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Abstract

Performance data from a tribal casino operating in the Western United States indicated a general insensitivity to free-play (FP) offer reductions. This finding addresses considerable industry-wide concerns regarding the potential for negative customer reactions to conspicuous offer reductions. Further, FP campaigns are costly annual investments representing the lion's share of casino marketing budgets in many jurisdictions. A within-subjects design featured the random assignment of 100 loyalty program members from a common offer tier to each of four groups, with the experimental groups receiving different yet substantial reductions in FP during the post-demotion period. The results demonstrated a lack of significant differences in gaming spend and visitation, across the pre- and post-demotion periods. Our findings generally failed to indicate support for social inequity theory, aligning more with the literature on force-of-habit behavior. Additionally, the growing body of FP research was meaningfully extended.

Keywords: free-play, casino marketing, social inequity theory, force of habit, loyalty behavior

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Introduction

With the continued proliferation of casino gaming, there is considerable pressure on operators to maintain and/or increase gaming revenues (Kim & Kang, 2018). Recently, we have seen high-profile expansion efforts in the Chicago and New York City markets (Armentrout, 2023; Hong, Rubinstein & Chen, 2023). Such expansion is likely to increase pressure on many regional operators competing for players from these massive population centers. Even within stable markets, the competition for loyal players can be fierce (Lucas, Cho & Singh, 2022).

Pent-up demand from the pandemic generated record revenues in 2022 for many U.S. jurisdictions, driven by the unusual combination of increased spend per trip and decreased visitation levels (American Gaming Association, 2022, p. 9). These record revenues have extended into 2023 for U.S. commercial operators, with slots and tables leading the way, aided by growth in the considerably smaller but expanding sports wagering and internet gaming sectors (American Gaming Association, 2023, p. 7). But these favorable demand conditions cannot last forever, and the lingering possibility of an economic downturn poses an additional threat. These external threats combined with the addition of new market entrants will likely heighten the competition for casino visits.

In most casino loyalty programs (LPs), free-play (FP) has emerged as the predominant loyalty-building tool for casino marketers (Klebanow, 2018; Legato, 2023; Legg & Hancer, 2020). In the face of expanding competition, many have resorted to increased FP offers in an attempt to capture and/or defend market share (Legato, 2023). In most cases, these offers consist of non-negotiable slot credits issued to players, at no direct cost to them. But many FP campaigns have become points of concern (Legato, 2023), as they have grown into expensive annual investments for casinos, which are easily matched by competitors (Lucas, Spilde & Singh, 2023). In fiscal year-end 2021, Pennsylvania casinos accepted over $425 million in FP wagers, representing 23% of the state's $1.9 billion in gross terminal revenue (Pennsylvania Gaming Control Board, 2021). Resorts World NYC alone redeemed $117 million in FP, in fiscal year-end 2020 (Resorts World, 2022). This was equal to 18.6% of the property's net slot win. Data from a Las Vegas Strip resort revealed that it redeemed FP credits in excess of 24% of its annual, tracked, theoretical slot win (Lucas & Nemati, 2020).

Taming the expansion of FP campaigns has become a critical issue for casino marketers (Klebanow, 2018; Lucas et al., 2023; Legato, 2023). But what would happen if FP offers were reduced? Naturally, the fear is a loss of valuable slot play, as any reduction in the FP would be easily noticed by the players (Legato, 2019). Given the scale of the previously described annual investment levels and the pressure to maintain and/or grow net slot revenues, understanding the customer reaction to FP reductions has clear value to casino marketers. To this end, the primary aim of this paper is to empirically examine patronage behavior following FP offer reductions.

Academically, this work explores potential connections of FP offer reductions to social inequity theory and theory related to force-of-habit behavior. Specifically, if the ensuing patronage behavior were to significantly decline following FP offer reductions, then the results would align with social inequity theory. Alternatively, if no significant decline in behavior were to follow the offer reductions, then the outcomes would be consistent with theory related to force of habit. Additionally, to the best of our knowledge, this is the first study within the FP literature to examine the effects of offer reductions over time, by way of a within-subjects design.

Social Inequity Theory

People are attracted to status-based structures and enticed by the chance to ascend an established hierarchy (Heffetz & Frank, 2011). The tiered structures of LPs accommodate this common proclivity by providing a status-conferring framework (Henderson et al., 2011), encouraging our widespread need to achieve status (Anderson et al., 2001). This

approach to LP structure is by design, as marketers seek to capitalize on this deeply rooted desire (Drèze & Nunes, 2009; Kumar & Shah, 2004); however, others have noted that status-based frameworks induce concerns related to fairness and equity within the structure (Van Prooijen, Van den Bos & Wilke, 2002).

