as the process by which organizational newcomers learn about and adapt to the values, norms, and required behavior patterns in the organization. Beyond primarily social aspects, research also offers an extended view of organizational socialization, including the means through which new customers acquire knowledge, abilities, dispositions, and motivations that enable them to participate effectively in the service system and carry out their coproduction role (Claycomb, Lengnick-Hall, and Inks 2001; Kelley, Donnelly, and Skinner 1990).

Service firm communications, which should shape customers' self-perceptions and knowledge of the firm's expectations about their role, likely advance this socialization process (Lengnick-Hall, Claycomb, and Inks 2000; Zeithaml, Parasuraman, and Berry 1990). Other influences on socialization might include formal education programs, customer training, organizational literature, or environmental cues that provide the knowledge, skills, and abilities necessary to perform coproduction roles as desired by the service provider (Bettencourt et al.

2002; Fonner and Timmerman 2009). Moreover, motivated customers are more likely to engage in autonomous yet compliant coproduction behavior, so appropriate measures to increase customers' motivation to adopt and perform the coproduction role are relevant elements of the firm's support for customers' role learning as well (e.g., Claycomb, Lengnick-Hall, and Inks 2001). Kelley, Skinner, and Donnelly (1992, p. 201) find that customer organizational socialization relates positively to customers' motivational direction or "the appropriateness of the activities to which an individual directs and maintains effort," and Lengnick-Hall, Claycomb, and Inks (2000) cite customer socialization as a relevant predictor of customer participation, with a positive relationship between behavioral outcomes of organizational socialization and motivation to participate in coproduction activities. Therefore, we propose:

Hypothesis 6: The organizational socialization activities of the service firm increase customers' motivation to coproduce.

Effect of organizational socialization activities on customers' SLOC. Corresponding with established phase concepts in organizational socialization literature, Mills (1986) distinguishes three phases of customer socialization. First, the anticipatory or preencounter phase takes place before the first direct interaction between the customer and the firm (Mills and Morris 1986). It encompasses customer perceptions, beliefs, and expectations built up prior to the service experience, perhaps through reports from referent others or general communications by the firm. Second, in the encounter phase, the customers' predefined expectations interact with the actual circumstances of the service setting. The service provider's potential influence on customers' self-perception and definition of their role through appropriate socialization activities becomes much more pronounced in this phase. Third, the acquisition phase includes the consolidation and internalization of values, norms, and behavior patterns, perhaps shaping customers' perceived responsibility by reinforcing their required behaviors and role perceptions and reinforcing their control beliefs. Because both internal SLOC beliefs and control beliefs that suggest a positive impact of the service provider on service outcome are desirable, both kinds of expectations should be addressed in organizational socialization activities, predominantly in the second and third phases, and should lead to the relevant impacts. Accordingly, we propose:

Hypothesis 7a: Organizational socialization activities by the service firm have a positive impact on customers' internal SLOC beliefs.

Hypothesis 7b: Organizational socialization activities by the service firm have a positive impact on customers' powerful others SLOC beliefs.

Hypothesis 7c: Organizational socialization activities by the service firm have a negative impact on customers' chance SLOC beliefs.

The service provider's potential impact on the generation of internal SLOC beliefs, through this comprehensive socialization procedure, should be stronger than the impact of customers' former reinforcement experiences. Organizational socialization activities are context-specific and strongly focused on informing, persuading, and convincing customers about their coproduction role. Personal reinforcement experiences instead tend to be diverse, such that they likely exert less effect in terms of building attitudes. Following organizational socialization theory (e.g., Buchanan 1974; Schein 1968), we argue that successful socialization processes should lead to more sustainable attitudinal and behavioral adaptations than do personal reinforcement experiences. Accordingly, we propose:

Hypothesis 8: Compared with the organizational socialization activities of the service firm, comparable customer reinforcement experiences have a weaker impact on internal SLOC.

Moderating effects of prior provider-specific service experiences. As noted previously, experiences should be sufficiently similar to the current situation to create an association with current behavior and induce a reinforcement effect (Bandura 1977). In a context of health-related strength training, comparable reinforcement experiences might extend to the positive physical effects of sports activities in general, such as improving material well-being, strengthening the body, or increasing endurance. We assume that experiences in exactly the same context (i.e., prior experiences with this service provider) negatively moderate the effect of comparable but more general reinforcement experiences, such that the meaning of these general experiences becomes less important for predictions of current SLOC beliefs when the customer has provider-specific experiences. Accordingly, we propose:

Hypothesis 9: Comparable customer reinforcement experiences have a weaker impact on internal SLOC among customers who have prior provider-specific service experiences compared with customers who do not.

