



Pornography consumption as existential escape from boredom

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ABSTRACT

We tested if boredom is associated with pornography use and what role low perceived meaning in life plays in their association. Following work on the existential escape hypothesis, we hypothesised that pornography consumption may be used to escape from the perceived meaninglessness that boredom signals. We tested whether perceived meaninglessness predicted increased pornography use via boredom and using pornography for emotional avoidance. Subsequently, we tested this indirect serial relationship using scales that measured pornography use for excitement seeking and sexual pleasure. We found significant indirect relationships in each case. Our research contributes to understanding the role of boredom in promoting pornography consumption and how it may function as an escape from perceived meaninglessness in life.

1. Introduction

Pornography consumption is common and highly relevant to psychology, yet has remained in the periphery of mainstream psychological research on sexuality (Grubbs & Kraus, 2021). To date, research has shown that people use pornography for several reasons (Böthe et al., 2021). People consume pornography depending on their individual differences (e.g., Dark Triad traits, short term mating orientation, mate value, life history strategy) to increase their sex drive, enhance their sexual performance, for social or instrumental reasons, or due to a lack of relational or emotional skills (Burtäverde et al., 2021). Furthermore, pornography may be used as a hedonic recreational activity (Grubbs et al., 2019). Pornography use has also been associated with mood management and dealing with distress (Paul & Shim, 2008; Peter & Valkenburg, 2011). Interestingly, during the Covid-19 pandemic, increased searches for internet pornography were noted in countries with 'stay at home' orders (Zattoni et al., 2020); a time when increases in boredom were also observed (Westgate et al., 2021). Indeed, one reason postulated for why people consume pornography is to relieve boredom, which has been supported by some empirical evidence (Böthe et al., 2021; Grubbs et al., 2019; Peter & Valkenburg, 2011).

Boredom is a common, unpleasant experience (Chan et al., 2018), characterised by distinct cognitions, feelings, and motivations. An inability to focus or engage attention is a distinguishing feature of boredom (Hunter & Eastwood, 2018; Tam et al., 2021). Another defining element of boredom is that it signals a lack of meaning in life

(Van Tilburg & Igou, 2017); bored people feel that their life lacks purpose. Simultaneously, bored people experience restlessness and are disinterested in their current activities (Eastwood et al., 2012). As a result, bored people may engage in more stimulating activities to compensate for meaninglessness or to distract from one's painful awareness of meaninglessness. For instance, previous research showed that when people are bored, they may engage in hedonic activities such as impulsiveness (Moynihan et al., 2017) or unhealthy eating (Moynihan et al., 2015).

Some of the prior research on the hedonic consequences of boredom adapted the existential escape hypothesis (Wisman, 2006) as its theoretical framework. This hypothesis premises that when people experience existential threats to meaning in life, such as boredom, people may choose to engage in activities that serve as an escape from perceived meaninglessness (Moynihan et al., 2021a). Under meaning threats such as boredom, perceived discrepancies between one's current (meaningless) self and ideal (meaningful) self are noted (Skowronski & Sedikides, 2017). These discrepancies encourage people to escape from perceived meaninglessness; one means of escape may be through engagement in hedonic behaviours (Moynihan et al., 2015; Moynihan et al., 2017; Wisman et al., 2015). Examples of such activities include sex. Indeed, people's reaction to boredom by seeking pleasure can sometimes translate into an increased sex drive (Burtäverde et al., 2021). In our previous research (Moynihan et al., 2021b), we investigated how heterosexual and bisexual men's interest in sensational and uncommitted sex functions as an escape from boredom. We found that men who reported

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lower levels of perceived meaning in their lives were also likely to report being more susceptible to boredom. Boredom was also associated with increased use of sex as a coping mechanism (i.e., using sex as an escape from worries and stresses in everyday life, dealing with emotional pain). In turn, using sex as a coping mechanism positively related to endorsement of sexual sensation seeking and having more favourable attitudes to casual, uncommitted sexual relationships.

In the current research, we intended to replicate this model applied to pornography consumption. The order of variables in our model is informed by previous research. The loss or failure of developing meaningful life goals is a critical factor in the development of boredom (Van Tilburg et al., 2019). Accordingly, our research focuses on boredom as a carrier of meaninglessness (Chan et al., 2018).