Adams (1963) advanced social inequity theory as a means of determining fairness, with respect to the relationship between contributions and benefits across individuals, or affected parties. For example, perceptions of inequity manifest when an individual feels as though the ratio of inputs to outcomes negatively disconfirms that person's expectations of a fair exchange (Huppert, Arenson & Evans, 1978). Consistent with social inequity theory, if subjects were to perceive their FP awards as unfairly downgraded, issues related to distributive and/or procedural justice may emerge. The former addresses award inequities, in the form of input-output imbalances across parties, while the latter addresses perceived unfairness in the process or means of determining how the awards were assigned (Feinberg, Krishna & Zhang, 2002).

Like the clientele of many gaming properties, the focal casino served a customer base dominated by repeat visitors. Additionally, our sample of gamblers came from a common FP offer tier. That is, prior to any offer reductions, all subjects were earning and receiving the same dollar value of FP. Once these offers were reduced, it opened the door to perceptions of an input-output imbalance, i.e., distributive injustice. Additionally, the frequent visitation of highly involved like-kind gamblers facilitated opportunities for crosstalk among subjects assigned to different FP offer levels. Such discussions would likely reveal "unfair" differences in FP award values, potentially leading to feelings and perceptions of injustice. The management of the donor casino contended that its repeat customers were (1) quite cognizant of their trip-level gaming budgets and the duration of their wagering activity; and (2) prone to crosstalk regarding differences in offer values, aided in large part by sharing this information on social media. Aside from the conspicuous offer reductions with no change in the inputs (i.e., patronage behaviors), these characteristics would serve to heighten the potential for perceptions of inequitable treatment.

Any perceived unfairness emanating from a downgraded status can lead to relationship damage and negative patronage behavior (Samaha, Palmatier & Dant, 2011). Alternatively stated, perceived inequities could lead subjects to limit their play and/or visitation frequency to match the level of the downgraded FP award. The need to maintain a fair contribution-reward balance is central to social inequity theory (Adams, 1963).

One mixed-methods study has directly examined the effects of demotions in LP status, demonstrating negative impacts on both loyalty intentions and behavior (Wagner, Hennig-Thurau & Rudolph, 2009). First, outcomes from their lab experiment revealed a significant decline in loyalty intentions for status-demoted LP members, as compared to those who experienced no change in status. Second, their results from the analysis of retail sales data supported significant declines in purchasing activity following a demotion in LP status. These results held for both sales dollars and the number of transactions, supporting the negative impacts of status demotion in terms of observed loyalty behaviors (vs. intentions). In summary, their findings demonstrated both negative psychological and behavioral effects associated with LP status demotions. These outcomes were consistent with social inequity theory. However, the behavioral results were produced within a two-tier LP featuring mostly nonfinancial benefits (e.g., invitations to special events and preferred parking). This distinction is relevant, as the FP demotions were purely financial.

Because all of the gamblers in our sample earned and received the same FP offer for the entire six-month pre-demotion period, a well-established input-reward relationship was established. Because their level of play/patronage did not change during the pre-demotion period (i.e., their inputs), the ensuing FP offer reductions in the post-demotion period created the potential for perceived inequity in the input-reward relationship. Chen et al. (2021) note that such perceptions have led to negative cognitive and emotional responses by the affected parties. These negative responses can cause the affected parties to alter their contributions to the relationship (Ganesan, 1994; Samaha et al., 2011). In the case of this

study, that would equate to decreases in visitation and gaming spend following the offer reductions. This potential outcome is supported by Söderlund and Colliander (2015) who found decreased levels of satisfaction and repatronage intentions emanating from under-rewarding non-LP customers, within the context of an LP environment. Based on survey responses following their experimental manipulations, the authors attributed these reactions to perceptions of distributive injustice.

Habit and Loyalty

Within the domain of consumer psychology, habit has been identified as a driving force that underlies behavioral loyalty (Henderson et al., 2011; Chen et al., 2021). In the broader context of behavioral learning theory, force of habit is considered to be an inertia-based phenomenon, resulting in repetitive behavior such as repatronage (Chen et al.). Of course, a primary objective of LPs is to encourage such behavior. Perpetual LP incentives like free-play were designed to foster repeat visitation and elevate switching costs (Legato, 2023).