The proposed negative moderating effect of provider-specific experiences also may imply a contrary moderating effect on the relationship between perceived organizational socialization and internal SLOC beliefs. Customers with provider-specific experiences likely build internal SLOC beliefs after they undergo a convincing socialization process, because they gain familiarity with the provider and the specific kind of service, such that they are more likely to gather the required knowledge to understand their importance in ensuring a successful service outcome. Therefore, we propose:

Hypothesis 10: Organizational socialization activities have a stronger impact on internal SLOC among customers with prior provider-specific service experiences compared with customers without these experiences.

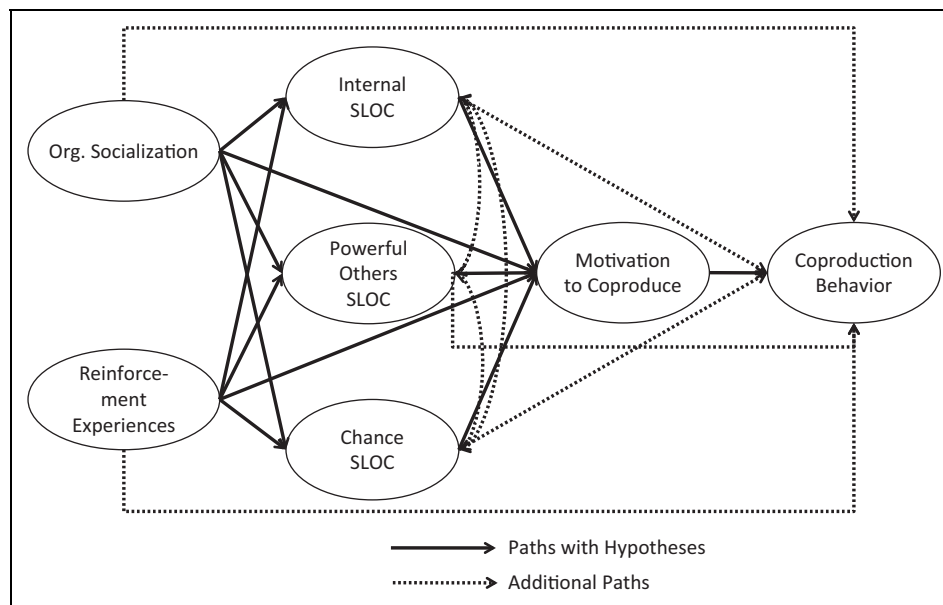


Figure 1. Structural model.

The conceptual model of the direct effects is visualized in Figure 1. In brief, we propose an impact of organizational socialization and of comparable reinforcement experiences on different SLOC beliefs and on customers' motivation to coproduce. Furthermore, we suggest an impact of different SLOC beliefs on customers' motivation to coproduce as well as an effect of customers' motivation to coproduce on coproduction behavior. In addition to these direct effects, we predict that the effect of internal SLOC on motivation to coproduce is stronger than the effect of powerful others SLOC and chance SLOC on motivation to coproduce. We also assume that the effect of organizational socialization on internal SLOC is stronger for customers with prior medical health training experiences than for customers without prior medical health training experiences.

Methodology

Sample

We collected data about customers of a leading German preventive and medical strength training franchise system, which includes more than 150 training facilities worldwide, each led by an independent franchisee. Customers make use of this muscle strengthening service to treat or prevent musculoskeletal problems (e.g., slipped disk) or to recover from postinjury physical impairment. The training is performed autonomously on specific training machines with a regular training frequency of one or two times per week. Health-related strength training provides the sampling frame, because this service is highly relevant and has potentially risky consequences for customers (Bitner et al. 1997). Moreover, it demands a high degree of customer contribution (e.g., information about the customer's physical condition, compliance with the training concept and individual training plan, feedback on

training effects), and customer input has a strong influence on service outcomes, especially their concept-compliant training behaviors. Each franchisee maintains a database of its customers and their training frequencies, such that we could identify customers who exhibited both high and low compliance with the recommended training frequency. This information was used for sampling purposes, such that our sample includes different training frequencies as an indicator of diverse coproduction behaviors.

To test the questionnaire and measurement scales, we first conducted a qualitative and a quantitative pretest in a single, randomly selected training facility. We solicited responses from 400 customers and achieved a response rate of 54.3% (217). The data analysis prompted us to make a few scale refinements. The sampling procedure in the main survey started with a random selection of 10 training facilities (cluster sampling). We provided a total of 6,000 paper-and-pencil questionnaires to the 10 training facilities, allocated according to their registered number of customers. Whereas 4,000 questionnaires were distributed personally in the training centers, another 2,000 questionnaires were sent by mail to customers who had not appeared at the facility for at least 6 weeks. We received responses from 2,846 customers, for a total response rate of 47.43%, with a higher rate among the personally distributed questionnaires (63.6%, 2,544) compared with those distributed by mail (15.10%, 302). From these responses, we eliminated 167 due to missing data. These cases do not differ systematically from the final sample.

