Contract Design in Influencer Marketing

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Abstract

In influencer marketing, the differing incentives of advertisers and influencers necessitate a delicate balance between control and creativity. Investigating this trade-off, we explore the impact of contractual constraints on advertiser outcomes, addressing the empirical challenges posed by the fact that contracts are rarely observed by researchers and are strategically offered by advertisers and selectively accepted by influencers. Our analysis uses a unique dataset comprising a thousand contracts offered by hundreds of brands to thousands of influencers to examine the prevalent advertiser-imposed constraints. We relate this data to information on influencer participation and follower responses, assessing how contractual constraints influence these outcomes. Our findings demonstrate that influencers are significantly averse to contractual constraints, which create a relational cost for them. Additionally, the audiences respond less favorably in terms of the advertiser's outcomes to content produced under more restrictive conditions, implying a creativity suppression cost borne by the advertiser. A uniquely designed two-stage field experiment shows that the creativity suppression cost for advertisers outweighs the relational cost for influencers. Relaxing these constraints allows advertisers to triple their influencer retention rate within the same budget. We highlight the critical need for balancing managerial direction and influencer autonomy in designing influencer marketing campaigns.

Keywords: Contracts, influencer marketing, relational cost, paid endorsements, field experiment

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Introduction

Influencer marketing, emerging with social media platforms, has established itself as an important channel in product marketing, with its spending reaching tens of billions of dollars globally (Influencer Marketing Hub 2023). This channel facilitates advertisers in reaching audiences that might otherwise be challenging to engage. Additionally, influencers have the potential to endorse products in a manner that can lead to a more substantial impact (e.g., Beichert et al. 2023; Gu, Zhang, and Kannan 2023).

However, a key feature of influencer marketing is that the firm's advertising message is not directly communicated to consumers, but indirectly through influencers who independently transform the advertiser's message into a message they send to their followers (e.g., Hughes, Swaminathan, and Brooks 2019). The role of influencer as an intermediary creates a tradeoff for the advertiser. On the one hand, influencer marketing enables the advertiser to send messages that are customized by the influencers to the target audiences' preferences, which might be more persuasive. On the other hand, the advertiser's control over the messages delivered through influencer marketing is lower than messages sent via other marketing channels, because the influencers may not be willing or able to transmit the message in a way the advertiser approves.

To ensure that the influencer embeds the general idea of the advertising message in the content and adheres to the product's corporate design and identity, advertisers often draft contracts that impose constraints on the message content. Without such constraints, the advertisers risk paying for a post that doesn't support their objective. Therefore, contracts serve the advertisers by incentivizing the influencers to act in the best interests of the advertisers (Bolton and Dewatripont 2004).

Yet, influencers may be averse to advertisers exerting control due to a *relational cost*

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of constraining contracts: a restrictive contract may constrain the influencer from posting content that might appeal to her followers. Hence, the influencers may be unwilling to comply with the contractual constraints which could lead them to post messages that are less preferred by their followers, reducing the influencer's future influence and value.

Moreover, contrasting prior views that contracts are in the best interest of advertisers (Bolton and Dewatripont 2004; Eisenhardt 1989), we argue that constraints imposed by advertisers can also harm instead of improving the campaign's effectiveness. For instance, such limitations might prevent influencers from emphasizing certain product attributes and presenting them in a style that resonates with their followers, potentially resulting in a *creativity suppression cost* for the advertiser.

In this research, we empirically assess the impact of contractual constraints on influencers and the impact of their posts. We ask: (1) How responsive are influencers to the prevalent contractual constraints? And (2) do constraints help or harm the performance of sponsored posts (i.e., in terms of follower engagement and clicks to the firm's website)?

In our theoretical framework, we posit that an influencer's decision to participate in a promotional campaign hinges on a delicate balance between the payment received for the sponsored post and the costs of complying with the stipulations made in the advertiser's contract. These costs include the relational costs the influencer anticipates from the risk of damaging her relationship with her followers. By offering a higher price, the advertiser may be able to secure the influencer's participation and ensure that the promotional message complies with the contract. However, this increase in payment does not necessarily mitigate the creativity suppression costs due to the influencer producing lower quality content that weakens the followers' engagement with the sponsored post. We employ this conceptual (analytical) model to guide our empirical investigation and provide insights into the decision-making process of advertisers in drafting contracts for influencer marketing campaigns. We

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empirically test this framework by using both unstructured observational data and a randomized field experiment. Novel data

from an influencer marketing platform enables us to directly observe contracts offered, offers accepted, prices paid, and performance achieved.

In Study 1, we use this observational data to perform a content analysis and qualitatively describe the variation in 984 unique contract documents worth $6.9 million in total, written by 286 brands, and offered to 7,101 influencers. We find that the contracts are not standard, rather, there is significant systematic variation both within and across brands in how strongly contracts constrain influencers in their content creation. Besides basic details about a campaign's details and structure, 80.1% of the contracts contain requirements concerning the image content, 58.8% about the caption text, and 47% about how the brand should be presented. These stipulations contribute significantly to how constraining a contract is perceived overall. This study shows the prevalent use of contracts as instruments of control by the advertiser.

Building on these findings, Study 2 combines this observational data on 984 unique contract documents with information on influencer participation and post-level follower engagement, giving us visibility into the performance metrics typically prioritized by advertisers in the influencer marketing context (e.g., Hughes, Swaminathan, and Brooks 2019; Leung et al. 2022; Wies, Bleier, and Edeling 2022; in Study 4 we then focus on clicks to the firm's website). Regressing participation on contractual features we find that one standard deviation increase in contractual constraints reduces influencer participation by 15%. Merely adding restrictions on how the product is displayed in the sponsored post reduces participation by 27.71%. Controlling for these constraints, we find that influencers are not affected by whether or not the contract's tone is supportive of autonomy. Overall, the data show that, on average, influencers are significantly more likely to take up contracts that

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are less constrained, indicating that they prefer contracts that provide them greater autonomy. Additionally, the broad spectrum of contexts covered by the data enables us to delve into the heterogeneity in the effects across influencer-brand characteristics.

Study 3 explicitly tests the influence of potential relational costs on the influencer's participation decision by augmenting the above Study 2 data with a survey collecting influencers' perceived relatedness with their followers (among other motivational factors). Most importantly, in a moderation test of process, we find that influencers who perceive a stronger relatedness with their followers are more sensitive to contractual constraints. We detect no moderating effect of the influencers' need for autonomy or need for competence. This evidence aligns with the notion that influencers' decisions are predominantly influenced by the anticipated relational cost of constraints. Influencers might foresee that such restrictions could provoke adverse reactions from their followers, with whom they seek to maintain strong relationships. Conversely, constraints do not bother influencers who report feeling a low degree of relatedness with their followers.

The evidence presented thus far illuminates the impact of contractual constraints on influencer participation. This leads us to our next question: do these constraints have additional effects on advertisers, beyond influencing campaign participation? Since the contractual constraints are chosen by the advertiser, it would be reasonable to expect that such constraints enhance the advertiser's outcomes. However, constraints could unintentionally negatively impact the influencer's creativity, which would negate any positive effects. Examining the relation between contractual constraints and follower engagement in the data, we find a diminished likelihood of follower engagement with the sponsored content produced under more restrictive contractual terms. This observation implies a double disadvantage caused by contractual constraints for advertisers, as stringent contracts deter participation and reduce the level of engagement by followers of influencers

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who do sign up. However, it is crucial to note the inherent limitations of utilizing observational data to draw these conclusions, owing to a potential selection bias, if, for instance, influencers predominantly enter into restrictive agreements during periods of decreased follower activity. This could lead to an apparent inverse relationship between follower engagement and contractual constraints, even if there is none.

Study 4 overcomes this potential selection problem arising from measuring posts only for influencers who participated. We obtained a second dataset by designing a unique two-stage randomized 2 (more vs. less constraining contract) x 2 (higher vs. lower price) between-subjects field experiment in collaboration with a well-known fashion brand. In a first stage, the experiment randomizes 1,495 influencers into two contract type groups. Influencers in Group A are offered the brand's status quo contract that requires influencers to mention a use-case of the promoted product in a highly specified manner. Influencers in Group B are offered a less restrictive contract; it suggests the same use-case in the same words but does not require the influencer to strictly follow the suggestion to get paid. We measured influencers' participation decisions in response to these contracts. In addition to varying constraints, we randomized the pay that was offered to the influencers who were given the opportunity to participate in the campaign. This enables us to quantify in monetary terms how the influencers value being less constrained, and the advertiser's tradeoffs in adding constraints to the contracts they offer. In a second stage, we utilize the institutional practice of advertisers' giving influencers a "final" briefing, in which we relaxed the constraints for a random half of the Group A-participating influencers. This controls for a potential influencer selection bias due to the stage one manipulation by applying a "hurdle" experimental approach. By measuring the influencer's content and clicks to the firm's website and relating them with the stage two manipulation, we were able to get an unbiased effect of our experimental constraints on influencer's post and subsequent follower behavior.