Force of habit has been linked to intrinsic motives for loyalty behavior, through a variety of studies (Henderson et al., 2011). Intrinsic motivation stems from a natural desire to engage in a behavior, which is not predicated or inspired by external rewards (Cherry, 2022). Instead, motives are anchored in internal satisfaction. Kohn (1993) argues that the use of extrinsic motivators (e.g., free-play offers) actually serves to diminish intrinsic motivation, by foisting the behaviorist doctrine onto subjects.

LPs have been found to encourage repetitive consumption, consistent with habit-based formation, and leading to increased patronage (Lewis, 2004; Wood & Neal, 2009). The role of habit is of particular interest here in that negative responses to a reduction in FP awards may be mitigated, or even overpowered, by the influence of habit on ensuing patronage decisions. Alternatively stated, force of habit may prevent or limit a decline in revenues following FP reductions.

Force of habit has been linked to loyalty behavior (Labroo & Nielson, 2010), patronage intentions (Breivik & Thorbjørnsen, 2008), and decreases in seeking out alternatives (Verplanken & Wood, 2006). In effect, repeated behavior often serves to supplant a deeper and considered evaluation of options, defaulting to a less deliberative form of "auto-pilot" processing (Ajzen, 2002; Wood & Neal, 2009). This is consistent with the premise of the dual mode model, which differentiates mental processing that is deliberative from that which requires little effort (Ajzen, 2002; Henderson et al., 2011).

Labroo, Dhar and Schwarz (2008) describe a familiarity effect, holding that repeated exposure to a stimulus can itself create a preference for the status quo. This translates to the current study in that LP members who have established habitual visitation patterns may be less likely to defect to a competitor, in spite of reduced FP offers. More specifically, their habitual behavior may override their intent to engage in deliberative processing, i.e., consider and/or search for a new gaming destination. The cognitive effort required to break away from the habit establishes a switching cost (Chen et al., 2021; Murray & Häbul, 2007). The effect of these costs can reach levels whereby LP members become "locked in," due to heightened attachments to a reward program (Klemperer, 1995). This is particularly relevant, given that our sample of LP members comes from a clientele characterized by frequently-visiting locals. Further, visitation has been advanced as a meaningful measure of habit strength (Wood & Neal, 2009), and a primary aim of FP is to increase visitation (Legato, 2023).

There is a general agreement within the literature that time itself plays an important part in the habit formation process, with the strength of the habit reinforced by frequent performance of the act (Henderson et al., 2011; Tobias, 2009). But little is known about the precise mechanisms that govern the relationship between memory function and the frequency of a behavior, as it pertains to habit formation. Still, it seems reasonable to presume that frequent slot play/visitation over time would positively affect habit formation. Again, this condition is relevant to our sample of established LP members.

Free-play Efficacy

Lucas, Dunn and Singh (2005) analyzed a data set comprised of free-play trips made by LP members with and without an FP offer. Their unit of analysis was average trip-level coin-in. The FP effect was tested for both $50 and $100 offers, with neither award producing a significant and positive model effect. The binary FP variable was negative for both award levels, but statistically significant for the $50 offer. The observed wagering volume across trip conditions (i.e., FP or no FP) was consistent with a reverse house money effect.

In Rüdisser et al. (2017), the results indicated that free-play awards induced gamblers to become risk averse, as compared against outcomes generated by both control group subjects and own-money wagering sessions. This general finding held for between-groups and within-subjects comparisons of wagering metrics such as average bet and actual loss. The authors cited support for a reverse house money effect. While particularly insightful, their study did not examine the impact of free-play over time — a condition they suggested addressing in future research.

Suh (2012) randomly assigned LP members from a common FP offer tier to one of two award conditions: $50 FP, or $100 FP. Although visitation for the $100 FP group increased by 45%, no statistically significant difference in the trip-level wagering activity was observed between the two offer levels. Like Rüdisser et al. (2017), Suh limited her analysis to a one-time FP offer, recommending that future researchers consider the longitudinal effects of changes in FP award values.

Lucas and Nemati (2020) analyzed the impact of FP offers over time, but their analysis was conducted at the tier level of the overall LP. The primary aim of their time series models was to estimate the incremental wagering activity associated with the redemption of FP offers, for each of six separate tiers. No tier generated a significant and positive coefficient for the FP variable that was greater than $1.00, indicating that the casino was not fully recovering the face value of the redeemed awards. This result suggested that program revisions were necessary.