The final sample thus comprises 2,679 customers. The gender balance of 52% women and 48% men represented the balance of all customers. The average age of 49 years ($SD = 13$) is a little higher than that of the total customer population (47 years) but within an acceptable range. The education levels and occupations of our sample respondents also are representative

of the broader population of consumers: 42% had earned a degree, 19% had a high school diploma, and more than 50% worked in office jobs, for which they sat most of the day. The duration of customers' relationships with the company ranged from 1 month to almost 10 years, with an average of 22 months. More than 50% had started their training less than 2 years prior to the survey, and only about 9% had prior experience with medical strength therapy with the focal provider. These data again are representative of the general customer base of this service provider.

Measures

In the questionnaire, we measured the three *SLOC beliefs* using 10 items proposed by Bradley and Sparks (2002), adapted to our underlying research context of health-related strength training. The assessment of customers' comparable *reinforcement experiences* used a newly developed 3-item scale that asked about the positive physical consequences of their former sports engagement in general; the response scale ranged from "no experience" to "very intensive experiences." We measured *organizational socialization* activities with a self-developed 6-item scale that indicates customers' perceptions of the firm's engagement and employees' involvement in the socialization process. The scale represents the comprehensive socialization process conducted by the service provider and integrates different components of customer socialization. In particular, it measures the degree to which customers (1) feel enabled to use the training machines correctly; (2) receive background information about the training philosophy, the intended effects of the training, and the important role of the customer as a coproducer; and (3) perceive themselves as qualified to fulfill this role. *Motivation to coproduce* featured 5 items representing the three motivational aspects: direction, intensity, and endurance (Campbell and Pritchard 1983). For coproduction behavior, we used an 11-item measure of a desirable customer behavior. In the underlying context of health-related strength training, customers contribute to service production and the resulting service outcome by following the general training rules. The scale items that together constitute the firm's understanding of desirable customer coproduction behavior represent these rules. According to the therapeutic concept that underlies the firm mission, any deviation from the training rules will jeopardize the intended effects, such that value creation would be limited or even impeded. To reduce the chance of a social desirability bias, the response scale included frequencies, ranging from "never" to "always." Finally, the moderating variable, *experience with medical strength therapy*, measured context-specific customer experiences with the same service provider using a dichotomous single item. The medical strength therapy is guided by a physical therapist and usually occurs before the autonomously conducted health-related strength training.

All the measures were administered in German and, unless otherwise noted, measured with multi-item 5- or 7-point Likert-type scales. Other than coproduction behavior, the

constructs all represented beliefs, attitudes, or perceptions, modeled with reflective measurement scales. The coproduction behavior scale includes the complete accumulation of the company's training rules, which in combination define appropriate training and coproduction behaviors. For this scale, we use formative measures, aggregated into an index variable. The constructs and their measures appear in full in Appendix A.

Analysis and Results

Reliability Tests

First- and second-generation reliability tests confirm the reliability and discriminant validity of the scales. The exploratory factor analyses also confirm the suggested factorial structure of the survey. The Cronbach's α values of all scales are acceptable and exceed the recommended level of .70 (Nunnally 1978). With confirmatory factor analyses, we tested the measurement model, using AMOS 18 software (Bollen 1989). The model is estimated with the maximum likelihood procedure. To improve model fit, we note that the error terms of Items 1 and 2 of organizational socialization are correlated. We find acceptable fit statistics: $\chi^2 = 773.704$, $df = 229$, $p < .001$, $\chi^2/df = 3.379$, goodness-of-fit index (GFI) = .98, adjusted goodness-of-fit index (AGFI) = .97, Tucker-Lewis index (TLI) = .98, confirmatory fit index (CFI) = .98, and root mean squared error of approximation (RMSEA) = .03. All factor reliability scores exceed the recommended level of .60, and average variance extracted scores are higher than the recommended level of .50 (Bagozzi and Yi 1988). The intercorrelations also are acceptable (see Table 1). We confirm discriminant validity for the scales, which meet Fornell and Larcker's (1981) criterion.

Common Method Variance

The cross-sectional survey design of this study suggests the potential for bias due to common method variance (Podsakoff, MacKenzie, and Lee 2003), perhaps related to common rater effects, such as those that result from a consistency motif (Heider 1958). Such a bias can lead to artificially high correlations between constructs. To reduce the potential impact of common method bias, researchers propose several procedural remedies (Podsakoff, MacKenzie, and Lee 2003; Rindfleisch et al. 2007); we applied a priori different scale lengths (5- vs. 7-point), different scale formats (Likert and dichotomous scales), and different scale anchors (*strongly agree/strongly disagree, no experience/very intensive experiences, never/always*). We also asked respondents to answer as honestly and spontaneously as possible, with the reassurance that their answers would be analyzed anonymously and treated confidentially.