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Data from this experiment shows that constraining influencers causes them to decrease their campaign participation by 21.74% in stage one of the experiment, implying an anticipated relational cost of $130 per influencer, which is 52.1% of the baseline compensation. These findings are consistent with the influencers paying significant attention to the constraints because they are aware that the advertiser's contractual constraints may affect their content and provide disutility to their followers.

Analyzing the second stage randomization, we find that high constraints caused a decrease in the followers clicking to the advertiser's website, in line with the findings from the observational data analysis. These results show that the contractual constraints not only made the campaign more expensive (because the influencers demand a higher price when constraints are high), they also made the influencer posts less effective. Examining the content of the sponsored posts we find that higher constraints led to lengthier influencer posts and the produced videos adhered better to the advertiser's suggested use-case specified in the contract. Overall, our analysis supports the notion of a creativity suppression cost to the advertiser as the content became less authentic and followers' persuasion knowledge increased—i.e., followers' awareness that the influencer is being paid for the product endorsement increased. Based on the reduction in clicks due to the change in the nature of the content, we estimate a creativity suppression cost of $675 per influencer borne by the advertiser. This shows that the impact of constraints on the advertiser significantly outweighs the impact on influencers.

To our knowledge, this research is the first to empirically investigate the role of contractual constraints in influencer marketing. We not only examine the prevalence of constraints but also establish their causal effect on both influencer participation and the outcomes for advertisers. Our multi-method approach allows us to contribute insights to the field, paving the way for a more nuanced understanding of these contractual dynamics.

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Overall, our data are consistent with the view that the marginal constraints added by the advertiser restrict influencers in how they communicate with their followers in a negative way. Hence, the constraints hurt the advertiser by increasing campaign costs, (because the influencers demand a higher price), and decreasing the performance of the campaign, which can be a more potent effect, as shown by Study 4. Influencers are also worse off under high constraints because their posts will result in less engagement as followers may see the content as overly persuasive.

Literature Review

This manuscript relates to the literature on advertising-message seeding and dissemination, with a focus on influencer marketing, and integrates core principles from principal-agent theory, a concept dating back to the 1970s. Our underlying premise is that influencer marketing functions in a surprisingly traditional way, via a classic principal-agent dynamic: advertisers hire influencers to create and disseminate messages on their behalf in addition to their own content. Diverging objective functions between the principal and agents have been noted by multiple marketing scholars (e.g., between advertisers and agencies; Elsen, Pieters, and Wedel 2016; firms and sales agents; Basu, Lal, Srinivasan, Staelin 1985) and outside the field (e.g., in economics; Bernheim and Whinston 1998; Falk and Kosfeld 2006). However, in influencer marketing, the characteristics of the principal-agent—i.e., the advertiser-influencer—relationship have a special quality: influencers' participation and messaging is out of the advertiser's control. This is why, in an effort to maintain control over the execution of the campaigns, advertisers tend to impose constraints on influencers through campaign contracts. Largely neglected by prior research on influencer marketing (with some notable exceptions, e.g., Pei and Mayzlin 2021; Peng and Van den Bulte 2023), the supply

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side in the influencer marketing domain is our focus in this research. In what follows, we discuss adjacent work in the seeding, influencer marketing, and content creation literature and highlight our contribution.

From Seeding to Influencer Marketing

The literature on seeding and dissemination reaches back over seven decades. It gained popularity with the seminal paper by Katz and Lazarsfeld (1955), who conceptualized the formation of public opinion through opinion leaders who put information, i.e., media messages, into context and then spread it from the media to the masses. Since then, the notion of social influence has expanded as researchers uncovered and investigated different types of important nodes in networks, including market mavens (Feick and Price 1987) and hubs (Goldenberg et al. 2009). With the advent of the dot com era and the subsequent emergence of user-generated content networks (Shriver, Nair, and Hofstetter 2013), social influence has found its way into the marketing practice of not only large corporations but also small- and medium-sized firms that actively capitalize on it through paid and unpaid endorsements (Goldenberg et al. 2021). Nowadays, firms consider influencers as important nodes in the network connecting them with their customers. We contribute to the seeding literature by investigating the influencer marketing way of seeding and specifically by studying the supply side of influencer marketing seeding strategies.

Influence Stage

Previous research has mainly focused on figuring out which influencers to choose for spreading advertising messages to their followers through sponsored posts. This involves deciding based on the number of followers (indegree) an influencer has (Haenlein and Libai 2017; Van den Bulte and Wuyts 2007). The majority of these papers advise identifying and

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hiring the most-connected users, i.e., the high (network) status influencers, also referred to as macro influencers or hubs (e.g., Goldenberg et al. 2009; Hinz et al. 2011). To the contrary, recent research suggests that the higher status influencers may not be (cost-)effective and that thus the traditional seeding policy may not always be optimal (Lanz et al. 2019; Valsesia, Proserpio, and Nunes 2020; Beichert et al. 2023). Consistent with this literature, we focus on influencers at the lower end of the indegree distribution, and focus on the understudied aspects of contractual constraints and influencer participation.

Creation Stage

Prior research has already shown that the nature of the content created by the influencers matters to consumers (Yang et al. 2023). This includes how influencers present themselves along with advertised products and how they communicate.

For example, Hartmann et al. (2021) find that how the brand is portrayed in a consumer post expresses the poster's degree of engagement: Brand selfies, which are described as images in which a branded product becomes the center of attention—namely with the consumer being invisible—drive brand engagement. Engeler and Barasz (2021) find that mixed-brand combinations result in higher observer trust in product recommendations, because such combinations are associated with more thoughtful decisions. Leung et al. (2022) find that brands benefit from influencers who create content with greater originality, because the presence of their product in the posts implies the product has been examined with more attention and is being described by the influencer with greater candor. The presence of multiple objects also allows the influencer to be better perceived as more knowledgeable, credible, authentic, and trustworthy than she might be in one-product posts. Language arousal plays an important part in the perceived trustworthiness, as Cascio Rizzo et al. (2023b) demonstrate. In addition, Chung, Ding, and Kalra (2023) find that referencing family, friends,

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and romantic partners in the content has a positive effect on follower engagement. Another strand of the literature focuses on the role of sponsorship disclosure on influencer and follower behavior (e.g., Ershov and Mitchell 2020; Li 2023).

We build on and extend this literature by showing the role of the advertiser's contract terms in determining the influencer's post and its resulting performance.

Initiation Stage

The task of contracting with influencers is essential for advertisers, but under-studied. Recently, researchers have considered contracts that lead to a selection of influencers, above and beyond the price for sponsored posts (Pei and Mayzlin 2021; Peng and Van den Bulte 2023). With this article, we are the first to analytically, qualitatively, empirically, and experimentally investigate the role of constraints in influencer marketing contracts offered by advertisers and accepted by influencers, including the assessment of the impact of contractual constraints on performance in terms of follower engagement (Studies 2 and 3) and clicks to the firm's website (Study 4). As elaborated above, we consider the common case of paid influencer endorsements on Instagram, with a focus on lower status influencers (see Web Appendix Table 1 in Web Appendix A for an overview of adjacent works). It is important to note that this research is one of very few studies—and possibly the only study—to consider the entirety of the advertiser-influencer perspective, which represents the supply side in the influencer marketing domain. Outside of the influencer marketing literature, our work relates to broader research on the impact of contract design on agent motivation. This research has shown that contractual constraints can restrict the perceived autonomy of agents, but only in the case of legal clauses (Chou et al. 2017). A key difference between the traditional principal agent settings and the context of influencer marketing is the relationship influencers have with their followers and their creative delivery of content, which is the focus of this study.

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Conceptual Framework

A key feature of influencer marketing, unlike traditional advertising and other marketing channels such as banner ads, is that influencers are human intermediaries that not only create a content for brands but also deliver that content to their own followers through their own channels. By doing so, influencers operate independently on the firm's behalf. They are typically hired on a per-campaign basis and not bound to long-term relationships or permanent employment contracts (Upfluence 2023). Given this set up, we construct a conceptual framework that incorporates the following factors that come into play:

The advertisers have a message they want to transmit to the influencers' followers. However, influencers hired by advertisers to create and share the message with their followers may not post the ideal message for several reasons. First, while an influencer knows her followers' preferences well, she may not know what works best to maximize the advertiser's outcome. Second, even if influencers know, they may prioritize a message that will be more palatable to their followers and that does not undermine their social relationship.

One way the advertiser can overcome this challenge is by making the influencer sign a contract that will constrain the influencer to include crucial aspects of the advertiser's ideal message. Such a contract can be costly because the influencer will want to be compensated for any *relational costs* that may occur. Moreover, writing such a contract may lead to more problems for the advertiser. The influencer may find losing her autonomy demotivating and may simply take away the ability of the influencer to be creative (Amabile 2018). As a result, even if the influencer ends up complying with the contract, she may create a post that lacks in other dimensions, inducing a *creative suppression cost* for the advertiser.

