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The Digital Detox Paradox:
Potential Backfire Effects of Digital Detox Interventions on Consumer Digital Well-Being

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Abstract

Marketing academicians have paid much attention to excessive social media usage, but have failed to investigate whether firm-driven "Digital Detox" interventions can potentially curb it. To address this gap, we initially conducted a pilot study to examine the effects of built-in app detox interventions on consumers' intention to comply with them. We demonstrated that these effects vary according to users' skepticism toward advertising, and then showed *why* they occur by highlighting the mediating role of perceived firm authenticity. Specifically, less skeptical users perceived TikTok as more authentic when it offered a detox intervention, and in turn, paradoxically expressed *higher* intentions to use the app. We also ruled out users' app connection as a rival explanation. Study 1 was a longitudinal field study where we documented the effects of built-in app interventions (break reminders and daily limits) on consumers' actual social media usage over the course of a week. Results show that less skeptical users ironically *increased* their TikTok usage in response to such interventions from the firm. Implications of this documented "Digital Detox Paradox" are discussed for public policy, consumer welfare, and marketing practice.

Keywords: digital detox; social media addiction; advertising skepticism; digital well-being; TikTok; Instagram

Introduction

Social media consumption has become a pressing concern for consumer welfare advocates, policy makers, and non-governmental organizations (NGO's) due to the potential consequences that can follow (Auxier and Anderson 2021; Guevara 2022; Kemp and Childers 2021). For example, excessive social media use can lead users to experience "technostress" that negatively affects their psychology and physiological well-being (Singh et al. 2022). Social media overconsumption and misuse can also lead to mental disorders (e.g., anxiety, depression) and a wide variety of life problems (e.g., decreased mood, poor sleep quality) (Zhang and Rau 2021).

Excessive social media usage is now so problematic that U.S. policy makers have responded by proposing the Social Media Addiction Reduction Technology (SMART) Act. If passed, this bill would require all social media platforms to place 30-minute daily limits on its users (Mercier 2020). Legislators have also proposed the Kids Off Social Media Act and the Kids Online Safety Act, which would collectively prevent children younger than 13 from using social media, prohibit social media platforms from creating algorithms for teens under 17, and give schools the authority to block access to social media, all together (Russell 2024).

"Digital detoxing" has alternatively been proposed as a more grassroots solution to help curb problematic social media usage (Nevskaya and Albuquerque 2019; Radtke et al. 2022). Digital detoxing refers to individuals' voluntary, temporary timeouts from using electronic devices all together (e.g., smartphones, tablets) - or from using specific subsets of them (e.g., a certain app) (Radtke et al. 2022). It can be initiated by users, themselves, or prompted by *external* sources (e.g., government agencies, firms) – the latter of which serves as our focus. For

example, tech giants TikTok, Instagram, and Google have all recently embraced digital detoxing (Roffarello and De Russis 2023).

Radtke et al. (2022) recently reviewed the limited digital detoxing literature and concluded "Most of the studies showed either no effects or mixed findings regarding digital detox efficacy" (p. 206). They added "It remains unclear whether digital detox is an effective strategy to promote a healthy way of life in the digital era" (p. 193). Further, to our knowledge, no research has examined how users respond to a firm's efforts to reduce consumption of *its own* (digital) offerings, specifically. We attempt to bridge these gaps in the literature over the course of two studies (an online pilot study and a longitudinal field study). We next briefly review relevant literature on digital detoxing, consumer skepticism toward advertising, and firm authenticity before presenting our findings.

Conceptual Development

Digital Detoxing

Digital detoxing generally refers to users' voluntary, temporary timeouts from using electronic devices (e.g., smartphones) all together, or from using specific subsets of them (e.g., a specific app) (Radtke et al. 2022). For example, a user may choose to "detox" or "unplug" by abstaining from TikTok for some period of time – or by not using his/her electronic device, at all.

"Digital Detox Interventions" therefore represent concerted efforts by external sources to make consumers more aware of their excessive usage and to ultimately promote healthy behavioral change (Radtke et al. 2022). For example, The Center for Humane Technology offers toolkits to help consumers set goals for reducing social media usage (Center for Humane Technology 2023).

Firms may also be able to help facilitate digital detoxing amongst their customers through more mindful marketing of *their own* products and services (Chan et al. 2022). These firm-driven detox interventions have gained considerable popularity in the marketplace (i.e., instances in which firms actively encourage their customers to consume *less of their own* offerings). For example, TikTok integrates firm-sponsored videos from its official accounts into its users' feeds encouraging them to use TikTok less (Pinkstone 2020). However, the efficacy of such interventions likely depends on the extent to which users 1) are skeptical of advertising and persuasive attempts and 2) view the intervening firm's behavior as authentic.