To test a posteriori whether common method bias affected the results of this study, we applied the methods recommended by Lindell and Whitney (2001) and built a second measurement model that included a latent common method factor. In addition to their respective factors, in this model, all items loaded on the common method factor. We forced the factor loadings

Table 1. Intercorrelations, Average Variance Explained, Factor Reliabilities, and Cronbach's α

Scale	Intercorrelations					
	a	b	c	d	e	f
a. Organizational socialization	1					
b. Reinforcement experiences	-.059**	1				
c. Internal SLOC	.326***	.018 <i>ns</i>	1			
d. Powerful others SLOC	.205***	-.025 <i>ns</i>	.238***	1		
e. Chance SLOC	-.095***	-.068***	-.236***	-.055 *	1	
f. Motivation to coproduce	.525***	.032 <i>ns</i>	.437***	.317***	-.146***	1
g. Coproduction behavior ^a	.282***	.033 <i>ns</i>	.277***	.153***	-.157***	.594***
Average variance extracted	.55	.86	.57	.53	.68	.75
Factor reliability	.88	.95	.84	.76	.86	.86
Cronbach's α	.87	.95	.81	.76	.85	.72

Note. ^aSingle-item measure.

ns = not significant; SLOC = service locus of control.

*** $p < .001$. ** $p < .01$. * $p < .05$

of the common method factor to be equal, because a differential impact of the common method factor on different items can be ruled out by definition. The comparison of the measurement model without the common method factor with the measurement model that includes the method factor ($\chi^2 = 763.805$, $df = 227$, $p < .001$, $\chi^2/df = 3.365$, GFI = .98, AGFI = .97, TLI = .98, CFI = .98, RMSEA = .03) results in a significantly better model fit for the latter ($\Delta\chi^2 = 9.899$, $df = 2$, $p < .01$). The χ^2 statistics were sensitive to sample size though, so we need other, less sensitive fit indices to compare the two models (Steenkamp and Baumgartner 1998). According to this latter comparison, the two models do not differ with regard to global fit indices such as TLI (.98 vs. .98) and CFI (.98 vs. .98). Therefore, the results do not appear seriously biased by common method variance.

Hypotheses Tests

To test our hypotheses, we build a structural model that includes all the hypothesized effects. In addition, we included all other direct effects of the independent effects on coproduction behavior to test for mediation (see additional paths in Figure 1). The model is estimated with the maximum likelihood procedure and the correlation between the exogenous variables is freely estimated. The model achieves a good fit: $\chi^2 = 939.393$, $df = 233$, $p < .001$, $\chi^2/df = 4.032$, GFI = .97, AGFI = .96, TLI = .97, CFI = .98, and RMSEA = .03. To increase readability, we structured the data analyses according to our direct effects, comparisons, and moderating effects.

Tests of direct effects. In support of Hypothesis 1a, we find that internal SLOC beliefs have a positive impact on customers' motivation to coproduce ($\beta = .259$, $p < .001$). Also in support of Hypothesis 1b, powerful others SLOC beliefs have a positive impact on customers' motivation to coproduce ($\beta = .175$, $p < .001$). External chance SLOC beliefs do not have an impact on this motivation ($\beta = -.038$, *ns*), and hence Hypothesis 1c is not supported. Customers' motivation to

coproduce in turn has a positive effect on their role-consistent participation behavior ($\beta = .609$, $p < .001$), which supports Hypothesis 3.

In the test of the effects of the reinforcement experiences of service customers on the different SLOCs, we find no effect on their internal SLOC beliefs ($\beta = .036$, *ns*) or powerful others SLOC beliefs ($\beta = -.014$, *ns*), though reinforcement experiences of service customers have a negative impact on their chance SLOC beliefs ($\beta = -.073$, $p < .001$). Thus, we find support for Hypotheses 4b and 4c but not Hypothesis 4a.

Regarding the effect of customers' reinforcement experiences and the organizational socialization activities of the service firm on customers' motivation to coproduce, we find support for Hypothesis 5: There is a positive effect ($\beta = .051$, $p < .01$) of reinforcement experiences on motivation to coproduce. A positive effect ($\beta = .406$, $p < .001$) also emerges between socialization activities and motivation to coproduce, in support of Hypothesis 6.

Finally, we test the effects of socialization activities on the different SLOCs. In support of Hypotheses 7a-c, organizational socialization activities have positive impacts on customers' internal ($\beta = .335$, $p < .001$) and powerful others ($\beta = .213$, $p < .001$) SLOC beliefs, but a negative impact on chance SLOC beliefs ($\beta = -.109$, $p < .001$).