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Details of the Framework

Here, we discuss our framework in terms of one advertiser and one influencer for simplicity of exposition. In reality, we expect there to be heterogeneity in the population captured in our empirical analysis. In an influencer marketing campaign, the advertiser desires an ideal message M to be given to an influencer's followers in order to maximize the advertiser's intended advertising outcome Y (e.g., follower engagement and clicks to the firm's website).

However, the advertiser's ideal message, M, may not be the most relevant for her followers. While M is ideal for the advertiser, it may not increase (and may even decrease) the influencer's utility to her followers, leading to a relational cost incurred by the influencer. Hence, without a contractual constraint, the influencer would accept the payment but post an adjusted implementation of the message M_i that minimizes her own costs but not maximize the advertiser's outcome, such that $Y(M) > Y(M_i)$. M_i will be closer to M in situations in which the influencer cares more about the advertiser's outcome, which could be motivated by her need to maintain a reputation with the specific advertiser or the intermediary platform. In either case, we have a situation in which both the influencer and the advertiser would implement different messages. What can the advertiser do? The advertiser can enforce its ideal message M by writing a contract.

Influencer's Participation Decision

The influencer considers the costs and benefits of the advertiser's request and decides whether to participate. The probability of participation π depends on the price p for the sponsored post, and the message M that the contract constrains the influencer to post:

$$\pi(M, p) = \frac{e^{\beta_0+\beta_1 p+\beta_2 c(M)+\gamma X}}{1+e^{\beta_0+\beta_1 p+\beta_2 c(M)+\gamma X}} \quad (1)$$

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Here, β_1 represents the influencer's responsiveness to a unit increase in price; $c(M)$ represents the constraints added by the advertiser's contract demanding a message M; and β_2 is the parameter representing the weight the influencer puts on the contract constraints. The γ gamma represents parameters of additional brand- or influencer-related factors X that may drive participation. In this formulation, the probability of participating without any constraint is $\pi(M_i, p) = \frac{e^{\beta_0+\beta_1 p+\gamma X}}{1+e^{\beta_0+\beta_1 p+\gamma X}}$. If constraints are informative to the influencer, for example, by conveying what the advertiser is looking for, an influencer may find them useful, and β_2 could be positive. However, the opposite may be true due to the potential costs due to the constraints, as we hypothesize.

Costs for Influencers From a Contract: We argue that a key factor that determines the influencer's costs due to a contract with constraints $c(M)$ is arising from their relationship with their followers, a relational cost.[1] The contracted influencer's followers may perceive the advertiser's message less positively than the influencer's typical content, which potentially undermines their perceptions of the influencer.[2] The more constraining the contract for the influencer, the greater the deviation it may have from the influencers' typical content. Followers may detect this deviation and interpret it as a transparent attempt at persuasion (Friestad and Wright, 1994), leading to negative evaluations of the influencer. Indeed, it has been demonstrated that consumers generally view overt persuasion attempts negatively (Eisend and Tarrahi, 2022). This is a direct cost to the influencer as it may reduce

[1] Note that the relational cost borne by influencers can occur even if the advertiser benefits from the sponsored post. For instance, advertisers may gain from increased product awareness among the audience, even if it detracts from the audience's overall enjoyment of the social media experience. This is similar to traditional TV advertising, where viewers may dislike interruptions by commercials, yet advertisers still benefit from the exposure these ads provide to their products.

[2] One may conceive constraints causing the influencer to spend more effort (e.g., time spent) in creating the sponsored post. While effort is the mechanism considered in the typical principal-agent models, we contend that in influencer marketing setting, relational concerns will dominate the influencer's consideration. We show empirical support for our conceptualization in Study 2 analysis.

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their own visibility on the platform. In terms of our model, the relational cost, in monetary terms is: $\left|\frac{\partial\pi}{\partial c}/\frac{\partial\pi}{\partial p}\right| = \left|\frac{\beta_2}{\beta_1}\right|$. The closer the relationship between an influencer and her followers, the greater the value she would place on this relationship, and, consequently perceive a higher relational cost when faced with constraints.

Additionally, a constraining contract may reduce the influencer's ability create a post tailored to the advertiser's objective. For example, the advertiser's ideas in M may be inconsistent with the influencers', in style or substance, and interfere in their creative process. Such factors may lead to a creative suppression cost for the advertiser which plays a role in her decision making.

Advertiser's Contract Decision

Constraining the influencer to send M through a contract leads to advertiser outcome:

$$Y_{con} = \pi(M,p) \times [y(M) - \delta\big(c(M)\big)] + [1 - \pi(M,p)] \times y_0, \qquad (2)$$

Where the term $\delta(c(M))$ captures the impact of the contractual constraints on the influencer's productivity; δ is likely to be positive if the contract harms the influencer's productivity. However, it is possible that the contract with constraint provides information to the influencer that informs her what works best to maximize the advertiser's outcome, which would be consistent with a typical principal-agent scenario where the principal enforces constraints that benefit her. In that case, δ could be negative. Finally, y_0 represents the outcome of an alternative message delivery when the influencer decides to not participate. Overall, holding the price for the sponsored post constant, a constraining contract has two advertiser-relevant effects. Firstly, it may lead to a relational cost for the influencer which reduces the likelihood of an influencer participating in a campaign. Secondly, it may hurt the quality of the posts of those influencers who sign up leading to a direct creative suppression

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cost.

Summary and Overview of Studies

In the following sections, we examine the role of contracts in the current influencer marketing practice and assess the impact of constraining contracts on advertiser outcomes and influencer participation. Empirically, we assume $\delta()$ is a linear function of contract constraints and estimate it along with β_1 and β_2 in equation (1). Additionally, we examine in detail the influencer's participation function $\pi(.)$ and how the influencer's participation decision weighs the constraints in these contracts, which may hinge on the influencer's perception of relational costs.

To gauge the applicability of our framework in the context of influencer marketing contract design, we use unstructured observational data on actual contracts offered by advertisers to influencers. In Study 1, we scrutinize the content of these contracts to determine the presence and degree of constraints. These constraints serve as indicators of advertisers' attempts to control the message. Given the rarity of such detailed contract-level analyses, we employ a combination of objective and subjective methods to evaluate these documents.

Study 2, delves into the implications of these contract constraints: we correlate contract constraints with influencers' decisions to participate and content engagement consequently. By conducting a within-influencer analysis and pairing it with the findings from Study 1, we aim to discern: (1) whether contracts serve a purely informational purpose or if they tangibly alter influencers' campaign participation costs and (2) the impact of constraints on the advertiser's outcome.

In Study 3, we augment the observational data with a survey to evaluate the role of relational costs in a moderation test of process. Here, we aim to understand how influencers'

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perceived relatedness with their followers drive their reluctance towards contractual control, clarifying our understanding of heterogeneity of influencers' value priorities.

Study 4 goes a step further. Focusing on clicks to the firm's website (instead of follower engagement) we quantify the relational and creative suppression costs using a unique randomized field experiment to assess the follower's reaction to these contractual constraints. Our first goal is to conclusively determine the causal effect of constraints on the advertisers' outcome. A significant challenge arises in this observational analysis: follower behavior under stringent constraints is only visible when an influencer agrees to such constraints. If influencers are more inclined to opt for high-constraint contracts in scenarios where they anticipate low follower engagement (e.g., for a weekend campaign when engagement tends to be lower), our analysis might falsely indicate a negative impact of constraints on consumer engagement. To address this issue, Study 4 introduces a two-stage randomized field experiment in collaboration with an advertiser, designed to circumvent these obstacles. Since our experiment simultaneously randomizes monetary compensation and constraints, we are able to quantify the relational costs incurred by the influencer, and the creative suppression costs incurred by the advertiser. We further investigate the actual posts produced and investigate the factor mediating the effects of contract constraints.

Study 1: Qualitative Content Analysis of Campaign Contracts

Our overall data pool from the influencer marketing platform amounts to 984 campaigns with readable and processible contracts. These contracts featured campaigns from established brands in nine different industries, food and beverage or supplements industry (47%), beauty (16%), service providers (11%), fashion (9%), home décor (5.1%), toys (3%), transportation (2.2%), tourism (2%), technology (2%), and other (2.6%). The campaigns were

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spread evenly over the timespan from October 2017 to February 2021. Their average length is 187 words, less than one double-space page.

To understand the content of the contracts, we perform two independent content analyses. First, for an overall evaluation of the degree of constraint present in a contract, we asked independent readers to subjectively evaluate how constraining they perceive the contracts to be from an influencer's perspective. Second, we conducted a deeper content analysis to gain a more nuanced understanding. In this step, we first performed a theory-free inductive content analysis. This inductive approach allowed us to derive patterns, themes, and categories directly from the data, without preconceived theories or hypotheses. We then used this inductive analysis as a basis to align with a meaningful theoretical framework (self-determination theory; Deci and Ryan 1985), thus facilitating a deductive analysis. In this phase, we applied established theories and concepts to test if the data conformed to these predefined structures. Lastly, we used the resultant codes from both inductive and deductive analyses to quantify the percentage of the overall text in the contract that is devoted to more or less constraining texts, thereby offering a comprehensive understanding of the material.