Skepticism Toward Advertising & Perceived Firm Authenticity

Skepticism toward advertising is defined as the "general tendency toward disbelief of advertising claims" (Obermiller and Spangenberg 1998, p. 160). Less skeptical consumers tend to be more positive when responding to marketing communications than those with higher skepticism. They also tend to display more positive ad attitudes, are less likely to denigrate ad sources (e.g., firms), and are more likely to purchase advertised products than are highly skeptical individuals (Obermiller and Spangenberg 1998; Obermiller, Spangenberg and MacLachlan 2005). Conversely, consumers with higher skepticism view advertising as "not to be believed, and therefore, not worth processing". Highly skeptical consumers "like it less, believe it less, and believe it is less influential. They avoid it when they can…" (Obermiller, Spangenberg, and MacLachlan 2005 p. 320).

Relatedly, firm authenticity is defined as "the consumer's perceptions of a firm's genuineness, truthfulness, and consistency" (Tajdini and Ramirez 2019, p. 325). It is "a natural self-expression" - not a "self-conflicting, opportunistic stunt" (Tajdini and Ramirez 2019, p. 325). Consumers often judge whether firms are acting out of genuine concern for their well-

being or simply presenting a "manufactured front" (Cinelli and LeBoeuf 2020; Mirzaei, Wilkie, and Siuki 2022). This holds especially true in online contexts where consumer trust in digital technologies has eroded over the years (Andrews, Walker, and Kees 2020).

Prior work has identified perceived authenticity as a critical mechanism underlying many important consumer outcomes. For example, authenticity has been shown to underly the effects of social media influencers on word-of-mouth and purchase intentions (Audrezet, de Kerviler, and Moulard 2020; Smith, vanDellen, and Ton 2021). We similarly suggest here that perceived authenticity underlies the impact of firms' detox interventions on consumers' responses to the intervention requests. More specifically, we expect that an intervention from TikTok urging its own users to reduce consumption of its own product will affect their authenticity perceptions of TikTok, and in turn, impact their intended compliance with the request (Nunes, Ordanini, and Giambastiani 2021).

However, we further expect this causal mediation chain to be impacted by consumers' levels of skepticism toward advertising. Specifically, when TikTok voluntarily offers an intervention urging its users to take a break from its app, *less skeptical* users should perceive TikTok as more authentic for doing so. They should view such interventions as helpful attempts by the firm to improve their well-being (e.g., Frake 2017; Morhart et al. 2015; Moulard, Raggio, and Folse 2016). In turn, they should respond positively toward the firm by paradoxically expressing *increased* intent to use its product (i.e., decreased intentions to comply with the intervention) (Alhouti, Johnson, and Holloway 2016; Lee et al. 2022; Lukoff et al. 2018).

By contrast, compared to less skeptical users*, highly skeptical* users can be expected to avoid such interventions when they can and to be less persuaded by them. They should not deeply process a seemingly inauthentic firm intervention - or may even dismiss it all together as

a disingenuous marketing ploy (Obermiller and Spangenberg 1998; Obermiller, Spangenberg, and MacLachlan 2005; Wei et al 2017). As a result, we do not expect *highly skeptical* users to significantly change their behaviors in response to a firm-driven detox intervention (e.g., Cinelli and LeBoeuf 2020; Lee et al. 2022; Obermiller, Spangenberg and MacLachlan 2005; Wei et al 2017).

More formally, we propose the following. We first test H1 and H2 in an online pilot study, and then test H3 using actual social media behavior in a longitudinal field study:

H1: When a detox intervention is present, *less skeptical* consumers will express *lower* compliance intentions (i.e., be *less* likely to take a break from the social media app) compared to when it is absent. *More skeptical* consumers' compliance intentions will be unaffected by the intervention.

H2: There will be a significant *negative* indirect effect of a detox intervention (through firm authenticity perceptions) on *less skeptical* consumers' compliance intentions. There will be no significant indirect effect of the intervention on *more skeptical* consumers' compliance intentions.

H3: When a detox intervention is present, *less skeptical* consumers will a) open the social media app more and b) spend more time on it compared to when it is absent. *More skeptical* consumers' app opens and time spent will be unaffected by the intervention.