Our chosen measure of pornography consumption was the Pornography Consumption Inventory (Reid et al., 2011), specifically, the emotional avoidance, excitement seeking, and sexual pleasure subscales. The subscales measure tendencies to consume pornography for avoiding uncomfortable emotions or dealing with emotional distress, satisfying desires for excitement, and facilitating sexual pleasure, respectively. This inventory was used to assess the psychological processes that underlie pornography use. In the scale's development, significant positive correlations were found between the subscales. Accordingly, Reid et al. (2011) note that using pornography for excitement or pleasure is usually an outcome of the need to disconnect from reality and seek relief from emotional distress (Tice et al., 2001). Likewise, Leon-Larios et al. (2019) note that using sex as a means of emotional avoidance reflects a psychological coping strategy, whereas excitement seeking and sexual pleasure relate more to stimulating physiological aspects. This reasoning is consistent with the tenets of the existential escape hypothesis (Wisman, 2006), whereby people seek to escape from the perceived meaninglessness of existential threats by engaging in hedonic behaviours. Such goals may be satiated by using pornography as a means of excitement, pleasure, and sensation (Grubbs et al., 2019; Peter & Valkenburg, 2011). Indeed, some research suggested that boredom avoidance may prompt pornography consumption as a means of emotional avoidance, which is met by excitement and sexual pleasure-seeking (Böthe et al., 2021; Grubbs et al., 2019). Engaging in stimulating, hedonic activities can also be enacted as an attempt to escape from the meaninglessness associated with boredom (Moynihan et al., 2017). The sensations involved in these hedonic acts may distract people from the meaninglessness signaled by existential threats (Hirschberger & Ein-Dor, 2005; Moynihan et al., 2015). Therefore, we believe it is appropriate to treat the emotional avoidance subscale as the second mediator and the excitement seeking and sexual pleasure subscales as outcome variables in our model.

In addition, we measured participants' frequency of pornography use. Reid et al. (2011) and Trottier and LeBlanc (2021) found that people who spent greater amounts of time viewing pornography also reported using pornography to avoid uncomfortable emotions significantly more. We hypothesise that perceived meaninglessness will be associated with more pornography use, excitement seeking, and sexual pleasure, respectively, via increased boredom and using pornography for emotional avoidance (i.e., indirect serial relationships). Our hypotheses are consistent with the tenets of the existential escape hypothesis (Wisman, 2006).

2. Method

2.1. Participants and design

One hundred and eighty-four participants were recruited from *Pro-lific Academic*. All participants were residents in the Republic of Ireland or the United Kingdom. Five participants were excluded for failing an attention check, leaving a useable sample of 179 participants ($M_{age} = 30.22$, $SD = 10.70$, $age\ range = 18-66$; 104 men, 75 women; 143 = heterosexual, 21 = bisexual, 11 = homosexual, 1 = asexual, 1 = prefer

not to answer, 2 = no response). A sensitivity power analysis (Schoemann et al., 2017; 10,000 replications with 20,000 Monte-Carlo draws, assuming a type-I error of $\alpha = 0.05$, two-tailed) showed that with a power of 0.80, our sample size allowed us to detect in the most comprehensive analysis (a serial mediation analysis) correlations of 0.39 or greater. Participants were paid €0.49 remuneration.