Subjective Coding of Perceived Constraints

Two independent raters (agreement was α = .77) provided an overall rating of how constraining they perceive the contract to be on a scale from 0 (not constraining at all) to 7 (extremely constraining). They first had to read the contract as if they would, being an influencer looking to participate in the campaigns. They then had to provide an overall rating of how constrained they would feel executing a particular campaign. We used the average of their ratings as $c(M)$ in further analysis.

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Inductive Content Analysis

A research assistant coded all 984 contracts according to the Elo and Kyngäs, 2008 approach. To get an overview of the available data, we read a first set of contracts to detect noticeable patterns. Remarkable paragraphs and text passages were highlighted and labelled with fitting labels using an open coding style. After an initial analysis, the labels were reviewed for overlaps and aggregated accordingly. It became apparent that some contracts were more controlling and restrictive than others, e.g., *"(make) no promises of effectiveness (e.g. 'Drink XY to be full of energy! ')."* The less restrictive contracts used more open formulations with less detailed requirements that left more room for creativity and individual decision-making about the nature of the content. Our analysis shows that constraints could affect an influencer's freedom and motivation. In light of these findings, we identified self-determination theory (Deci and Ryan 1985), a framework that is instrumental in analyzing motivation, as a meaningful approach for structuring the content elements. The relatedness dimension of self-determination theory is particularly pertinent in this context. This dimension underscores the importance of personal connection and feeling understood and respected by others.[3] By applying this theory, we gain insights into how contractual constraints might not only influence an influencer's autonomy but also their ability to form meaningful, relatable content that resonates with their audience. Other elements include autonomy-supportive and structuring elements (see Web Appendix Figure 1 in Web Appendix B for main coding categories).

Deductive Content Analysis

[3] For influencers, the constraints imposed by controlling contractual statements regarding text, image, or video content can significantly impact their ability to maintain authentic connections with their audience. When influencers feel that these constraints limit their capacity to relate genuinely to their audience, their intrinsic motivation could diminish. This is because the sense of relatedness is a critical factor in nurturing intrinsic motivation according to self-determination theory.

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In a subsequent step, we performed a deductive content analysis of the contracts using the coding categories: controlling, which refers to clauses that dictate strict compliance and oversight, potentially limiting the flexibility of the influencers; autonomy-support, which encompasses terms that encourage individual initiative and decision-making; and structuring, which includes provisions that establish clear guidelines and expectations (Jang et al. 2010).[4] Data analysis was done by two independent coders and then checked for intercoder reliability. Interrater reliability values (Cohen's Kappa) of .65 on average indicated good reliability of the derived categories. The raters were not familiar with the details of the research project.

The first step in our deductive analysis involved raters coding the text for controlling and autonomy-supportive elements. This crucial phase determined how contract language either restricted or empowered influencers. Next, we classified these findings into a category structure focusing on 'structure versus chaos.' This step aimed to assess how contractual terms provided clarity or ambiguity in influencers' roles. For detailed definitions and examples of these categories, Web Appendix tables 2A and 2B in Web Appendix B offer comprehensive insights. We coded neutral standard statements that all contracts contained into a category called campaign details, which we exclude from later analysis.

The category control was refined during the process and divided into image, text constraint, or video constraints. Image, text, or video constraints include statements about the written texts, the content of the images to be taken by the influencer, or the content of video clips. For images, for instance: *"Please make sure that the [product/brand] is easily*

[4] Each statement was coded using this coding schema if it fit into one of the categories. Guided by the literature on textual coding (Corbin and Strauss 2008), we commenced with open coding of the first 50 statements in each code across various contracts to create descriptive codes closely mirroring the actual text. These codes were then systematically organized into categories, capturing the essence of the contract content. In the second stage, we extended this coding framework to the entire dataset, enabling us to calculate the frequency of each code and category, revealing prevalent themes. This entire process was facilitated by the use of MAXQDA (Kuckartz and Rädiker 2019), a software tool that ensured efficient and accurate coding and analysis.

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identifiable", *"Visual language: natural, bright colors, friendly;"* for text: *"Important: Mention the discount code in the caption!"*, *"Please mention the [product/brand] again in the caption."*; video: *"The interviews are filmed by the influencers in selfie style with their smartphones"*, *"With this product you have to make a creative Instagram video and explain why you like [product/brand]."* Autonomy-supportive statements included instructions that encourage free content creation, convey a sense of free choice, authenticity or helpful hints, and use non-controlling language. We further coded statements about structure-related aspects of the contracts. This covers instructions that provide clear directions, goals, and information about what is expected, but do not strongly constrain the freedom of the influencer in how the content should be created (Jang et al., 2010). The refinement of the code definitions was iterative, with certain specifications added over time or tight conditions relaxed until a clear definition was eventually obtained. For subsequent analysis, for each code we stored the percentage of characters that could be associated with the particular code out of all characters in the contract.

Descriptive Evidence on Contracts

We first investigate the distribution of the subjective coding of overall perceived constraints. We observe that the perception of the constraints is rather normally distributed with a mean of $M = 4.36$ ($SD = 1.46$), slightly skewed towards higher constraints (Figure 1), and significantly higher than the scale mid-point of 4 ($t(983) = 7.780$, $p < .001$).

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Figure 1: Perceived Constraints of Campaign Contracts Histogram

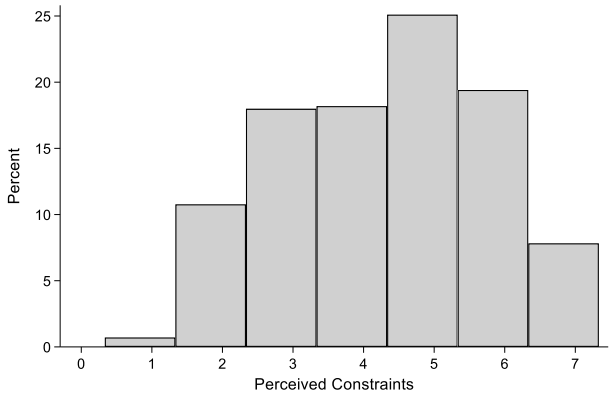


Table 1 shows that, among the various types of constraints, image constraints are the most frequently used, and these appear in 79.67% of contracts. Restrictions on texts are second-most common (57.93% of all contracts). On average, image constraints accounted for 13.78% of the total content.

Table 1: Percentage of Characters in Contract per Category and Percentage Contracts Containing a Coding Category

Element	% of characters in contract if mentioned (avg.)	% of contracts containing category
Structural	33.69%	91.57%
Campaign details	23.03%	92.78%
Text constraints	15.06%	57.93%
Image constraints	13.78%	79.67%
Video constraints	10.28%	10.37%
Controlling language	8.77%	60.77%
Autonomy supportive language	3.89%	27.85%

Notes: Analysis of N = 984 contracts. How to read the table, e.g.: Left column: the category image constraint takes up on average 13.78% of the total content of one contract; Right column: Percentage of contracts containing a category, e.g., in 79.67% of all contracts, the category image constraint is mentioned at least once.

Correlations between the subjective evaluations of constraints of the contracts and their coding provide face validity for the categorization. For example, the percentage of text in a contract that can be coded as text constraints (e.g., *"use example text… xy"*, *"use #hashtag…"*) is significantly positively correlated with perceived constraints (r_{image} = .71, p < .001; r_{text} = .59, p < .001), similarly for image constraints (e.g., *"your face should be clearly visible"*, *"no dark or underexposed photos"*; r_{image} = .71, p < .001; r_{text} = .59, p < .001).

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Conversely, autonomy-supportive content is negatively correlated ($r_{autonomy\text{-}supportive}$ = -.20, p < .001).

Finally, we regressed the perceived constraints $c(M)$ on the code percentages (Table 2). This regression shows that the codes explain 31.8 % of the variance of the perceived constraints. Increasing the text constraints by 10% increases perceived constraints by .36 on the 8-point scale.

Table 2: Regression of Perceived Constraints on Percentage Characters In Document by Category

DV: Perceived constraints $c(M)$	Coef.	SE
Structural	.015***	(.004)
Campaign details	.012***	(.003)
Text constraints	.036***	(.005)
Image constraints	.026***	(.005)
Video constraints	.028**	(.009)
Controlling language	.040***	(.005)
Autonomy supportive language	-.060***	(.016)
Intercept	2.858***	(.111)
N	984	
R^2	.318	
LL	-1581.046	

Notes: Standard errors in parentheses; p < .10, * p < .05, ** p < .01, *** p < .001.

We conclude that the categories are meaningful and that they are indeed informing subjective evaluations of how constraining a contract is perceived. Next, we will use the subjective evaluations to investigate the role of perceived constraints in driving actual influencer campaign participation and follower engagement.

Study 2: Impact of Constraints on Influencer Participation and Follower Engagement

Building on this foundation about the nature of the influencer contracts as instruments of control, this section seeks to understand the relationship between contract constraints and actual influencer behavior. Specifically, we integrate our encoded contract data with influencer campaign participation and follower engagement. By doing so, we aim to shed light on a critical question: How do the constraints set by advertisers influence the

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participation and performance of influencer campaigns?