Pilot Study

To test H1 and H2, we first conducted an online pilot study that employed a one factor between-subject design (firm-driven detox intervention: present vs. absent). Participants were randomly assigned to one of the two intervention conditions, while skepticism toward advertising was a measured continuous variable (skepticism: higher vs. lower). One hundred

thirty-six U.S.-based participants who were TikTok users were recruited through Amazon's Mechanical Turk (mTurk) (see Kees et al. 2017).

All participants were shown the same short compilation of various TikTok clips (approximately 30 seconds). Those in the intervention *absent* condition answered the dependent measures diretly after the compilation ended. Those in the intervention *present* condition were shown an additional 20 second video clip from TikTok, itself, that served as the intervention. In it, a TikTok representative told participants that they have been scrolling for a very long time, urged them to take a break, and proposed several alternative activities they could undertake (e.g., grab a snack, have a nap). Those participants then answered the dependent measures of interest. Finally, all respondents answered a manipulation check and those who incorrectly answered were excluded from the analyses, resulting in a final sample of 100 adult participants. 59% of the sample was male, ages ranged from 24 to 64, and 77% were Caucasian.

Measures

Compliance intentions (i.e., break intentions) were assessed with the item "How likely are you to take a break from TikTok based on the clips you just watched?" (r = .95, p<.001) (e.g., Fischer, Putzke-Hattori, and Fischbach 2019). Perceived firm authenticity was assessed with the items "I think TikTok is genuine" and "I think TikTok is authentic" (adapted from Fuchs, Schreier, and van Osselaer 2015; r = .94, p<.001). Skepticism toward advertising was assessed with the items "Advertising is generally truthful" and "We can depend on getting the truth in most advertising" (adapted from Obermiller and Spangenberg 1998; r = .91, p<.001).

We also measured users' app connection to rule it out as a rival explanation for our findings. App connection was assessed with the items "To what extend do you feel personally connected to TikTok?" and "To what extent is TikTok a part of you and who you are?" (adapted

from Newman, Wachter, and White 2018; r = .92, p<.001). Firm attitudes were measured before the manipulation and used as a covariate along with gender and age (adapted from Sengupta and Johar 2002). Higher values indicate higher compliance intentions and authenticity perceptions, stronger app connection, lower skepticism, and more positive attitudes.

Results

We used PROCESS Model 8 to test our hypotheses (Hayes 2018). An overview of findings can be found in Table 1. Results revealed that the main effect of the intervention on compliance intentions was not significant (b=1.33, SE=.87, t=1.52, p >.13). The main effect of skepticism was not significant either (b= -.37, SE=.21, t= -1.74, p >.08).

Findings further revealed a significant intervention x skepticism interaction on compliance intentions (b= -.45, SE=.20, t= -2.21, p<.03). We probed this interaction at the 16th, 50th, and 84th percentiles of skepticism to assess the conditional effects of the intervention at higher, moderate, and lower skepticism levels, respectively (Hayes 2018).

As shown in Figure 1, as expected, *less skeptical* participants expressed significantly *lower* compliance intentions when the intervention was present than did other *less skeptical* participants in the no intervention control condition ($M_{present}$=2.08 vs. M_{absent}=3.21; p <.03). By contrast, the intervention did not significantly impact *moderately skeptical* participants' compliance intentions ($M_{present}$=2.70 vs. M_{absent}=3.49; p >.06). Also as expected, the *more skeptical* participants' compliance intentions did not differ based on whether the intervention was offered or not ($M_{present}$=5.77 vs. M_{absent}=4.89; p >.21). These results collectively provide full support for H1.

**********INSERT TABLE 1 AND FIGURE 1 HERE**********

Conditional Mediation Analyses

To formally test the indirect effects (IE's) outlined in H2, we used PROCESS Model 8 with 5,000 bootstrap samples and 95% bias-corrected confidence intervals (CI's) (Hayes 2018). Firm authenticity and app connection served as simultaneous mediators (Hayes 2018).

As expected, results for the detox intervention → perceived firm authenticity → break intentions mediation path revealed a non-significant IE when skepticism was *higher* (IE=.0894, SE=.2880, CI=[-.5475, .6416]), as well as when it was *moderate* (IE=-.1919, SE=.1432, CI=[-.5336, .0197]). However, also as expected, a significant *negative* IE emerged through the detox intervention → perceived firm authenticity → break intentions path when skepticism was *lower* (IE= -.2482, SE=.1604, CI=[-.6214, -.0048]). These findings confirm perceived firm authenticity as a mediator for the observed effects amongst *less skeptical* users.