2.2. Materials and procedure

Participants gave their informed consent and reported demographics. In our prescreening criteria, we requested that participants' biological sex corresponded to their gender identity. Further, a condition to participating in our study was that participants had to report currently using pornography. To assess this, we presented participants with a question that measured the frequency of their pornography use ("How often do you use pornography?"; 0 = *never*, 1 = *rarely*, 2 = *sometimes*, 3 = *frequently*, 4 = *always*; $M = 2.08$, $SD = 0.77$). We included this item in our analyses as an outcome variable. Next, measures of perceived meaninglessness, boredom proneness, and three subscales of the Pornography Consumption Inventory (Reid et al., 2011) were presented to participants in random order. Perceived meaninglessness was measured using the presence of meaning subscale (reverse-scored) from the meaning in life questionnaire (Steger et al., 2006) and consists of five items ("My life has no clear purpose"; 1 = *absolutely untrue*, 7 = *absolutely true*; $M = 3.42$, $SD = 1.27$; $\alpha = 0.91$). Boredom proneness was measured using the boredom proneness scale – short form (Struk et al., 2017), which consists of eight items ("In most situations, it is hard for me to find something to do or see to keep me interested"; 1 = *strongly disagree*, 7 = *strongly agree*; $M = 3.36$, $SD = 1.24$; $\alpha = 0.89$). Three subscales from the Pornography Consumption Inventory (Reid et al., 2011) were presented to participants as one scale: emotional avoidance ("It [pornography] provides an opportunity to be distracted from life's challenges"; 1 = *never like me*, 5 = *very often like me*; $M = 2.21$, $SD = 0.88$; $\alpha = 0.86$), excitement seeking ("I use it [pornography] to provide some novelty or variety in my life"; $M = 3.22$, $SD = 0.92$; $\alpha = 0.73$), and sexual pleasure ("I use it [pornography] to sexually arouse myself"; $M = 4.05$, $SD = 0.77$; $\alpha = 0.84$). The emotional avoidance subscale consists of five items and the excitement seeking and sexual pleasure subscales consist of three items each. Afterwards, participants were debriefed, thanked, and rewarded.

3. Results

3.1. Zero-order correlations

Boredom proneness correlated positively and significantly with perceived meaninglessness, $r(175) = 0.53$, $p < .001$. Boredom proneness also correlated positively and significantly with frequency of pornography use, $r(176) = 0.15$, $p = .048$, emotional avoidance, $r(176) = 0.37$, $p < .001$, excitement seeking, $r(176) = 0.18$, $p = .02$, and sexual pleasure, $r(176) = 0.19$, $p = .01$. Similarly, perceived meaninglessness correlated positively and significantly with emotional avoidance, $r(175) = 0.23$, $p = .003$. The correlation between meaninglessness and frequency of pornography use was marginal, $r(175) = 0.14$, $p = .06$. There were no significant correlations between meaninglessness and excitement seeking, $r(175) = 0.05$, $p = .50$, or sexual pleasure, $r(175) = 0.08$, $p = .29$. Frequency of pornography use correlated positively and significantly with emotional avoidance, $r(177) = 0.32$, $p < .001$, excitement seeking, $r(177) = 0.30$, $p < .001$, and sexual pleasure, $r(177) = 0.50$, $p < .001$. Likewise, emotional avoidance correlated positively and significantly with excitement seeking, $r(177) = 0.43$, $p < .001$, and sexual pleasure, $r(177) = 0.36$, $p < .001$. Excitement seeking and sexual pleasure were also positively and significantly correlated, $r(177) = 0.41$, $p < .001$ (Table 1).

Table 1

Zero-order correlations between perceived meaningfulness, boredom proneness, emotional avoidance, excitement seeking, sexual pleasure subscales, and frequency of pornography use (Study 1).

	Perceived meaningfulness	Boredom proneness	Emotional avoidance	Excitement seeking	Sexual pleasure	Frequency of pornography use
Perceived meaningfulness	–	0.53**	0.23*	0.05	0.08	0.14
Boredom proneness	–	–	0.37**	0.18*	0.19*	0.15*
Emotional avoidance	–	–	–	0.43**	0.36**	0.32**
Excitement seeking	–	–	–	–	0.41**	0.30**
Sexual pleasure	–	–	–	–	–	0.50**
Frequency of pornography use	–	–	–	–	–	–

Note.

* $p \leq .05$.

** $p \leq .001$.

3.2. Indirect relationships

3.2.1. Frequency of pornography use as outcome variable

Next, we examined if there was a significant indirect serial relationship between perceived meaningfulness and frequency of pornography use via boredom proneness and emotional avoidance. In subsequent analyses, we tested whether indirect serial relationships were also significant, substituting excitement seeking and sexual pleasure as the outcome variables. We conducted mediation analyses using Hayes (2018, Model 6) PROCESS macro. Scores were standardised for each construct. In the first analysis, perceived meaningfulness was entered as the predictor variable in the model, boredom proneness as the first mediator, emotional avoidance as the second mediator, and frequency of pornography use as the outcome variable. All indirect relationships were estimated using 10,000 bias-corrected bootstraps. As expected, we found a significant indirect serial relationship of perceived meaningfulness on more frequent pornography use via increased boredom proneness and emotional avoidance, $a_1db_2 = 0.06$, $SE = 0.03$, 95 % CI [0.02, 0.12]. The direct relationship was $B = 0.08$, $SE = 0.09$, $p = .38$ (Fig. 1).