Influencer Platform Dataset

On our partner platform, we observe 286 brands that offer campaigns to influencers. These brands invite influencers to participate by directly sending them the contracts along with campaign details via our partner's platform. They do not send them a specific price offer but agree to pay whatever price the influencers have defined as their asking price. Both influencers and brands can renegotiate the price but more than 80% do not choose to negotiate (see detailed description of price offer mechanism in Web Appendix C). The average asking price per post amounts to M = 224.151 USD (SD = 745.275). This price increases with the number of followers—having 1000 more followers pays on average $5.43 more per post on average ($R^2 = .81$, $p < .001$). These prices are in line with the per impression prices of premium banner ads.[5] From instances where an influencer participated in the campaign, we also observe the influencer posts and the corresponding follower engagement metrics collected by the platform.

Across the 984 campaigns, a total of 7,101 influencers were invited to participate in at least one of the campaigns, and 2,804 influencers chose to participate in at least one campaign. Per campaign, this amounted to an average of M = 22.456 influencers being invited, and an average of M = 8.129 choosing to participate. This shows that not all invited influencers necessarily carry out a campaign, and that advertisers launch campaigns anticipating partial participation. In terms of our conceptual framework, we observe an average π = 36.2%.

[5] A survey (HypeAuditor 2023) provides some information on this. For engaging microinfluencers with 30k followers on average, for example, the price per post starts at $35 which is a fraction of a cent per follower. Display ads cost per impression is of the same order (e.g., Perceptua Labs 2023).

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On average, each brand conducted M = 3.43 campaigns in our data, and influencers were invited to participate in M = 1.399 campaigns. These statistics show that advertisers often do not go back to the same set of influencers across campaigns, which is consistent with their common objective to gain reach by exposing their products to diverse set of followers. At the same time, influencers were invited to participate in a campaign by an average of M = 2.225 brands (Table 3).

Table 3: Descriptives

Variable	*N*	*Mean*	*SD*	*Min*	*Max*
Nr. of influencers invited per campaign	984	22.456	40.849	1	352
Nr. of influencers participating in campaign	984	8.129	11.104	1	105
Campaign invitations from same brand	15,796	1.399	1.447	1	20
Brands per influencer	7,101	2.225	1.993	1	20

Overall, our data provides us N = 22,096 influencer-campaign observations, 7,999 of which resulted in actual posts by influencers. We use these data to explain influencers' campaign participation decisions and follower engagement from those who posted.

Influencers are Averse to Constraints

Next, we use our data to examine influencers' response to constraints, aiming to estimate the empirical analog of parameter β_2 in our model.

Logistic regression analysis shows that constraints significantly reduce influencers' propensity to participate in a campaign (β_2 = -.177, p < .001; Table 5 M1). Using odds ratios, we estimate that one standard deviation increase in perceived subjective constraints amounts to a 15% reduction in influencers' participation rate.

Influencer participation is significantly reduced when a higher percentage of characters in the contract describe text, image, or video constraints (Table 4 M2). Adding an image constraint in the contract reduces the odds of influencer participation by 27.71%. Note

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that influencers show a similar level of aversion to various types of constraints, despite the differing levels of effort each type demands. For example, text constraints, like the requirement to include a hashtag, are generally less burdensome compared to those that necessitate altering the focus of a video. This pattern of participation effect being similar across constraint types aligns with the idea that effort is not the primary consideration for influencers when deciding whether to participate.

Table 4: The More Constraining the Campaign Contract, the Lower the Participation

	M1		M2		M3	
DV: π, Participation (0/1)	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Overall constraint $c(M)$[1]	-.177***	(.024)				
Text constraints present[2]			-.272***	(.050)		
Image constraints present			-.325***	(.067)		
Video constraints present			-.280***	(.069)		
Controlling language present			-.079	(.070)		
Autonomy-supportive language present			.040	(.069)		
% Chars constraining texts (0-100)					-.014***	(.002)
% Chars constraining images (0-100)					-.016***	(.002)
% Chars constraining videos (0-100)					-.043***	(.006)
% Chars controlling language (0-100)					-.010x	(.005)
% Chars autonomy supportive (0-100)					-.004	(.009)
Intercept	.184	(.406)	-.278	(.404)	-.197	(.403)
Brand Fixed Effects	yes		yes		yes	
N	21900		21900		21900	
R^2	.178		.179		.181	
LL	-11728		-11709		-11685	

Notes: Logistic regression; [1] (0: not at all constraining, 7: extremely constraining); [2] (yes: 1, no: 0); Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Interestingly, whether or not the language is controlling or autonomy-supportive does not affect participation. This suggests that the influencers are affected by real restrictions and not by the contract's tone. Importantly, in this analysis we control for brands, as more popular brands may include more or fewer constraints, potentially confounding results. Web Appendix Table 3 conducts the same analysis using linear OLS and finds similar effects. Since we have multiple observations of the same influencer receiving contracts from different campaigns, we also include individual influencer-level fixed effects in our estimation and make inferences within the same influencer. Web Appendix Table 3 shows that our quantitative and qualitative inference remains unchanged. Next, we investigate how

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contractual constraints influence participation using both brand- and influencer-related moderators.

Moderators: Brand Age and Influencer Status Effects

In this section, we examine the heterogeneity in effects across the contexts spanned by our data. How constraints influence participation may be qualified by the age of the brand and the status, or number of followers, of an influencer. We present a follow-up analyses in Web Appendix tables 4 and 5.

Concerning brand effects, the first regression (M1, Web Appendix Table 4) includes the number of employees and the age of the brand as moderators of the overall constraint effect. It shows that the older the brand, the less harmful the overall constraints are for participation ($\beta_{Overall\ constraint\ x\ Brand\ age}$ = .030, p < .001). The number of employees did not significantly interact with overall constraints, however ($\beta_{Overall\ constraint\ x\ Brand\ nr.\ of\ employees}$ = .004, n.s.). These results suggest that influencers are more tolerable of constraints if they come from a more established brand, independent of its size. This finding is in line with the notion of a relational cost. This cost may be lower for more established brands as they may symbolize heritage and value that could pay into the relation. More novice brands may signal lower standing increasing the relational cost.

How does a change in the influencer's status on the social network in terms of number of followers impact her response to constraints? To understand the heterogeneity in sensitivity to constraints, we include the influencer's followers (measured in ten-thousands) in our data as an explanatory variable and its interaction with the constraint rating of the current contract. Note that in this regression we again include fixed effects for the brand and the influencer. Web Appendix Table 5 shows our results. We find that having more followers

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reduces participation significantly ($\beta_{nr.\ of\ followers}$ = -.009, p < .001) and makes influencers less sensitive to constraints ($\beta_{Overall\ constraint\ x\ nr.\ of\ followers}$ = .001, p < .01). This finding is consistent with our intuition that influencers are more sensitive to constraints before they have built a large following.

Users are Averse to Contractual Constraints

We next check how the influencer posts perform as advertisements when they are produced under a more constrained contract. This exercise is to determine the parameter δ in our conceptual framework.

In the context of influencer marketing, the typical outcome metrics of interest to advertisers relate to reach and follower engagement with the sponsored post. Indeed, these metrics are mentioned in the contracts we reviewed and are also tracked by the platform. To examine this effect, we create a measure of follower engagement as $\log\left(\frac{likes+comments}{num.followers}\right)$, following the practice of the social media literature (e.g., Hughes, Swaminathan, and Brooks 2019; Wies, Bleier, and Edeling 2023). We regress it on how constraining the contract is (Web Appendix Figure 2 for histograms). In this regression, we again include influencer fixed-effects so we are comparing how the same influencer's performance varies by changes in her contract's constraining nature. We also include brand-fixed effects to control for brand differences in follower engagement.

Table 5 M1 shows the results of this regression. We see that the posts are less engaging when they are produced under high constraint contracts. We find a similar result when we consider the presence or absence of specific constraint types, as shown in Table 5 M2. M3 shows that the more text is used for describing a particular constraint in the contract, the lower the follower engagement. Overall, this analysis shows that the followers exposed to

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influencer posts on Instagram mirror influencers' aversion to contractual constraints. Posts produced under high constraint contracts perform worse in terms of follower engagement.