Conversely, results for the detox intervention → app connection → break intentions mediation path revealed a non-significant IE when skepticism was *higher* (IE=.0495, SE=.1324, CI=[-.2450, .3233), when it was *moderate* (IE=.0112, SE=.0640, CI=[-.1415, .1298), and when it was *lower* (IE= .0035, SE=.0685, CI=[-.1565, .1346]) (Hayes 2018). This effectively rules app connection as a potential rival explanation for the documented effects. These results collectively provide full support for H2.

Discussion

The pilot study was conducted in a controlled online setting and thus provides some important initial interval validity to our Digital Detox Paradox proposition. We now build off this in our Main Study (Study 1) by enhancing the external validity of the Paradox through the use of a longitudinal field study that assessed users' actual social media behaviors in response to real detox interventions.

Study 1

To test H3, we conducted a longitudinal field study that employed a one factor between-subject design (firm-driven digital detox intervention: present vs. absent). Respondents were randomly assigned to one of these two intervention conditions, while skepticism toward advertising was again a measured continuous variable (skepticism: higher vs. lower). Three hundred undergraduate students were recruited for the study. TikTok was again the chosen platform.

In the intervention *present* condition, researchers assisted participants with activating both screen time break reminders and daily limit reminders in the TikTok app on their smartphones[1]. Screen time break reminders were set at 20 minutes, while daily limit reminders were set at 40 minutes. This mirrors the proposed SMART Act which would similarly impose daily limits on users, if passed (Mercier 2020). Participants were then told to use TikTok as they saw fit over the next 7 days (i.e., they could ignore or comply with the reminders - consistent with how the reminders function in "real life"). In the intervention *absent* condition, researchers similarly instructed participants to use TikTok as they saw fit over the next 7 days. Neither break nor daily limit reminders were set – or even mentioned to - these participants.

One week later, all participants uploaded screenshots of their 1) daily app opens and 2) daily usage (in minutes) from the previous week in an online survey. These two metrics are objectively recorded by TikTok and made available within the app interface. Participants then answered other dependent measures along with a manipulation check. Those who failed the check were excluded from the analyses resulting in a final sample consisted of 221 participants: 51.1% were male, ages ranged from 20 to 29 (M=22 years), and 91.9% were Caucasian.

[1] TikTok offers both screen time break reminders and daily limit reminders within its app. Screen time break reminders appear after a user has scrolled/used the app continuously for the amount of time pre-determined by the user. Daily limit reminders appear after a user has used the app for the total amount of time pre-determined by the user in a given day. Users can respond by ignoring the reminders or by discontinuing usage, as intended.

Measures

"Time spent" is one of the most widely used metrics to assess digital well-being (Roffarello, and De Russis 2023). Thus, using the objective metrics provided by TikTok within the app, we calculated: 1) the total number of times participants opened the app over the week (i.e., total app opens) and 2) the total time, in minutes, that participants spent on the app during the prior week (i.e., total time spent). Skepticism toward advertising was assessed with the items used in the pilot study (adapted from Obermiller and Spangenberg 1998; r=.81, p<.001). Firm attitudes were again measured before the manipulation and used as a covariate along with gender and age (adapted from Sengupta and Johar 2002; r=.88, p<.001). Higher values indicate higher total app opens, higher total time spent, lower skepticism, and more positive attitudes.

Results

We used PROCESS Model 1 to test H3 (Hayes 2018). As shown in Table 2, there was a non-significant main effect of the detox intervention on total app opens (b=23.04, SE=47.24, t=.49, p >.62) and total time spent on the app (b=11.63, SE=174.44, t=.07, p >.95). There were significant main effects of skepticism on total app opens (b=-22.28, SE=10.84, t= -2.05, p <.05) and total time spent on the app (b=-85.53, SE=41.07, t= -2.08, p <.04).

Findings further revealed non-significant intervention x skepticism interactions on total app opens (b=6.14, SE=13.27, t=.46, p >.64) and total time spent on the app (b=38.42, SE=48.75, t=.79, p >.43). We probed these interactions at the 16th, 50th, and 84th percentiles of skepticism to assess the conditional effects of the intervention at higher, moderate, and lower skepticism levels, respectively (Hayes 2018; see also Keppel 1973; Keppel and Wickens 2004).

As shown in Figures 2a and 2b, the intervention significantly *increased less skeptical* participants' total app opens ($M_{present}$=157.53 vs. M_{absent}=106.87; p<.03). That is, *less skeptical*

participants who were exposed to the intervention paradoxically opened the app approximately 50 times *more*, on average, during the week compared to other *less skeptical* participants who were not. Also as expected, the intervention significantly *increased* total usage time amongst *less skeptical* participants ($M_{present}$=605.39 vs. M_{absent}=420.88; p<.03). Specifically, *less skeptical* participants who were exposed to the intervention paradoxically used the app over 3 hours *more* during the week, on average, compared to other *less skeptical* participants who were not.