Using survey replies from 855 respondents, Legg and Hancer (2020) employed conjoint analysis to compare the preferences of casino LP members for different types and combinations of play/visitation incentives. Their results included the identification of relative preferences for free-play, hotel, and food and beverage offers. Save one exception, free-play emerged as the unconditional offer of choice. A hierarchical Bayesian analysis revealed that preferences for free-play offers decreased with increases in the distance of the recipient's residence from the casino. In step with this result, one aim of the paired-samples design in the current study was to hold constant the recipient's distance to the casino, across the control and experimental periods. Other notable results from Legg and Hancer included a preference for free-play offers from segments comprising local, frequently visiting LP members. Specifically, these respondents demonstrated an elevated preference for free-play offers over competing hotel and food/beverage offers. The focal casino in the current study also caters to a frequently visiting clientele.

Cho, Lucas and Singh (2023) failed to find evidence of statistically significant increases in the casino's net win on FP trips. These results held across two separate LP tiers within four different casinos. Casino net win represented each day's gross actual win, less the dollar value of free-play redemptions. This between-subjects design also produced only 6 days out of 2,917 in which the mean minutes played by the free-play redeemers was statistically greater than those who did not redeem offers. Both results questioned the ability of free-play to significantly impact the behavior of members in the bottom two tiers of the casino LPs.

Lucas et al. (2023) employed a between-subjects design in a randomized controlled trial, to experimentally examine the extent to which changes in free-play offer values affected patron visitation and spend levels. Visitation results were mixed, but both 33%- and 67%-declines in offer values failed to produce significant declines in visitation in the post-demotion period. Only a complete removal of the free-play offers resulted in a statistically

significant decline in visitation. Increases in free-play awards were found to significantly increase visitation, but not daily, net, theoretical win. The net theoretical win results were also mixed. That is, in the post-demotion period, the group receiving a 33% reduction in offer values generated significantly less net theoretical win than the control group; however, the group receiving the 67% reduction in offer value failed to produce a significant difference in gaming value from the level of the control group. Neither of the two groups receiving increased offers posted significant increases over the control group level, in terms of average, daily, net theoretical win.

With the mixed results and possible differences in the socio-demographic and economic profiles of each group's membership, Lucas et al. (2023) recommended a similar experimental approach featuring a within-subjects design. The approach of the current study follows this recommendation. To this end, the same visitation and spend metrics were examined for the same caliber of player, with respect to daily theoretical win. Additionally, the same levels of free-play offer reductions were held in place (i.e., 0%, 33%, 67% and 100%).

Hypotheses

We are not aware of any study that has examined the within-subjects effects of declining FP offers, within the context of an ongoing campaign (i.e., over time). Yet this remains a salient and critical issue for many operators, especially in markets saturated with ever-expanding and costly FP programs. Based on our review of social inequity theory it would seem reasonable to expect declines in loyalty behavior resulting from FP offer reductions. To the contrary, theory related to force of habit generally countered this expectation. The findings from the extant FP literature also limit the concern for declines in loyalty behavior, with some supporting a possible gain in own-money wagering activity from less FP (Lucas et al., 2005; Rüdisser et al., 2017). The lack of agreement regarding applicable theory and related empirical outcomes made it difficult to support directional hypotheses related to response behaviors, hence the following null hypotheses were advanced:

H1: There will be no change in the net revenue from reductions in free-play.

H2: There will be no change in the visitation frequency from reductions in free-play.

The net revenue and visitation measures are defined in the ensuing Materials & Methods section. Both H1 and H2 were tested across multiple conditions, featuring a variety of offer reductions. These manipulations are also further described in the Materials & Methods section.

Materials & Methods

The data were collected and donated by a tribal casino located in the Western United States, competing within a market that primarily catered to a repeat clientele. It's important to note that there were multiple nearby competitors in the local market, all of whom issued free-play awards throughout the entirety of the study's sample periods. The donor property offered a wide array of onsite dining options, ranging from gourmet outlets to fast food concepts. The casino offered over 2,000 slot machines, and a full assortment of table games, including blackjack, craps, baccarat, and more. Bingo and off-track betting were also available. The hotel featured several hundred rooms, a spa, convention space, and multiple entertainment venues. Due to the nondisclosure agreement, only a limited description of the donor property is permitted here.

Sampling from a common FP offer tier, 100 loyalty program members were randomly assigned to each of four experimental conditions. Prior to their assignment, each of these 400 players had been receiving a weekly FP award of $15. This award was the product of the casino's FP formula, which was based on the value of the player's historical wagering activity.

The sample size for each group was determined by both power calculations and the availability of common-tier LP members. The 80% power calculations were defined by an

alpha of 0.05 (two-tailed), and anticipated effect sizes of 0.3, 0.5, and .07. These calculations resulted in required sample sizes of 90, 34, and 16, respectively.