3.2.2. Excitement seeking as outcome variable

Next, we found a significant indirect serial relationship between perceived meaningfulness and excitement seeking via increased boredom proneness and emotional avoidance, $a_1db_2 = 0.08$, $SE = 0.03$, 95 % CI [0.03, 0.15]. The direct relationship was $B = -0.08$, $SE = 0.08$, $p = .34$ (Fig. 2).

3.2.3. Sexual pleasure as outcome variable

Finally, we found a significant indirect serial relationship between perceived meaningfulness and sexual pleasure via increased boredom proneness and emotional avoidance, $a_1db_2 = 0.06$, $SE = 0.03$, 95 % CI [0.02, 0.13]. The direct relationship was $B = -0.04$, $SE = 0.08$, $p = .63$ (Fig. 3).

4. General discussion

We predicted a significant indirect serial relationship between perceived meaningfulness and people's frequency of pornography consumption via boredom and using pornography for emotional avoidance. Our prediction was informed by previous research; people who spent greater amounts of time viewing pornography also reported using pornography to avoid uncomfortable emotions significantly more (Trottier & LeBlanc, 2021). Further, we substituted excitement seeking and sexual pleasure as outcome variables; the tendency to use pornography for excitement or sexual pleasure may be done to distract the self from unpleasant feelings and emotional distress (Reid et al., 2011; Tice et al., 2001). Our predictions were framed using the tenets of the existential escape hypothesis (Wisman, 2006). This framework premises that people who experience existential threats to meaning in life, such as boredom, may seek to escape from perceived meaningfulness signaled by those threats by engaging in hedonic behaviours. We found significant indirect serial relationships that supported our hypotheses.

Our results replicated previous research (Moynihan et al., 2021b), substituting pornography consumption for excitement seeking and sexual pleasure and frequency of pornography use as dependent variables. Our research contributes to the literature by incorporating pornography consumption as a means of existential escape from the meaningfulness of boredom. We highlight how boredom and perceptions of meaningfulness associated with it may promote the consumption of pornography as a means of escape (i.e., emotional avoidance) and how these strategies may be exemplified by using pornography for excitement seeking and sexual pleasure.

4.1. Limitations and future directions

As we used cross-sectional data, causal relationships between the constructs cannot be inferred. Future research should aim to replicate our findings using experience sampling or experimental methods, longitudinal, or (latent) cross-lagged designs (Grubbs et al., 2019; Grubbs &

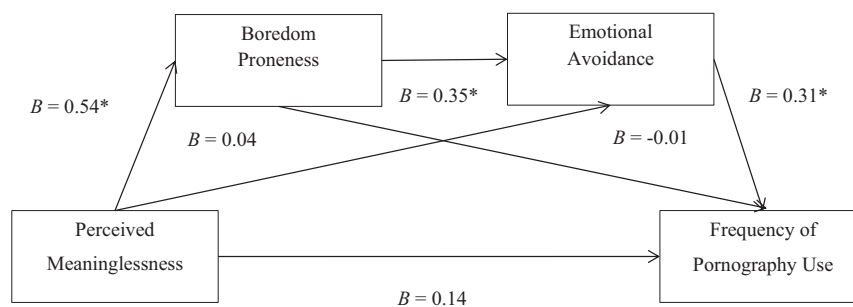


Fig. 1. Conceptual representation of indirect relationship using frequency of pornography use as outcome variable.

Note: Relationship between perceived meaningfulness and frequency of pornography use, significantly mediated by boredom proneness and emotional avoidance.