Table 5: Contract Constraints Lower Follower Engagement

	M1		M2		M3	
DV: Y, log(follower engagement)	*Coef.*	*SE*	*Coef.*	*SE*	*Coef.*	*SE*
Overall constraint $c(M)$ (0-7)	-.040**	(.013)				
Text constraints present[2]			-.060*	(.029)		
Image constraints present			-.058	(.037)		
Video constraints present			-.127**	(.045)		
Controlling language present			.042	(.041)		
Autonomy-supportive language present			.033	(.038)		
% Chars constraining texts (0-100)					-.002	(.001)
% Chars constraining images (0-100)					-.006***	(.001)
% Chars constraining videos (0-100)					-.023***	(.004)
% Chars controlling language (0-100)					.000	(.003)
% Chars autonomy supportive (0-100)					.003	(.006)
Intercept	-3.106***	(.057)	-3.211***	(.036)	-3.170***	(.026)
Brand fixed effects	Yes		Yes		Yes	
N	6879		6879		6879	
R^2	.319		.320		.325	
LL	-8207.782		-8202.526		-8179.950	

Notes: Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Note that, while this analysis uses variation in contract constraints of individual influencers, these influencers may be choosing to participate based on unobserved factors which could jeopardize the causal interpretation of the above regression coefficients. For example, influencers may participate under high constraints when they anticipate low follower engagement due to factors unobserved to us, in which case we would observe a negative coefficient even when constraints do not worsen the post. On the other hand, influencers may reduce their campaign participation when contracts constraints are more intrusive in their creative process, which could mean the detrimental effect of constraints may even be underestimated in this regression. Therefore, the validity of this analysis is limited by the fact that we can only observe the posts from influencers who decided to participate. We address this concern using a randomized field experiment presented in Study 4 that is designed to tackle this selection problem. Before presenting the field experiment, however, we augment the unstructured observational data with survey data that allows investigating the

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discussed factors driving influencer participation outlined in the conceptualization.

Study 3: Relatedness with followers increases sensitivity to constraints

In this study, we investigate whether some influencers are inherently more averse to constraints than others by examining how their aversion to constraints correlates with their personality and characteristics known to be related to their intrinsic motivation. To do so, we augment the data from Study 2 with measures derived from the intrinsic motivation inventory (IMI) scale (McAuley, Duncan, and Tammen 1987), elicited with a survey we conducted among influencers from Study 2. We find that influencers who perceive a higher degree of relatedness with their followers are significantly more sensitive and averse to constraints.

Method. We invited the 7101 influencers we identified in Study 2 to participate in a survey via the influencer platform tool for a small, fixed payment. A total of 412 influencers both completed the survey and could be matched with our data (i.e., the Instagram username the influencer mentioned in the survey matched a username in our participation dataset). Influencers were asked to respond to a three-item, seven-point relatedness scale (*"I feel very close to my followers."*, *"I have no doubt that I could be friends with my followers."*, *"It feels like I can trust my followers."*, 1: strongly disagree, 7: strongly agree; α = .75), a similar five-item scale for autonomy (e.g., *"I become frustrated when I am unable to make free and independent decisions."*, *"The thought of being dependent on others aggravates me."*, *"I become angry when my freedom of choice is restricted."*, 1: strongly disagree, 7: strongly agree; α = .61), and a three-item scale for perceived competence (*"I consider myself pretty good at creating and sharing content."*, *"I think I'm pretty good at creating and sharing content compared to other influencers."*, *"I'm pretty skilled at creating and sharing content."* , 1: strongly disagree, 7: strongly agree; α = .84), and finally, a scale for overall

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intrinsic motivation (*"I enjoy creating and sharing content."*, *"Creating and sharing content is not boring at all."*, *"When creating and sharing content, I have thought about what I like."* 1: strongly disagree, 7: strongly agree; α = .71). Note that overall, respondents indicated a high level of overall intrinsic motivation of M = 5.950, significantly above the scale midpoint of 4 ($t(411)$ = 47.142, $p < .001$). By matching our survey respondents with the observational data from Study 2, we are able to match survey responses with influencer participation decisions for 1600 campaign invitations offered by 210 brands. Next, we analyze this data.

Table 6: Relatedness Moderates Effect of Subjective Constraints on Participation

	M1	
DV: π, Participation (0/1)	*Coef.*	*SE*
Overall constraint $c(M)$	-.144**	(.053)
Need for autonomy	-.091x	(.053)
Overall constraint x Need for autonomy	-.037	(.054)
Perceived competence	.046	(.057)
Overall constraint x Perceived competence	.073	(.056)
Relatedness	.073	(.056)
Overall constraint x Relatedness	-.187***	(.055)
Number of followers	.070	(.053)
Intercept	8.619**	(2.790)
Influencer controls	Yes	
Brand controls	Yes	
N	1601	
LL (LL null)	-1087 (-1109)	
χ^2	44.27***	

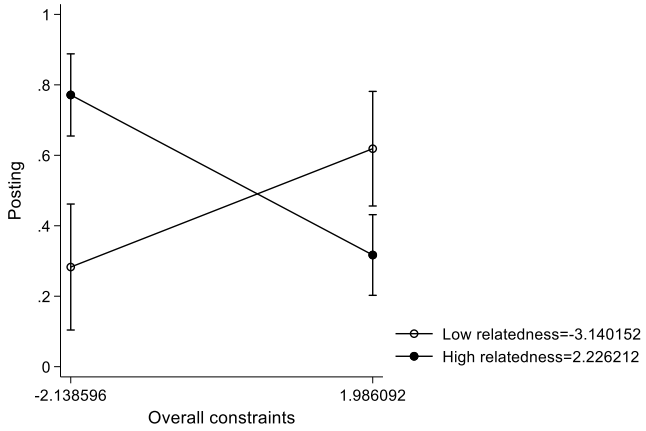
Notes: Logistic regression; all variables have been z-transformed; Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

Results. We regressed the participation decisions on our contract constraint measure along with each of the components of intrinsic motivation and their interaction with contract constraints (Table 6). As in Study 2, we find a significant negative coefficient of overall constraint among this subset of participants. We further find a significant negative coefficient for the interaction with relatedness, indicating that influencers with a higher relatedness react significantly more sensitively to constraints (Table 6 M1). We do not find a significant interaction for autonomy or competence. In all regressions we included a series of influencer (Nr. of followers, age, gender, income, education) and brand (nr. of employees, founding

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year) controls. The log odds of participating in the campaign falls by 13.4% when constraints are increased by a unit (on the 0-7 point scale), this impact is negated if relatedness of the influencer decreases by a standard deviation (the coefficient for "Overall constraint" is similar in magnitude to its interaction with "Relatedness").

Figure 2: Increasing Contractual Constraints Reduces Participation Among Influencers That Are Highly Connected to Their Followers



Notes: Bars are 95% confidence intervals. Margins plot at 1st and 99th percentile of overall constraint for high vs. low relatedness.

Discussion. This study shows that the negative effect of overall constraints is more pronounced among influencers with a high perceived relatedness to their followers, in line with our discussion of a relational cost driving results. This heterogeneity is quantitatively significant. The influencers with the highest follower relatedness score are more than twice as averse to constraints than average. In the extreme, the least follower-related influencers actually prefer constraints. Figure 2 shows the interaction between constraints and relatedness in the extremes, a margins plot at the 1st and 99th percentiles.

When relatedness is very low, constraints do not significantly influence posting and, in the extreme, influencers even prefer constraints (contrast = .336, *SE* = .156, 95% *CI* = [.030, .642]), but when relatedness is high, constraints reduce posting significantly (contrast = -.454, *SE* = .106, 95% *CI* = [-.663, -.246]). For follower engagement, note that this

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interaction is also significant, and in line with the results of the full dataset ($p < .05$; see Table 7). Overall, this analysis shows that even if an advertiser can get the same number of influencers with a constrained contract, the pool of selected influencers might be less related to their followers, which might affect the post's performance. In this sense, this study further demonstrates the need to overcome the selection problem discussed in the previous section, in estimating the effect of constraints on the efficacy of the influencer's post, an issue we resolve in the next study.

Table 7: Relatedness Moderates Effect of Subjective Constraints on Follower Engagement

	Relatedness Model (OLS)	
DV: Y, log(follower engagement)	*Coef.*	*SE*
Overall constraint $c(M)$ (0-7)	-.011***	(.002)
Need for autonomy	.001	(.002)
Overall constraint x Need for autonomy	-.001	(.002)
Perceived competence	-.004x	(.002)
Overall constraint x Perceived competence	.002	(.002)
Relatedness	-.002	(.002)
Overall constraint x Relatedness	-.004*	(.002)
Number of followers	-.005**	(.002)
Intercept	-.012	(.104)
Influencer controls	Yes	
Brand controls	Yes	
N	719	
R^2	.138	
LL	1186.472	

Notes: All variables have been z-transformed; Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

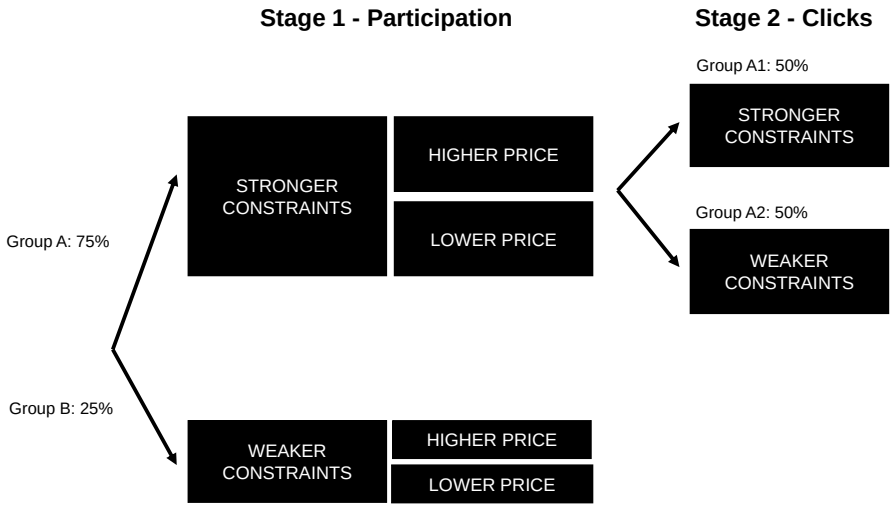
Study 4: A Randomized Field Experiment

In this study we aim to address the potential selection problem mentioned in studies 2 and 3. Our objective is two-fold. First, we want to quantify the relational costs incurred by the influencers and their impact on advertiser decision making. Second, we aim to estimate the creative suppression cost of contract constraints, which requires us to estimate the causal effects of advertiser-imposed constraints on the post the influencer ends up producing on follower engagement with the post, while avoiding attrition across high- and low-constraint