Once the four groups were formed, the FP awards were manipulated. One group continued to receive the $15 weekly award, but the award values for other three groups were reduced to $10, $5, and $0. This demoted offer condition remained in place for 180 days. The pre-demotion period ranged from December 11, 2017 to June 8, 2018, while the post-demotion period began on December 11, 2018 and ended on June 8, 2019.

In H1, the unit of analysis was the total net t-win recorded by each player in both the pre- and post-demotion periods. Net t-win represented the casino's theoretical win, less the face value of the FP credits redeemed. Theoretical win is simply the product of (1) the dollar-value of wagers placed; and (2) the casino's statistical advantage on those wagers. The FP credits must be removed, as they represent phantom revenue. T-win is the casino's most stable measure of an individual player's value, in terms of a revenue contribution (Cardno, Thomas & Sawyer, 2015). Each subject's post-demotion net t-win was compared against the same outcome from the pre-demotion period. That is, each of the 100 subjects in each of the four experimental groups produced a net t-win outcome for both the pre- and post-demotion periods. Prior to random assignment to an experimental group, all 400 of the subjects fell within the range of $60–$74 in net t-win, per visit.

The unit of analysis in H2 was the total number of daily visits in each of the same two periods, that is, the previously defined pre- and post-demotion periods. With the same six months comprising each of these two periods, the design mitigated seasonality effects related to gambling revenues and visitation patterns. Again, no subjects received reduced FP awards in the pre-demotion period.

All data were collected from the casino's player tracking system. Hypotheses were tested by way of a two-tailed, paired-samples *t* test, at 0.05 alpha. The data were screened and analyzed in SPSS, version 25. The within-subjects design controlled for the effects of individual differences on both the net t-win and visitation outcomes, while the 180-day pre- and post-demotion periods allowed for subject-level observation of behaviors over time. The FP$15 group was included to assess the level of stability in the observed behavior associated with the offer condition across the pre- and post-demotion periods, and to better understand the potential influence of exogenous factors on gaming spend and visitation. In other words, a lack of statistically significant results for FP$15 (i.e., a no-change condition) would suggest a reasonably stable experimental framework across the pre- and post-demotion periods.

Of course, it is possible for other forms of promotion to influence visitation and wagering behaviors. In addressing this concern, management noted that there were no material changes in the casino's year-over-year promotional activities or its comp policy. Many of these other promotions do not target specific individuals (e.g., lottery/drawing-based promotions). For the subjects in the trial, the intent was to maintain a stable offer environment across the pre- and post-demotion periods, aside from the FP manipulations.

Results

The data were screened prior to tests of the null hypotheses. Given the use of the paired-samples *t* tests, the chief concerns were asymmetrical distributions of the difference series and the presence of influential outlier values. To these ends, a histogram of each difference series was inspected. While a few outliers were detected in most of the difference series, the validity of each of these observations was investigated. All outliers appeared to be valid observations, but due to their potential influence on the results of the hypothesis tests, the analyses were conducted both with and without outliers. As a result of this decision, Table 1 includes descriptive statistics for both conditions.

Table 2 contains the results for tests of H1. Each difference series was computed by subtracting the pre-demotion value from the post-demotion value. Therefore, negative values reflected declines in the post-demotion period.

Table 1
Descriptive Statistics: Within-Subjects Differences in Net T-Win & Visits Post-demotion Period vs. Pre-demotion Period

Net T-win	**Mean**	**Med.**	**S.D.**	**Min.**	**Max.**
FP$15 (Post – Pre)					
All Cases ($n = 100$)	−52.54	−8.67	1,490.61	−5,075.14	10,040.55
Outliers Omitted ($n = 98$)	−100.83	−8.67	1,019.90	−4,076.74	3,367.76
FP $10 (Post – Pre)					
All Cases ($n = 100$)	−44.85	−6.38	1,100.94	−5,589.84	3,659.12
Outliers Omitted ($n = 99$)	12.32	8.23	949.28	−3,234.26	3,659.12
FP $5 (Post – Pre)					
All Cases ($n = 100$)	216.27	48.35	1,105.58	−5,033.19	4,886.37
Outliers Omitted ($n = 96$)	146.54	47.00	684.15	−1,870.43	2,366.17
FP $0 (Post – Pre)					
All Cases ($n = 100$)	−237.08	−76.25	1,729.79	−12,158.69	8,149.07
Outliers Omitted ($n = 97$)	−154.71	−76.05	767.20	−2,081.24	2,407.52
Net T-win	**Mean**	**Med.**	**S.D.**	**Min.**	**Max.**
FP$15 (Post – Pre)					
All Cases ($n = 100$)	−0.47	−1.00	11.10	−29.00	30.00
Outliers Omitted ($n = 100$)	−0.47	−1.00	11.10	−29.00	30.00
FP $10 (Post – Pre)					
All Cases ($n = 100$)	−0.55	0.00	12.97	−33.00	49.00
Outliers Omitted ($n = 99$)	−1.06	0.00	12.00	−33.00	29.00
FP $5 (Post – Pre)					
All Cases ($n = 100$)	2.26	1.00	11.82	−27.00	54.00
Outliers Omitted ($n = 98$)	1.32	1.00	9.87	−27.00	38.00
FP $0 (Post – Pre)					
All Cases ($n = 100$)	−2.74	−2.00	13.55	−49.00	62.00
Outliers Omitted ($n = 100$)	−2.74	−2.00	13.55	−49.00	62.00