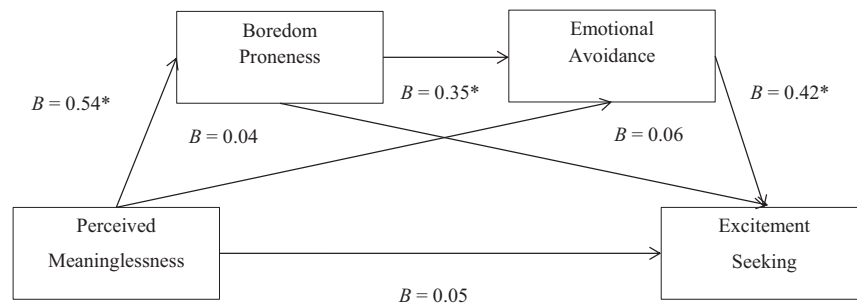


Fig. 2. Conceptual representation of indirect relationship using excitement seeking as outcome variable.

Note: Relationship between perceived meaninglessness and excitement seeking, significantly mediated by boredom proneness and emotional avoidance.

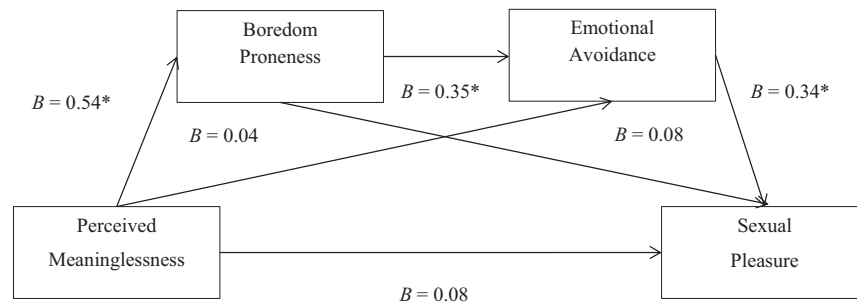


Fig. 3. Conceptual Representation of Indirect Relationship Using Sexual Pleasure as Outcome Variable.

Note: Relationship between perceived meaninglessness and sexual pleasure, significantly mediated by boredom proneness and emotional avoidance.

Kraus, 2021). There was also not an equal number of men and women in our sample. The Pornography Consumption Inventory was developed using samples of hypersexual men who were mainly heterosexual. Men usually have a higher sex drive and more sexual fantasies than women (Baughman et al., 2014; Burtäverde et al., 2021), report more pornography consumption, and stronger motivations to use it than women (Bóthe et al., 2021; Grubbs et al., 2019). Accordingly, Reid et al. (2011) note that more research is needed on those subscales in larger and more diverse samples. Nevertheless, some research has highlighted that the measure has good factorial validity and internal consistency in more diverse samples also (Baltieri et al., 2016; Leon-Larios et al., 2019; Trottier & LeBlanc, 2021). Similarly, Grubbs and Kraus (2021) note that studies on pornography use often rely on convenience samples that lack diversity across different demographics (De Oliveira & Carvalho, 2020). That is, whether pornography use functions as an escape from the perceived meaninglessness of boredom across diverse samples should be investigated.

The psychometric properties of the Pornography Consumption Inventory (Reid et al., 2011) should also be considered in future research. Past psychometric testing of the inventory (Reid et al., 2011) showed a clear 4 factor solution. The factors demonstrated high internal consistency, stability over time, and confirmatory factor analyses replicated this model on different samples. Construct, concurrent, and discriminant validity of the measure were also established. However, it is valuable to consider whether, or to what extent, the relationships between the emotional avoidance subscale and the outcome indicators from the same measurement tool partly reflect shared measurement variance. In our Supplementary Materials, we outline structural equation models, which highlight that the serial indirect relationships we investigated in our study maintained significance, controlling for shared measurement variance. We recommend future research to test potential shared measurement variance in greater detail such as by using experimental procedures and multitrait multimethod analysis.

The correlations between boredom and the outcome variables also had small effect sizes. Our model is based on earlier research

demonstrating effects of boredom through existential concerns (Moynihan et al., 2021b). We report a reliable relationship between boredom and pornography use and explain it statistically. In previous research, boredom also significantly predicted pornography consumption (Grubbs et al., 2019), while controlling for other factors (Bóthe et al., 2021). We do not deny that other affective states may be stronger predictors of pornography consumption as an escape since boredom has a lower negative affective valence compared to other emotions (Van Tilburg & Igou, 2017). Nevertheless, those potential relationships do not reduce our contribution. Boredom may predict pornography consumption, even if to a lesser extent than other predictors (Bóthe et al., 2021).