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contracts due to the potentially selective participation decision made by the influencers. We accomplish these goals using a two-stage experimental design with a hurdle approach, at the first stage manipulated price (high vs. low) and constraints (high vs. low) in a 2 x 2 between-subjects design, and at the second stage manipulating constraints (high vs. low) again within the participants of the high constraints group from the first stage. Using the second stage randomization, we can measure the causal effect of constraints on the content produced by the influencers, shedding light on the mechanism underlying the impact of contract constraints on follower clicks.

Figure 3: Two-Stage Experiment With Hurdle Approach Controlling for Selection



Notes: Influencers were randomly allocated to groups in both stages.

For this experiment, we collaborate with a women's cosmetics brand. Like many other brands in this industry, this brand routinely conducts influencer marketing. The brand targets a female audience with an aim to spread awareness for a new cosmetic product. The brand's target influencers have at least ten-thousand followers (M = 21,585, SD = 10,415) on Instagram. The brand selected 1,495 influencers for the campaign from the platform's pool of approximately 20,000 influencers that satisfied the brand's broad target selection. The

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experiment then proceeded in two stages shown visually in Figure 3.

Experimental Design – First Stage Measuring Participation

The first stage has two objectives: first, to assess the existence and the magnitude of the causal effect of contract constraints on the participation decision of the targeted influencers; and second, to investigate whether, and to what extent, monetary incentives can overcome the influencer's aversion to the contract constraints. In other words, to what extent can the advertiser compensate the influencer and retain participation while getting the influencers to satisfy the constraints? For this purpose, we implemented a 2 x 2 between-subjects design, varying the degree of constraints in the contract and the offered price for the sponsored post at the first stage.

As part of the invitation to participate in the campaign, the 1,495 selected influencers received a contract through the platform's messaging system with an explicit *price* offer of either a higher price which reflected the status quo market price (USD 250) the brand would have offered in the absence of the experiment or a lower price (USD 150). This variation in price across influencers was random. For the *constraints* manipulation, we asked the brand to provide us with their standard contract and we created a second version of the contract with relaxed constraints (see Web Appendix Figure 3 in Web Appendix D for screenshots of the contracts). The brands' version of the contract provided a very detailed description of a procedure the influencers would have to follow when presenting the product in a video post. Our relaxed version suggested that they could follow the video, but they would not be obliged to do so and could follow parts of it or not follow it at all.

In all four conditions, influencers were asked to post a link to the brand's online shop followers could navigate to using Instagrams' "Swipe Up" functionality, and we tracked all such swipe ups (using individual UTM codes per influencer, Hubspot 2023).

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A rater evaluated how constraining influencers polled perceived both versions of the contracts using the same 0-7 Likert scale from Study 1. The status-quo contract was evaluated with a score of 6 (highly constraining) and the contract with relaxed constraints with a score of 2. We then sent the version with the stronger constraints to Group A (referring to Figure 4) and the weaker constraints version to Group B.

After having received the contracts, influencers could either 1) accept, 2) reject, 3) not react, or 4) negotiate the price. We coded accept as 1 (participation) and all other states as 0 (no participation). We did not respond to any price negotiations during the experiment (only a small minority asked for a different price). A total of 324 (21.67%) decided to participate at this first stage.

Since the Group A influencers enter the second stage and are used for inferring the impact of constraints on follower behavior, as explained below, we assigned more influencers to Group A, and implemented a 75-25 split between groups A and B to increase power in the second stage.

Experimental Design – Second Stage Measuring Engagement

After influencers make their initial participation decisions known, brands typically send a final debrief to the influencers. The second stage of the experiment takes place at this point. Influencers in our second stage were those who agreed to participate in the campaign after they were given a status quo (high constraint) contract; these are the participants from Group A. One week after the participation decisions were made, we sent the final campaign contracts to all 324 participating influencers from Group A, but a randomly chosen half of this subset had the experimental constraint removed. Hence, some of the participating influencers operated under the constraints while others had no such constraint.

The second stage comparison overcomes the selection problem because it enables us

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to compare influencer groups with the same participation preferences and audience characteristics. Having received the highly constraining contract in the first stage acted as a hurdle for influencer participation and relaxing the constraints for the random half in the second stage did not change their actual campaign participation (χ^2 = 1.226, p = .268)[6]. Although this hurdle approach allowed estimating the causal effect of contractual constraints on follower behavior and outcomes of advertiser's interest, we note that this comparison only generalizes to the participating influencers and not to the whole population. Note that the influencers from group B all kept the same (less constraining) contract.

After the second stage, the influencers created and submitted their posts to Instagram. We then collected their postings (short videos in MP4 format), measured follower response to their content and the numbers of followers who followed the link to the brand's online shop, which was our main outcome of interest.

Results

In the *first stage*, ANOVA shows a significant main effect for constraints on participation (F(1, 1491) = 5.27, p = .022) but no significant interaction with price (F(1, 1491) < .01, p = .947). The effect of price that is significant is at the 10% significance level (F(1, 1491) = 2.95, p = .086). These results show that there is indeed a causal effect of advertiser's constraints on influencer participation in the campaign, which is consistent with our findings from observational data in Study 2.

In Group A, 20.23% of all participants participated, which increased to 25.85% in Group B when the advertiser's constraints were removed (an increase of about 28%). To

[6] In the second stage, among those assigned low constraints 12 out of 84 did not participate (14.29%); among those assigned high constraints, 7 out of 80 did not participate (8.75%). In total we have 145 influencers in the second stage analysis with almost equal numbers in groups $A1$ and $A2$ ($N_{A1} = 73, N_{A2} = 72$).

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quantitatively compare the tradeoff between price and constraints, we regress the participation on indicators of high constraints and high price, as shown in Table 8. The coefficients are similar across the independent variables in the regression, indicating that adding the constraint is equivalent to reducing the price by 40% (from $250 to $150). This suggests that the advertiser could retain approximately the same number of influencers in the campaign while reducing the campaign's budget 40% just by relaxing the constraint. Of course, the constraint could affect the posts' performance regarding the advertiser's outcome, which would affect the advertiser's decision, an effect we take into account in the second stage.

In the *second stage*, we used only the data from those participants who decided to participate in the first stage who belonged to the strong constraints group. Further, we only kept the participants who followed-through and also posted content we were able to capture from their profile and from whom we could measure the engagement on the content (N = 145). Due to the numerical nature of the click data, we used a negative-binomial regression for analysis. We found that constraints significantly *reduced* clicks (incidence-rate ratio; β = .523, $p < .001$). The incidence rate of clicks in the high constraints group is 52.3% of the rate in the low constraints group. In simpler terms, relaxing the constraints roughly doubles clicks to the advertiser's website. Table 9 below shows the results in terms of a regression.

Table 8: First Stage Regression: Impact of Constraints and Price on Influencer Participation

	M1	
DV: π, Participation (0/1)	*Coef.*	*SE*
Strong constraints $c(M)$ (0/1)	-.317*	(.138)
High price p (0/1)	.253*	(.126)
Intercept	-1.185***	(.135)
N	1,495	
LL (LL null)	-776 (-781)	
χ^2	9.18*	

Notes: Logit regression; Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

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This finding is consistent with the view that the advertiser's constraints worsened the influencer's performance on the advertiser's primary goal. In terms of our framework, this implies that $\delta > 0$. We interpret this as, on average, as suggesting that the advertiser's constraint hurts the post's performance because the negative impact of its effects, such as interference with the creative process, outweighs any positive impact it may have.

Table 9: Second Stage Negative Binomial Regression of Clicks on Constraints

	M1	
DV: *Y*, Clicks	*Coef.*	*SE*
Strong constraints (0/1)	-.648***	(.183)
Intercept	3.306	(.129)
N	145	
LL (LL null)	-579.914 (-585.920)	
χ^2	12.01***	

Notes: Negative binomial regression; Standard errors in parentheses; x $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$; LR test of alpha = 0: $\bar{\chi}^2 = 3692.16$, $p < .001$.