Note: All Net T-win values are in terms of U.S. dollars.

Table 2
Results of Paired-Samples t Tests on Net T-Win Post-demotion Period vs. Pre-demotion Period

	Mean Diff.	S.E. Diff.	t	p	df
FP$15 (Post – Pre)					
All Cases	−52.54	144.10	−0.365	0.716	99
Outliers Omitted	−100.84	99.53	−1.013	0.313	97
FP $10 (Post – Pre)					
All Cases	−44.85	111.21	−0.403	0.688	99
Outliers Omitted	12.32	96.38	0.128	0.899	98
FP $5 (Post – Pre)					
All Cases	216.27	111.11	1.946	0.054	99
Outliers Omitted	146.54*	70.19	2.088	0.040	95
FP $0 (Post – Pre)					
All Cases	−237.08	176.55	−1.343	0.182	99
Outliers Omitted	−154.71	79.56	−1.945	0.055	96

Note: Mean Differences and S.E. Mean Differences are in terms of U.S. dollars.
* $p < 0.05$ (two-tailed).

As shown in Table 2, there was only one rejection of H1. With outliers omitted, the $146.54-increase in the mean of FP$5 during the post-demotion period was statistically significant ($p = 0.040$; $df = 95$). The results for FP$5 (all cases) and FP$0 (outliers omitted) approached significant differences, with $p = 0.054$, $df = 99$ and $p = 0.055$, $df = 96$, respectively. A notable difference in these two results was that the post-demotion mean increased for FP$5, while FP$0 recorded a decreased mean. Table 3 contains the outcomes for tests of H2. The table structure mirrors that of Table 2, with negative values reflecting declines in visitation during the post-demotion period.

Table 3
Results of Paired-Samples t Tests on Number of Visits
Post-demotion Period vs. Pre-demotion Period

	Mean Diff.	S.E. Diff.	t	p	df
FP$15 (Post – Pre)					
All Cases	−0.47	1.07	−0.435	0.664	99
Outliers Omitted	−0.47	1.07	−0.435	0.664	99
FP $10 (Post – Pre)					
All Cases	−0.55	1.31	−0.421	0.675	99
Outliers Omitted	−1.06	1.22	−0.871	0.386	98
FP $5 (Post – Pre)					
All Cases	2.26	1.19	1.904	0.060	99
Outliers Omitted	1.32	1.00	1.316	0.191	97
FP $0 (Post – Pre)					
All Cases	−2.74*	1.38	−1.981	0.050	99
Outliers Omitted	−2.74*	1.38	−1.981	0.050	99

Note:* $p \leq 0.05$ (two-tailed).

The null hypothesis was rejected in the FP$0 condition, with a difference of −2.74 visits ($p = 0.050$, $df = 99$). Of note, the 2.26-increase in the mean number of visits in the all-cases condition of FP$5 approached statistical significance ($p = 0.060$, $df = 99$).

Discussion

On balance, there were few rejections of the null hypothesis for H1 or H2, failing to support the presence of a decreased mean net t-win or a decreased mean number of visits. With outliers removed, there was only one significant and negative result (i.e., FP$0, visits). This is noteworthy, as FP$5 and FP$10 represented 33%- and 67%-declines in FP, from the level of the pre-demotion period. This suggested that players were generally insensitive to FP reductions. Moreover, the FP$5 differences for both net t-win and number of visits were both positive in the post-demotion period, further supporting this argument. Only the FP$0 results began to present cause for concern. Our outcomes suggested that short of a complete removal of the FP awards, there may be room for considerable reductions without a significant loss of business. Additionally, it is important to mention that even the FP$0 outcomes did not support a mass exodus of play, as considerable amounts of net t-win and visits remained in the post-demotion period.