Future research should also consider the impact that other factors might have on the relationships between boredom, perceived meaninglessness, and pornography use. In some exploratory analyses, we noted significant negative correlations between age and boredom proneness, the emotional avoidance, and sexual pleasure subscales (Supplementary Materials). These results are consistent with previous existential psychological research showing that the experience of and coping strategies in response to existential threats may change due to aging (Maxfield et al., 2007). Another relevant factor is self-esteem. Wisman et al. (2015) note that people with low self-esteem should be especially prone to engaging in existential escape as they feel incapable of addressing existential threats using other means. Pornography may be used especially by those with low self-esteem to escape from boredom and its associated meaninglessness. Further, according to the existential escape hypothesis (Wisman, 2006), people try to reduce their self-awareness in response to existential threats to reduce their perceptions of meaninglessness. Self-awareness facilitates perceptions of meaninglessness (Skowronski & Sedikides, 2017) and is also related to boredom (Seib & Vodanovich, 1998). Therefore, how age, self-esteem, and self-awareness relate to our model could be investigated in greater depth in future research.

Aside from our escape hypothesis, future research should examine whether people use pornography to improve their sexual or relationship skills and increase their level of personal value as a compensatory

response against meaninglessness (Florian et al., 2002; Heine et al., 2006; Mikulincer & Florian, 2000; Taubman Ben-Ari et al., 2002). Examples of how using pornography may help to achieve this is by learning new sexual skills for sexual performance, helping people to find new sexual partners, and achieving intimacy (Bolshinsky & Gelkopf, 2019; Burtäverde et al., 2021).

Future research should also examine how pornography use as a means of existential escape from boredom could relate to problematic pornography consumption (Böthe et al., 2021; Grubbs & Kraus, 2021); pornography use is a common manifestation of hypersexual and compulsive sexual behaviours, which potentially could qualify as addictions (Hilton, 2013). In this context, emotional avoidance has been identified as a reason why people engage in pornography consumption (Castro-Calvo et al., 2018; Rousseau et al., 2021). Böthe et al. (2020) recently found that people classified as high-frequency problematic pornography users scored significantly higher on boredom susceptibility than nonproblematic users. Böthe et al. suggest that among individuals with high levels of boredom susceptibility and high-frequency use, pornography use may become problematic as it could continually provide novel and varied stimuli, which help reduce repeated experiences of boredom. Alternatively, those who are more easily bored may eventually find pornography more boring, thus cancelling out at least some of the indirect relationships through emotional avoidance. Future work should study these possibilities.

Also of note, the Pornography Consumption Inventory (Reid et al., 2011) does not specifically measure online pornography consumption, which is more common in modern society (Grubbs et al., 2019). Any differences between online and offline pornography consumption and how each could potentially be used as an existential escape from boredom merits further investigation (e.g., online platforms may provide unlimited sexual content that can be accessed with minimal effort or expense compared to offline sexual behaviours; online platforms may better facilitate people that are socially inhibited; Bolshinsky & Gelkopf, 2019). Indeed, online pornography, which uses 'supranormal' (i.e., artificially enhanced) sexual stimuli to a greater extent, may have the potential to greatly appeal to novelty seekers that try to escape boredom (Hilton, 2013).

5. Conclusion

Our research contributes to psychological research on pornography consumption by highlighting how it may be used for emotional avoidance, excitement seeking, and sexual pleasure in response to boredom. Specifically, our study suggests that pornography consumption may function as a means of dealing with perceived meaninglessness, signaled by boredom. Our study incorporates pornography consumption as a means of existential escape (Wiseman, 2006). We believe that our research has important societal applications, given the prevalence of boredom (Chan et al., 2018) and pornography consumption (Grubbs & Kraus, 2021) in the modern world.

CRedit authorship contribution statement

Andrew B. Moynihan: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Project administration. **Eric R. Igou:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Wijnand A.P. van Tilburg:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2022.111802>.

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