Also as expected, the intervention had no significant impact on *more skeptical* participants' total app opens ($M_{present}$=197.88 vs. M_{absent}=162.56; p=.15) nor their total usage time ($M_{present}$=723.16 vs. M_{absent}=634.70; p=.33)[2]. Together, these results provide full support for H3.

**********INSERT TABLE 2 AND FIGURES 2a AND 2b HERE**********

General Discussion

Prior research hints that this excessive social media use may be curbed through "digital detox interventions" aimed at promoting voluntary, temporary user abstinence from digital devices (Chan et al. 2022). However, little is known about digital detoxing, in general (Radtke et al. 2022), and to our knowledge, the current research is among the first in the marketing literature to document consumer responses to firm-driven digital detox interventions.

Here we proposed and documented a "Digital Detox Paradox" wherein such interventions can have a profound unintended negative impact on certain consumer segments. Specifically, we showed that consumers who were *less skeptical* of advertising paradoxically *increased* their social media usage when exposed to interventions from social media firms aimed at reducing it.

[2] Additional contrasts revealed that the intervention did not significantly impact *moderately skeptical* participants' total usage time ($M_{present}$=676.05 vs. M_{absent}=549.17; p >.05), but did increase their total app opens ($M_{present}$=181.74 vs. M_{absent}=140.28; p <.02).

By contrast, consumers that were *more skeptical* of advertising did not change their intentions or behaviors in response to such interventions.

We further showed *why* this Digital Detox Paradox occurs: less skeptical consumers perceive firms to be more authentic when they voluntarily offer interventions, and in turn, respond positively toward the intervening firms by ironically consuming *more* of their offerings (e.g., using their apps *more*). Implications for policy, consumer welfare, and practice follow.

Public Policy and Consumer Welfare Implications

Evidence-based advertising research can have a profound impact on public policy and regulatory decisions (Kees and Andrews 2019). Similar to the proposed SMART Act, we tested the effects of daily limit reminders and break reminders on consumers' longitudinal TikTok usage. In doing so, we identified a vulnerable consumer segment – *less skeptical* consumers – that policy makers, NGO's, and consumer welfare advocates should acknowledge when crafting initiatives aimed at regulating social media use. These consumers can be identified and targeted through a variety of market research techniques. However, certain segments - such as teens and children - are inherently less skeptical of advertising and tend to have lower persuasion knowledge (e.g., Andrews, Walker, and Kees 2020; Berthon, Pitt, and Campbell 2019; Vijayalakshmi, Lin, and Laczniak 2020). Thus, our findings are innately of high relevance to other current legislative efforts such as the Kids Off Social Media Act and the Kids Online Safety Act.

Conversely, *high skepticism* can be detrimental to marketplace efficiency and consumer welfare when consumers ignore objectively helpful information in the marketplace (Di Domenico, Giandomenico, Nunan, and Pitardi 2022; Obermiller, Spangenberg, and MacLachlan 2005). Highly skeptical consumers did not significantly change their social media usage in

response to any of the interventions tested here. Though not highly valued by academic researchers, these null findings for highly skeptical consumers have important practical implications for a number of constituencies in "real life"[3]. For example, the Study 1 detox intervention led *highly skeptical* users to open the TikTok app approximately 35 times less and use it approximately 85 minutes less in a week compared to other highly skeptical users not exposed to the intervention. This is a promising sign that detox interventions can have the intended *positive* effects among select consumer segments.

Managerial Contributions

Many firms' business models are now "based on the harvesting of human attention" (Berthon, Pitt, and Campbell 2019 p. 463). However, an inherent contradiction exists when firms seeking to maximize user engagement design detox interventions that are (presumably) meant to promote user well-being (i.e., to *reduce* engagement and usage) (Roffarello and De Russis 2023). Thus, firms are presented with both obstacles and opportunities in this growing "Attention Economy" (Davenport and Beck 2001).

Our findings indicate that consumers' firm authenticity perceptions play a key role in how they respond to detox interventions. Firms must deliver detox messages to more skeptical customers in ways that do not compromise their perceived authenticity or reputation. This may be accomplishable by choosing CSR and well-being initiatives that are viewed as more altruistic in nature (and thus, more authentic) (Alhouti, Johnson, and Holloway 2016). Considering the fit between firm initiatives and highly skeptical consumers' values may also improve their authenticity perceptions and lead to more favorable outcomes for both parties (Lee et al. 2012; Wilkie and Hill 2022).