To delve deeper into how the contract constraint affected the influencer's post, we conducted content analysis of the videos to investigate the possible reasons for this result. We found several patterns in our analysis. First, consistent with our expectation, inspecting the videos revealed that influencers deviated more strongly from the brand's script when constraints were weaker. This validates that the second stage manipulation did have an impact on the post. Also, videos produced were significantly longer in the stronger constraints condition ($duration_{weaker\ constraints}$ = 116.35, *SD* = 73.01, $duration_{stronger\ constraints}$ = 145.52, *SD* = 66.72, *t* = 2.51, *p* < .05, Cohen's *d* = .417 [.088, -746]).

Second, to shed light on the underlying mechanism driving these effects, we measured to what extent the followers perceived the content to be an attempt to persuade them into buying a product. A rater coded the perceived persuasion knowledge (Friestad and Wright 1994) of the content (validated by a second rater, α = .728), which was significantly higher in the stronger (group A1) vs. weaker constraints (group A2) condition ($PK_{weaker\ constraints}$ = 4.50, *SD* = 1.26, $PK_{stronger\ constraints}$ = 5.11, *SD* = 1.23, *t* = 2.951, *p* < .01, Cohen's *d* = .490 [.158,

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.820]). A bootstrapped mediation analysis (with 10,000 replications) with the log-transformed number of clicks as dependent variable showed that persuasion knowledge can significantly explain the reduction in clicks ($\beta_{a\text{-}path}$ = .61, p = .003; $\beta_{b\text{-}path}$ = -.203, p = .003; $\beta_{indirect\ effect}$ = -.124, p = .028, proportion mediated = .289; see Web Appendix Figure 4).

Overall, this analysis concludes that the advertiser's constraint caused the participating influencers to produce videos that were longer and less persuasive, making the users more aware of the attempt to influence them.

Managerial Implications

We can also assess the managerial decision using the average experimental estimates. Our numbers suggest that the constraint affects the advertiser's campaign in two ways, by decreasing participation and decreasing the clicks conditional on the influencer agreeing to participate.

Along the lines of our conceptual framework discussion, we use our experimental estimates to conduct a back-of-the envelope assessment of the average improvement in campaign value without the constraint. The status quo contract with higher constraints costs $250 per participating influencer at the market price and yields 14.26 clicks on average. Hence, by this strategy, the cost per click is $17.53 and the advertiser contacting the 1,495 target influencers will receive a total of 1,495 × 14.14 × .202 = 4,270 clicks in total after spending 1,495 × 250 × .202 = $76k.

If the advertiser removes the constraint, it will spend $250 but receive 52.76 clicks per participating influencer. Using a similar calculation as above, this implies a cost per click of 250/52.76 = 4.74; a total of 15,933 clicks at the same spend of $76k. Hence, by removing the constraint the campaign will receive more than three times the amount of clicks at the same cost.

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Therefore, regardless of whether the advertiser's objective is to spend a fixed budget, or maximize reach among a target set of influencers, the advertiser will significantly benefit by writing less-constraining contracts.

Relational and Creative Suppression Costs

Using the estimates from the first stage of the experiment, we can quantify the relational cost imposed by the experimental contract constraints on the influencers. Specifically, per influencer, we observe that a $100 compensation increase leads to a .043 increase in campaign participation; constraint addition decreases participation by .056. Hence, the implied relational cost is (.056/.043) × 100 = $130.23 per influencer.

At the same time, from the second-stage estimates, 52.76 – 14.26 = 38.5 clicks are lost per influencer due to the constraints. The advertiser's status quo value of a click can be estimated from the compensation of $250 for an average of 14.26 clicks, implying a value of $17.5 per click. Thus, translating the loss in terms of clicks to dollar terms we get the creative suppression cost per participating influencer is $674.96. The creative suppression cost faced directly by the advertiser is more than five times the relational cost incurred by the advertiser. This implies that, between the two parties, the advertiser might be more negatively impacted by the constraints. This comparison shows that the marginal attempt to control the influencer ends up costing the advertiser much more than the influencer, instead of helping her.

Summary and General Discussion

Influencer marketing introduces a unique principal-agent dynamic to advertising, with human intermediaries, the influencers, creating and posting advertising content for the firm.

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In an effort to maintain control over the execution of the campaigns, firms tend to impose constraints on the influencers through campaign contracts. As we show in this research, influencers, however, are often averse to such constraints and will either not participate in a campaign—due to an anticipated relational cost—or if they do, they produce less effective content that is less positively perceived by followers who may see it as a transparent attempt to persuade them to click on an advertisement resulting in lower engagement—a more economically significant creativity suppression cost for the advertiser. Motivated largely by intrinsic motivation, many influencers care deeply about their relationship with their followers and feel that highly constrained campaigns violate the trust between them. Influencers who feel more strongly tied to their followers are less inclined to participate in highly constrained campaigns. Indeed, when they do participate, their mercenary motivation tends to be transparent to their followers, ultimately reducing engagement and clicks on their content. These findings suggest that considering the supply side of influencer marketing, which has been largely neglected by prior research, is crucial to ensuring effective influencer marketing campaigns.

Theoretically, these findings highlight the importance of considering individual influencers' intrinsic motivation when carrying out influencer campaigns. Influencers are independent entities with significant power over specialized target audiences that are attractive to advertisers. However, many influencers do not want to risk their relationship with their followers by endorsing products in a way that feels inauthentic to them. This raises the question: how can the campaigns be designed to help influencers foster instead of harm this relationship? Could campaigns pay into other factors driving intrinsic motivation, such as influencer competence and autonomy to enhance campaign performance or counterbalance the harmful influence of constraints on their relationship with their followers?

More broadly, we find that this relationship between influencers and their followers

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has implications for research into all three stages of influencer marketing, from initiation, to creation, and influence. The research contributes to theories of social influence and persuasion by highlighting the ability of contractual constraints to damage the authenticity and effectiveness of influencer messages. This could also prompt theoretical discussions about the balance between scripted messaging and authenticity in persuasive communication.

Our research relates to the extensive literature on principal-agent theory. We contribute to this research by empirically shedding light on principal-agent relationships in influencer marketing, a marketing channel in which advertisers hire influencers for their unique and intangible ability to influence their followers' consumer behavior through their content. Our results speak specifically to the literature in economics on incomplete contracts (e.g., Tirole 1999), where the contracting parties often omit decision-relevant information from contracts. The literature provides several reasons for the existence of incomplete contracts, ranging from transaction costs to strategic management of uncertain future outcomes (Bernheim and Whinston 1998). Our findings align with Holmstrom and Milgrom (1991)'s theory that managers may intentionally keep contracts ambiguous to avoid distracting agents from crucial but hard-to-measure aspects of performance. Furthermore, our finding that managers overly constrain influencers to the point they diminish influencers' productivity and willingness to participate is consistent with research that has shown in controlled settings that removing penalties increases trust and improves performance (Fehr and List 2004), and conversely, excessive control has been shown to reduce trust (Falk and Kosfeld 2006).

In the *managerial* realm, insights from recent studies, like those by Haenlein et al. in 2020, suggest that advertisers might benefit from offering influencers more creative freedom in content creation. This notion is supported by a survey of advertisers and influencers that shows a clear divergence of opinions: while advertisers believe they should determine

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campaign content, influencers prefer to control it themselves. Our research favors the influencers' perspective, demonstrating that, at the margin, a lack of autonomy for influencers can be counterproductive for brands. It might incur higher costs for the brands than for the influencers, as the creative suppression cost can significantly outweigh the relational costs.

One possible way to balance the potential negative impacts of constraints is to complement them with appropriate incentives. This could mean offering higher compensation or other benefits that align with the level of constraints imposed in the contract. Our findings show that different incentives could encourage influencers of different types: high constraints might encourage "low relatedness" influencers to participate and increasing the compensation alone may not alleviate this selection. Hence, innovative compensation models that resonate with the degree of creative freedom allowed may be needed.

This research lays the groundwork for promising directions in future research, which we hope will inspire more studies focusing on the nuances of contract design. One emerging trend that brands may consider is the shift towards virtual (i.e., influencers entirely generated by artificial intelligence) influencers (Cascio Rizzo et al. 2023a), which offers the possibility of exerting more control over the content and messaging. However, this strategy requires careful consideration of audience preferences for authenticity and human connection, as the digital nature of virtual influencers might affect how audiences perceive and engage with them.

Additionally, future research could adopt a dynamic perspective on contract management. Platforms could set up a mechanism to monitor the influencer's performance over time, enabling the advertisers to offer less stringent contracts. Contracts may also not be static documents. Regular reviews and adaptations of influencer contracts, in line with changing market trends, influencer feedback, and campaign performance data, could be

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essential for maintaining an effective influencer strategy. This dynamic approach may enable contracts to remain relevant and effective.

Finally, there is a significant opportunity for research to better understand the psychological impact of contractual constraints on influencers. Investigating how influencers perceive and internalize these constraints beyond the factors considered in our study may offer deeper insights into the overall efficacy of influencer marketing strategies. Understanding these psychological aspects can inform more empathetic and effective contract designs that align the interests of brands and influencers, leading to more successful collaborations.

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