Test of comparison effects. For Hypothesis 2, we test the unconstrained structural model against models that constrain the impact of internal SLOC and the two other SLOC beliefs to equality. In support of Hypothesis 2a, powerful others SLOC beliefs have a weaker impact on customers' motivation to coproduce ($\Delta\chi^2 = 12.592$, $df = 1$, $p < .001$) than internal SLOC beliefs. Furthermore, chance SLOC beliefs have a weaker impact than internal SLOC beliefs ($\Delta\chi^2 = 62.234$, $df = 1$, $p < .001$), in support of Hypothesis 2b.

To test Hypothesis 8, we compared an unconstrained structural model against a model that constrains the effects of organizational socialization activities and reinforcement experiences on internal SLOC to be equal. Compared with

organizational socialization activities, positive reinforcement experiences have a weaker impact on internal SLOC ($\Delta\chi^2 = 96.372$, $df = 1$, $p < .001$), in support of Hypothesis 8.

Test of moderating effects. Finally, we compared customers with prior experiences with the provider to those without such experiences, using multigroup comparisons in which models either constrain the respective effects to be equal across groups or are unconstrained. We first analyzed the impact of reinforcement experiences on internal SLOC and find no significant difference between customers with prior experiences with the provider and those with no prior experiences with its medical strength therapy ($\Delta\chi^2 = 2.181$, $df = 1$, ns). Furthermore, for the β coefficients in both groups, we find no significant impact of reinforcement experiences on internal SLOC ($\beta = -.050$, ns) for customers with prior experience, though we find a significant impact for the customers without prior experience of medical strength therapy with this provider ($\beta = .048$, $p < .05$). This finding supports Hypothesis 9. Among customers who have prior experience with the provider, socialization activities have a stronger impact on internal SLOC ($\beta = .372$, $p < .001$) than they do for customers without prior experiences ($\beta = .325$, $p < .001$; $\Delta\chi^2 = 23.866$, $df = 1$, $p < .001$), in support of Hypothesis 10 (Table 2).

Mediation analyses. Our model includes several mediated relationships. To test these indirect effects, we use a technique involving bootstrapping (Preacher, Rucker, and Hayes 2007) and refer to the classification of mediations offered by Zhao, Lynch, and Chen (2010).

First, we assess the indirect effects of SLOC beliefs through motivation on coproduction behavior. For internal SLOC, we do not obtain a direct effect on coproduction behavior ($\beta = .016$, ns) but instead find only an indirect effect ($\beta = .158$, $p < .001$). Powerful others SLOC does not have a direct effect either ($\beta = -.039$, ns), though we uncover an indirect effect on coproduction behavior ($\beta = .107$, $p < .001$). Hence, according to Zhao, Lynch, and Chen's (2010) typology, these effects are indirect-only mediations. Chance SLOC has a direct effect ($\beta = -.070$, $p < .001$) but no indirect effect ($\beta = -.023$, ns) on coproduction behavior, which indicates a direct-only nonmediation.

Second, we analyzed the mediating effects of the three SLOC beliefs on the links of organizational socialization and personal reinforcement experiences with motivation to coproduce. Both organizational socialization ($\beta = .406$, $p < .001$) and personal reinforcement experiences ($\beta = .051$, $p < .05$) have direct effects on motivation to coproduce. In addition, organizational socialization has an indirect effect on motivation ($\beta = .128$, $p < .001$), indicating a complementary mediation by the three SLOC beliefs. Personal reinforcement experiences do not have an indirect effect on motivation to coproduce though ($\beta = .010$, ns), so in this case, the three SLOC beliefs do not function as mediators (i.e., direct-only nonmediation).

Third, we test the effects of organizational socialization and reinforcement experiences on coproduction behavior. We find no direct effect of organizational socialization on coproduction

behavior ($\beta = -.024$, ns) nor do we find any direct effect of reinforcement experiences on coproduction behavior ($\beta = .003$, ns). However, significant indirect effects emerge both for organizational socialization ($\beta = .186$, $p < .001$) and for reinforcement experiences ($\beta = .026$, $p < .01$) on coproduction behavior. These effects are indirect-only mediations.

Discussion

Review of Empirical Findings

Our findings are relevant and noteworthy for service researchers in at least five ways. First, we provide further evidence of the validity of the SLOC concept and the measures proposed by Bradley and Sparks (2002). Along similar lines, this study is the first to investigate the drivers and consequences of SLOC and analyze the relative impact of different SLOC beliefs on customer coproduction behavior. Our findings support the nomological validity of SLOC beliefs and reinforce their usefulness for customer coproduction research.