[3] We thank an anonymous reviewer for the suggestion to include a discussion of findings that were found to be not statistically significant.

Firms may also further increase the efficacy of their digital detox interventions and well-being initiatives by ensuring that they do not closely resemble advertisements. By presenting such messages more natively without being deceptive, firms may be able to minimize negative responses – especially among more skeptical consumers. These strategies may help firms better execute consumer digital well-being initiatives and other brand activism activities without alienating customers through seemingly inauspicious "virtue signaling" attempts (Mirzaei, Wilkie, and Siuki 2022; Weber et al. 2023).

Limitations and Future Research

The current research has several limitations that offer opportunities for future investigation. First, it should be noted that the detox intervention x skepticism interaction was not significant in Study 1. Additional, better-powered studies should be conducted in order to replicate and extend our initial findings here to enhance their external validity. Next, we examined firm-related sources of detox interventions, but other sources should be examined in future research to help identify the most effective sources for different types of consumers. Also, we did not manipulate the daily break or daily limit reminder amounts in Study 1. Future research could assess if, and how, varying these amounts affects app usage. Lastly, our results should be interpreted with caution as it is not possible to demonstrate causality when mediators and outcomes occur at the same time. Future research should use experiments where these constructs are measured at separate points in time and explore more fully the processes underlying the Digital Detox Paradox.

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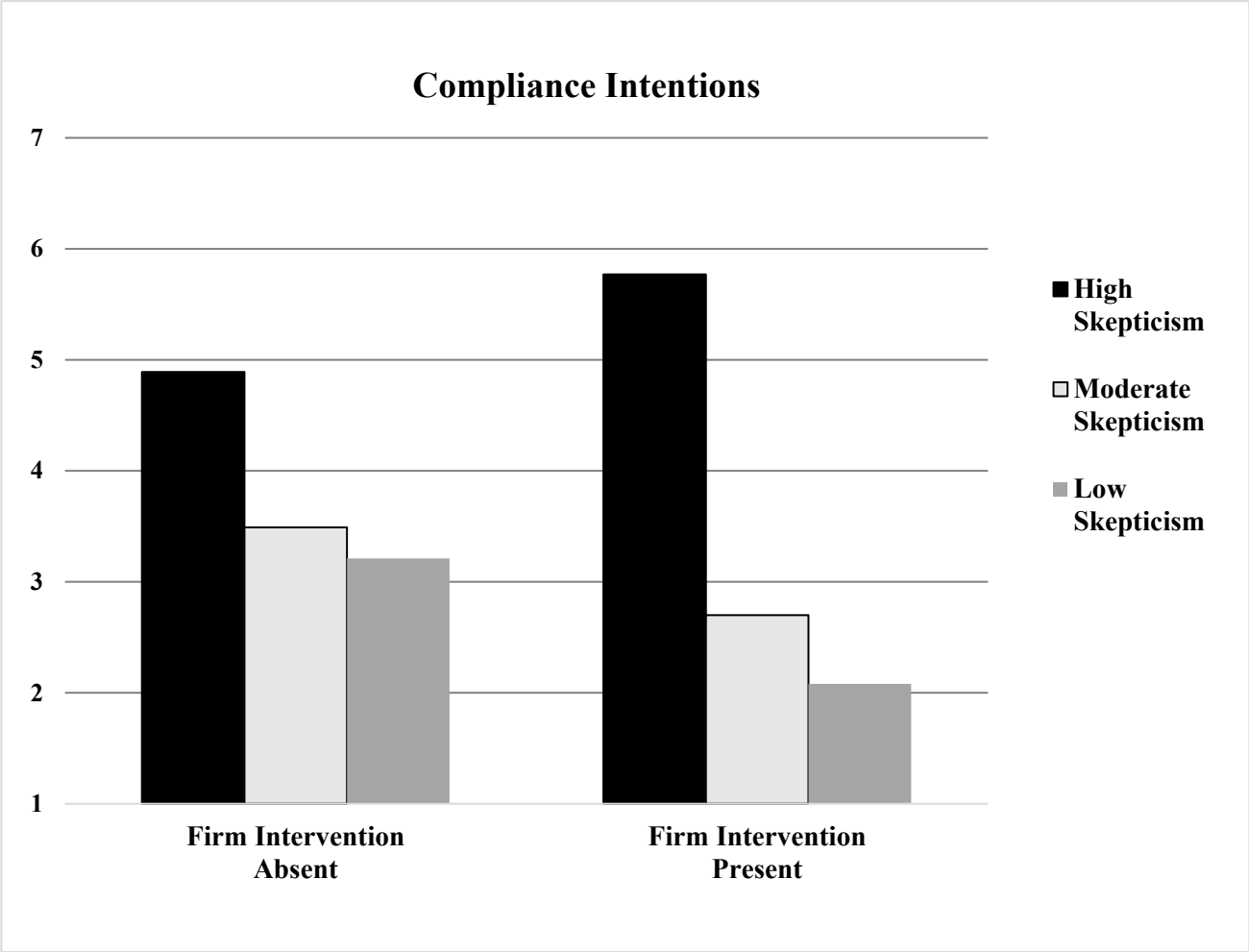
FIGURES