Theoretical Implications

The reduced FP offers clearly signaled a reduction in status and created an unfavorable change in the customer's input-reward ratio. Still, the loyalty behaviors remained largely unaffected in the post-demotion term, providing little support for social inequity theory. This minimal support was particularly interesting, given that the reduced FP offers

were clearly unjust. That is, all subjects were randomly assigned to experimental conditions from the same offer tier, indicating a very similar historical gaming value, and no legitimate basis for the unequal awards. Still, there was no clear evidence of negative behavioral effects consistent with perceptions of procedural or distributive injustice, as described within the body of social inequity theory. Only limited support for this theory was offered at the extreme (i.e., the FP$0 results).

Our findings generally varied from those produced by Wagner et al. (2009). This may have been due to differences in the LP structure and the means of the status demotion. Specifically, their retail LP consisted of only two tiers, with a static decline in mostly nonfinancial benefits. Additionally, their status demotion was more visible at the point of sale, possibly suppressing post-demotion purchasing to a greater extent. In contrast, it would be easier for subjects in our study to conceal status reductions from others, as no employee interaction was required. Further, our demotion mechanism did not require the issuance of new or different-appearing LP cards, only a potentially anonymous reduction in a purely financial benefit.

Outcomes from the current study also countered those from Söderlund and Colliander (2015), with respect to decreased levels of repatronage intentions resulting from under-rewarding customers. Differences in the results could be related to differences in the designs of the two studies. Namely, Söderlund and Colliander compared group-level reactions to different prices offered to LP members and non-members, measuring distributive justice by means of survey responses. To the contrary, our study examined the subsequent behavior of the same LP member after s/he received a downgraded reward, with no change in the subject's prior input behavior (i.e., patronage behavior). Further, we measured the subject's actual patronage behavior following the downgraded reward, as opposed to relying on survey responses. Specifically, we examined six months of subsequent patronage behaviors versus near-term survey responses gathered upon completion of an experiment. It is possible that initial reactions to an unjust action may dissipate over time, hence our general lack of support for significantly diminished visitation behavior.

Force of habit may have played a role in the inability of FP reductions to significantly decrease net t-win levels, and for the most part, visitation behavior. Consistent with Verplanken and Wood (2006), the observed behavior of the subjects reflected a diminished appetite to search for alternatives (i.e., different gaming destinations). Additionally, our results were in step with the familiarity effect described in Labroo et al. (2008). That is, the absence of statistically significant decreases in net t-win and the number of visits in the post-demotion period supported the notion of a preference for the status quo gaming option. Alternatively stated, repeated exposure to the FP offers and venue prior to the post-demotion period may have established the host casino as the familiar/preferred option.

The lack of statistically significant declines also suggested an unwillingness to engage in deliberative processing regarding the patronage decision, despite considerable reductions in the LP benefits. In this sense our outcomes aligned with extant research, regarding the notion of "auto-pilot" processing when evaluating alternative options (Azjen, 2002; Wood & Neal, 2009). The presence of cognitive switching costs associated with breaking a habitual/established behavior may have also thwarted a significant change in the observed patronage metrics. This would align with both Murray and Häbul (2007) and Klemperer (1995), in that the cognitive effort required to break away from a habit becomes a switching cost.

Researchers have identified habit as a driver of consumer loyalty (Henderson et al, 2011; Chen et al., 2021), leading to repetitive and specific behavior such as repatronage/visitation (Chen et al.). While we do not know the extent to which our subjects patronized competitors, the lack of significant declines in spend and visitation at the focal casino supported the idea that force of habit may have at least mitigated any negative effects on the observed loyalty behaviors.

Managerial Implications

Overall, the observed outcomes may provide the necessary impetus for operators to experiment with FP reductions. It is not likely that most would consider a total removal of FP awards, as the perceived business risk would be too great. Still, our findings indicated that existing levels of FP investment may not always be necessary, possibly availing funds for other capital-intensive uses. Notwithstanding FP$0 visitation, significant and negative differences did not occur, which should at least diminish the well-established views associated with the risks of offer reductions (see Legato, 2019). In no condition did a mass exodus of play occur. Plus, it is possible that alternative uses of free-play capital could potentially repair the damage and/or improve visitation.