Second, we show that the three SLOC beliefs are important drivers of customer coproduction. As we expected, internal and powerful others SLOC beliefs have positive impacts on customers' motivation to coproduce, which ultimately influences their coproduction behavior. The mediating role of motivation can be classified as an indirect-only mediation in this case (i.e., there are no additional direct effects of internal or powerful others SLOC beliefs on coproduction behavior). Prior coproduction research has shown that motivation to coproduce is a key prerequisite of appropriate participation (Bettencourt et al. 2002; Lengnick-Hall 1996); we show that customer motivation increases if customers believe in their own and the service provider's importance for attaining the desired service outcome. These control beliefs shape customers' attitudes toward coproduction and target their sense of responsibility. Accordingly, this study adds to extant research into customer control perceptions in a coproduction context, which previously has focused mainly on expectations of control over behaviors rather than over outcomes (Hui and Toffoli 2002; Van Raaij and Pruyn 1998). Whereas other constructs, such as self-efficacy and perceived behavioral control, are mainly linked to ability aspects of behavior, SLOC beliefs entail beliefs about the link between efforts and outcomes, such that they drive internal motivation.

If customers believe service outcomes are mainly a result of chance, luck, or fate, they contribute less to service production. These lower levels of coproduction behavior cannot be explained by the negative effect of chance SLOC on motivation to coproduce though, considering that we find a direct-only nonmediation. A potential explanation might be that people with fatalistic attitudes are more passive in general and less likely to engage in coproduction behavior. This passivity does not necessarily result in lower motivation though, so further research is needed to replicate and clarify this phenomenon.

Third, the three SLOC beliefs differ in their impact on customers' motivation to coproduce. Among the three types,

Table 2. Results

	Direct Effects	Standard β		
Hypothesis 1a	Internal SLOC \rightarrow Motivation to coproduce	.259***		
Hypothesis 1b	Powerful others SLOC \rightarrow Motivation to coproduce	.175***		
Hypothesis 1c	SLOC chance \rightarrow Motivation to coproduce	-.038 ns		
Hypothesis 3	Motivation to coproduce \rightarrow Coproduction behavior	.609***		
Hypothesis 4a	Reinforcement experiences \rightarrow Internal SLOC	.036 ns		
Hypothesis 4b	Reinforcement experiences \rightarrow Powerful others SLOC	-.014 ns		
Hypothesis 4c	Reinforcement experiences \rightarrow Chance SLOC	-.073***		
Hypothesis 5	Reinforcement experiences \rightarrow Motivation to coproduce	.051*		
Hypothesis 6	Organizational socialization \rightarrow Motivation to coproduce	.406***		
Hypothesis 7a	Organizational socialization \rightarrow Internal SLOC	.335***		
Hypothesis 7b	Organizational socialization \rightarrow Powerful others SLOC	.213***		
Hypothesis 7c	Organizational socialization \rightarrow Chance SLOC	-.109***		
	Internal SLOC \rightarrow Coproduction behavior	.016 ns		
	Powerful others SLOC \rightarrow Coproduction behavior	-.039 ns		
	SLOC chance \rightarrow Coproduction behavior	-.070***		
	Organizational socialization \rightarrow Coproduction behavior	-.024 ns		
	Reinforcement experiences \rightarrow Coproduction behavior	.003 ns		
	R^2			
	Coproduction behavior	.36		
	Motivation to coproduce	.38		
	Internal SLOC	.11		
	Powerful others SLOC	.05		
	Chance SLOC	.02		
	Comparisons	$\Delta\chi^2$		df
Hypothesis 2a	Internal SLOC \rightarrow Motivation to coproduce ($\beta = .259, p < .001$) vs. Powerful others SLOC \rightarrow Motivation to coproduce ($\beta = .175, p < .001$)	12.592		1***
Hypothesis 2b	Internal SLOC \rightarrow Motivation to coproduce ($\beta = .259, p < .001$) vs. Chance SLOC \rightarrow Motivation to coproduce ($\beta = -.038, ns$)	62.234		1***
Hypothesis 8	Reinforcement experiences \rightarrow Internal SLOC ($\beta = .036, ns$) vs. Organizational socialization \rightarrow Internal SLOC ($\beta = .334, p < .001$)	96.372		1***
	Moderating effects	$\Delta\chi^2$		df
Hypothesis 9	Reinforcement experiences \rightarrow Internal SLOC: Prior medical health training ($\beta = -.050, ns$) vs. β No prior medical health training ($\beta = .048, p < .05$).	2.181		1 ns
Hypothesis 10	Organizational socialization \rightarrow Internal SLOC: Prior medical health training ($\beta = .372, p < .001$) vs. No prior medical health training ($\beta = .325, p < .001$)	23.866		1***

Note. ns = not significant; SLOC = service locus of control.

*** $p < .001$, ** $p < .01$, * $p < .05$.

internal SLOC beliefs are the dominant drivers of customer participation, whereas powerful others and chance SLOC beliefs have significantly weaker impacts. The effect of chance SLOC on coproduction motivation is not even significant. This finding extends prior research on customer motivation by highlighting the importance of strong internal SLOC beliefs.