Figure 1: Pilot Study Effects of Detox Interventions and Skepticism Toward Advertising on Compliance Intentions



***Higher values indicate higher intentions to comply with the detox request (i.e., higher intentions to take a break)**

Figure 2a: Study 1 Effects of Detox Interventions and Skepticism Toward Advertising on Total App Opens

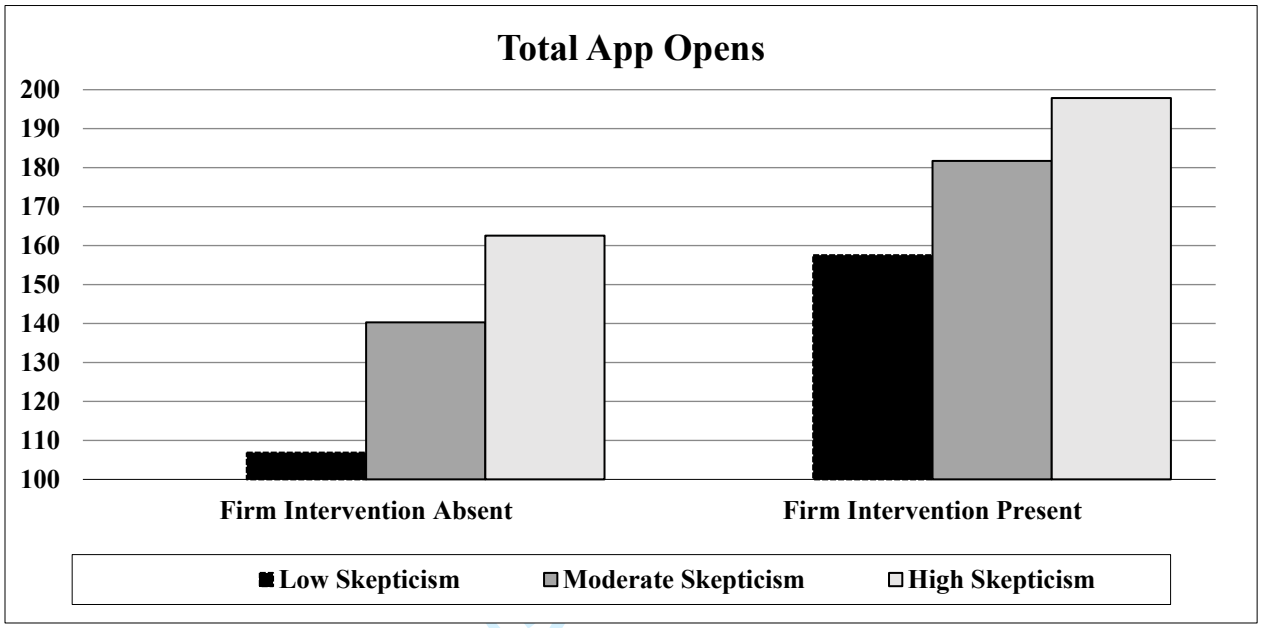
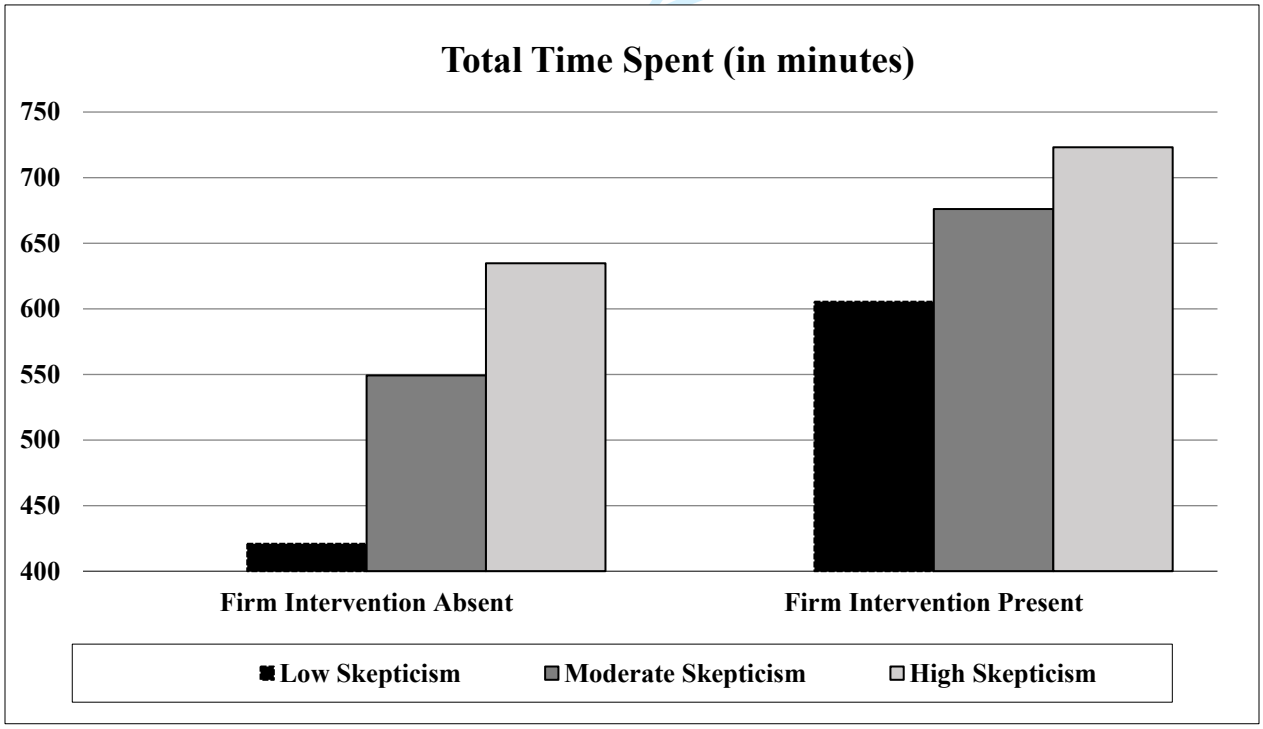