Fourth, we extend prior research by analyzing the different drivers of SLOC beliefs. With a basis in social learning theory, we argue that a person's SLOC beliefs should be shaped

somewhat by former comparable reinforcement experiences (Hoch and Deighton 1989; Rotter 1966), though we find only minor support for the impact of these comparable, more general reinforcement experiences. We do not find a mediating effect of the three SLOC beliefs on the link between the comparable reinforcement experiences and motivation to coproduce. Instead, a more effective driver of customers' SLOC beliefs, particularly internal ones, is service providers' socialization activities. This relevant role of the service provider can be

explained by the concept of organizational socialization and its related tactics, such as encouraging socialization agents (e.g., employees) to shape newcomers' attitudes and behavior (Mills and Morris 1986). It also offers evidence in support of the analogy of customers as partial employees. In this sense, SLOC beliefs are not inherent but rather can be shaped in preferable ways to improve customers' coproduction attitudes and behaviors. We find a complementary mediation of the three SLOC beliefs on the effect of organizational socialization on customer motivation to coproduce. That is, organizational socialization is appropriate not only to shape customers' SLOC beliefs but also to influence their motivation to coproduce directly. Socialization activities by the firm then should have stronger effects on coproduction motivation than customers' own reinforcement history.

Within this contribution, we also offer two factors that might explain the lower predictive power of comparable prior reinforcement experiences. On one hand, we conceptualized these experiences as related to beneficial outcomes of sports activities in general. However, the customers obviously did not transfer their general prior reinforcement experiences with sports to their current specific training situation, which prevented learning effects with regard to the service-specific LOC beliefs. In contrast, organizational socialization activities by the firm are very context-specific and serve to prepare customers so they can understand and fulfill their coproduction role in the particular service setting. On the other hand, the organizational socialization activities of the firm might serve to mitigate the impact of former reinforcement experiences. The therapeutic training concept aims to disconnect current training from former experiences with sports in general—especially unpleasant ones—so that customers develop unbiased attitudes toward the training.

Fifth and finally, we show that prior context-specific service experiences with the same provider moderate the role of the SLOC drivers. In support of our hypotheses, we find contrasting moderating effects. Context-specific experiences with the same service provider reduce the impact of more general reinforcement experiences on internal SLOC beliefs but enhance the effect of organizational socialization activities. Therefore, the effect of organizational socialization could be enhanced if customers already had experience in the same service setting. The less experience customers possess, the more they rely on general reinforcement experiences.

Managerial Implications

The findings of this study have several important implications for organizations that hope to get their customers to engage in coproduction. First, organizations should fully acknowledge the importance of SLOC beliefs and their significant impacts on customers' motivation to coproduce. Organizational measures to influence SLOC beliefs can help reduce the organization's uncertainty about service quality, processes, and costs (Bitner et al. 1997; Bowen and Jones 1986).

Second, managers should realize the great importance of internal SLOC beliefs. Our findings indicate that managers

should focus specifically on influencing internal SLOC beliefs to generate more self-reliance among customers. They also should communicate to customers and express the sense that those customers play an important and appreciated role in coproducing successful service outcomes.

Third, service providers can actively shape customers' control beliefs, which are neither given nor fixed. Organizations could grab this opportunity to launch, for example, formal and informal integration mechanisms that encourage higher internal SLOC beliefs. Formal integration mechanisms might provide customers with key role models; informal mechanisms instead might support exchanges between customers, for example, in customer clubs to encourage diffusion of identity construction processes. In this way, customers can work as partial employees and likewise act as role models for fellow customers.

Fourth, the effectiveness of socialization mechanisms increases with customers' greater experience with a particular service provider. To enhance customers' prior context-specific experiences with the service provider, companies could offer free introductory courses to explain their philosophy before the actual service. This could also be done in the form of online courses. Furthermore, firms should continue to work with their customers to improve their internal SLOC and ultimately their motivation to coproduce. Experienced customers likely can be migrated more easily to a similar service that requires more coproduction behavior, such as self-service. Moreover, service providers might reduce the influence of other sources of experience through a comprehensive socialization procedure. This is particularly beneficial if former experiences in similar contexts have fostered customers' luck or powerful others beliefs.

Finally, also for customers, it seems to be valuable to remain with the same service provider. To be loyal to a service provider can help customers to better integrate in the service process and to learn to coproduce in a more effective way resulting in positive service outcomes for customers. Furthermore, customers themselves could increase the likelihood of positive health outcomes by actively demanding socialization measures from the service provider. Requesting literature, videos, or websites, which inform about the service provider's concept and the customers' function within it prior to the service could help customers become better coproducers.

Limitations and Further Research Directions

As with any other research, this study suffers several limitations, some of which suggest promising directions for research. A first limitation pertains to the cross-sectional research design. Longitudinal studies are needed to gain a better understanding of the causal relations and the size of the effects in this model. A second limitation relates to the study context; we focused on a single service setting, so additional studies that cover a broader spectrum of industries could test the generalizability of our findings. Of particular interest might be investigations into whether SLOC beliefs are similarly important for services that are less relevant or risky for customers.

Other extensions might test the operationalizations of the constructs we use further. For example, the lack of influence of former reinforcement experiences in our study might reflect our operationalization of reinforcement in terms of context (experiences with sports activities in general) and rewarding consequences (strengthening the body, enhancement of physical well-being). These reinforcement experiences may seem insufficiently similar to the current situation to create an association with pertinent service-related attitudes and behavior. The limited scope of our study also required us to exclude several customer-related variables and contextual factors. For example, the influence of customers on one another's SLOC beliefs might be significant. Researchers therefore should consider and compare services with different interaction degrees.

The predictors in our research model account for only a limited proportion of variance in the SLOC beliefs (2-11%). Further research should identify additional determinants that might explain customers' SLOC beliefs. In the context of services that require major physical or intellectual customer input, SLOC beliefs might be shaped not only by the service provider's socialization activities or customers' individual reinforcement experiences in similar situations but also by customers' perceived behavioral control or self-efficacy, related to expectations of control over behaviors rather than outcomes. Customers who believe themselves capable of fulfilling the tasks expected of them in their coproduction role likely think that they can influence the service outcome in a positive way.

On a related matter, perceived physical or intellectual abilities might affect SLOC beliefs, as could the effects of model

learning by observing other customers and realizing the consequences of their behavior. Finally, this research focuses on the mediating role of the three SLOC beliefs. Further research should also investigate how they interact in their effects on outcome variables, such as customer motivation to coproduce.

Conclusion

Service research has widely ignored the role of customer control beliefs or their drivers for explaining customers' motivation to engage in joint service production. Specifically, there has been no research on whether service providers are able to influence these beliefs. This research fills this void by showing that customers' beliefs about their SLOC do influence their motivation to coproduce and ultimately also their coproduction behavior. We find that especially customers' internal SLOC beliefs drive customer coproduction. Moreover, we show that service providers can influence internal SLOC beliefs with organizational socialization activities, particularly when customers possess prior context-specific experiences with the service provider. Prior comparable reinforcement experiences prove to be less relevant drivers though, which emphasizes the importance of proactive, repeated socialization activities by service providers. The findings of this research contribute to a better understanding of customers' motivation to engage in coproduction and highlight the relevance of considering the current and aspirational level of internal SLOC.

Appendix A

Table A1. Scales

SLOC

Internal SLOC

1. The outcome of the training is first of all dependent on how much effort I put in it.
2. My personal dedication is mainly responsible for the training result.
3. The outcome of the training strongly depends on my ability to go to the limits of my muscle strength.
4. It mainly depends on my involvement if the training is successful or not.

Powerful others SLOC

1. The outcome of the training mainly depends on the company's training concept.
2. The benefits of the training are strongly determined by the quality of the exercise machines.
3. The quality of the personnel's care is mainly responsible for the training result.

Chance SLOC

1. The outcome of the training is a matter of luck. I have little influence on that.
2. What the training brings about is mostly determined by fate.
3. It is a question of fortune if the training is successful or not.

Experience with medical strength therapy

1. Have you previously completed a medical strength therapy at this company?

Reinforcement experiences

Please assess the personal experiences with sports training that you had prior to starting the training at this company.

1. Exercises make your body stronger.
2. Exercises increase your overall physical performance.
3. Exercises improve your physical well-being.

Coproduction behavior

1. I carry out all exercises slowly and carefully until the end.
2. I exactly stick to the specified order of machine use.
3. If it is too exhausting at a machine, I break up the exercise prematurely. (r)
4. I follow the recommended training frequency consequently.
5. Instead of calculating the training weight of the next/higher level accurately, I rather make a rough estimation. (r)
6. I take care of relaxing all muscles which are not being trained.
7. If the effort is very big, I do the exercises less intensively (range of motion). (r)
8. I adjust the machines with regard to all aspects according to my physical specifications.
9. I choose the weight on each machine so that I can perform the exercise precisely between 60 and 90 seconds.
10. If the machines are free, I switch from one to the other without any interruption.
11. At every machine I push myself to the full extent of my capabilities.

Motivation to coproduce

1. I am willing to give my utmost best at each machine to achieve a good training result.
2. I am willing to exercise just according to the training principles.
3. I am willing to investigate the training concept in depth.
4. I am willing to exercise consistently even if I have little time or I do not feel like it.
5. I am willing to continue with the training even if I cannot observe any improved performance.

Organizational socialization

1. In the introduction training, I have been very well instructed.
2. The employee responsible for me made a big effort to show and explain to me everything I need to know.
3. I was given comprehensive information material regarding the training.
4. The staff takes great care that one does nothing wrong during the training.
5. I have been very well informed concerning the objectives and consequences of action of the training.
6. If I have questions, I always find a competent contact person.

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