Figure 2b: Study 1 Effects of Detox Interventions and Skepticism Toward Advertising on Total Time Spent



***Higher values indicate more total app opens and more total time spent on the app.**

TABLES

Table 1: Pilot Study Test of the Mediating Roles of Perceived Firm Authenticity and App Connection on Break Intentions

	Perceived Firm Authenticity (Mediator)		App Connection (Mediator)		Break Intentions (Outcome)	
Independent Variables	Coefficient	T-values	Coefficient	T-values	Coefficient	T-values
Detox Intervention (DI)	.26	.58	-.33	-.62	1.33	1.52
Skepticism Toward Advertising (STA)	.61	7.02**	.57	5.77**	-.37	-1.74
DI x STA	-.12	-1.15	.06	.46	-.45	-2.21*
Perceived Firm Authenticity	---	---	---	---	.62	3.01**
App Connection	---	---	---	---	-.18	-1.02
Firm Attitude	.57	6.89**	.47	4.98**	-.12	-.62
Gender	-.20	-1.03	.17	.75	.54	1.43
Age	-.01	-.94	-.02	-1.94*	.02	.99

Note: All coefficients are unstandardized. Firm attitude, gender, and age were used as covariates. * $p < .05$, ** $p < .01$

Table 2: Study 1 Test of Detox Interventions and Advertising Toward Skepticism on Total App Opens and Total Time Spent

	Total App Opens (Outcome)		Total Time Spent on App (Outcome)	
Independent Variables	Coefficient	T-values	Coefficient	T-values
Detox Intervention (DI)	23.04	.49	11.63	.07
Skepticism Toward Advertising (STA)	-22.28	-2.05*	-85.53	-2.08*
DI x STA	6.14	.47	38.42	.79
Firm Attitude	24.14	3.43**	78.84	3.04**
Gender	-8.33	-.49	-72.05	-1.17
Age	2.76	.35	-42.56	-1.47

Note: All coefficients are unstandardized. Firm attitude, gender, and age were used as covariates. * $p < .05$, ** $p < .01$