While there are multiple reasons for offering FP, the primary aims of campaigns remain increasing spend per trip and/or increasing the number of trips made (Lucas & Nemati, 2020). To these ends, the results of H1 and H2 did not offer strong support for the accomplishment of these objectives. Aside from the FP$0 results for H2, the subjects seemed generally indifferent to the amount of FP they received. Given the challenges of extrinsic motivators in producing enduring loyalty (Kohn, 1993), perhaps some funds from FP programs could be diverted to nonmonetary LP benefits. For example, this could include development of well-appointed LP lounges with access limited to those players who reach the top tiers. The limited and highly visible access to these lounges may trigger intrinsic motivation related to phenomena such as social comparisons and the need for status. Additionally, investment in the servicescape is another potential use of these funds, as factors such as design, décor, and the physical layout of the casino have all been linked to satisfaction with slot experience (Lucas, 2003). Along similar lines, increased investment in non-gaming amenities is another option, as these facilities have been identified as important choice factors for casino patronage (Lane Terralever, 2024).

Other potential nonmonetary benefits that could be funded by reduced FP budgets include access to preferred/restricted parking areas and designated queues at restaurants and entertainment venues. These kinds of benefits could be awarded to select tiers within the LP. Thinking of creative ways to show appreciation within the space of nonmonetary benefits may prove more effective in achieving attitudinal loyalty. The FP campaigns are a costly and perpetual investment in an extrinsic motivator; therefore, clear signs of efficacy should be required.

As previously noted, various justifications for FP have been advanced over the years. These include decreasing the casino's effective edge on wagers (Burns, 2010), expanding the duration of gambling sessions (Gruetze, 2012), enhancing loyalty behavior (Armon, 2015), and increasing slot win (Armon, 2015; Belko, 2016; Gruetze, 2012). In terms of defensive purposes, protecting market share has also been cited (Murphy, 2016). Most of these items can be directly linked to the aforementioned primary aims of increased spend per visit and increased visitation frequency. Short of cancelling FP, the results of the current study suggested that increasing slot win, positive loyalty behavior, and market share effects may not be as closely associated with FP offers as once thought. This conclusion is bolstered by the behavioral insensitivity to substantial offer reductions; yet, there is no doubt that more FP would certainly increase the gambler's play time, and it seems evident that perceptions of trip gaming value would also be improved. It is possible that the negative impacts of the offer reductions were overpowered by inertia-based phenomena such as force of habit. We are not implying that FP is categorically ineffective, but the established justifications of FP may warrant a closer look.

If FP redemptions are not fully deductible from gaming tax liability, as is the case in many U.S. jurisdictions (American Gaming Association, 2022), the findings of this study may take on an exaggerated importance. Specifically, FP redemptions that exceed the deductibility limits would result in increased gaming taxes, with no actual revenue to offset the tax liability. Consider results similar to the ones produced in the bulk of this study, where the own-money losses from players are statistically equal at different levels of FP awards. In the case of increased FP offers, the casino's net win would be further decreased

by way of increased gaming tax liability. Of course, this assumes some measure of limited FP deductibility resulting in the taxation of phantom revenue.

Our results may be of increased importance, given that they stem from an experimental manipulation of offers aimed at mid-level LP members. Liu (2007) supports this view noting that it is the low- and mid-level LP members that need to increase their spending and visitation, in order for the overall LP to generate a positive incremental effect. This is because these members have the greatest capacity for increases in loyalty behavior, as the top-tier members were likely high-value customers before the LP was established. Within the LP, the top-tier members would likely continue to generate the bulk of revenue, which would be consistent with Pareto's Rule. Therefore, reducing the offers to the top-tier members is not recommended as a place to begin experimentation. Any early-stage manipulations would likely occur in the lower-level tiers, as the business intelligence gained from those experiments carries less risk of loss.

Casino marketers from the focal casino advanced an interesting take on the results related to FP$5. They felt it was possible that the subjects increased their gaming activity following the offer demotion, in an effort to regain their pre-demotion offer status (i.e., FP$15). While generally plausible, this interpretation was not consistent with the results from FP$10. Further, their view was that FP$0 would not be subject to this status-recovery phenomenon, as it represented elimination of the offer rather than a mere reduction.

Limitations & Future Research

This was a difficult experiment to conduct, in that access and a green light to potentially damage customer relationships is not easy to obtain. Therefore, our access was limited to a single offer tier comprised of roughly 400 LP members. This condition limited the generalizability of our results. Any replication of this work on similar mid- to low-level offer tiers would be of great value. As previously noted, the top-tiers represent the least likely and most risky start positions for inquiries on the efficacy of FP. Hopefully, the results of the current study will provide the impetus for further experimentation, in spite of the associated customer relationship risks.

Our results were produced by LP members from a casino competing in a market chiefly comprised of local repeat visitors. Replication of a similar experiment on LP members from a tourist-based clientele may produce importantly different results. For example, given the breadth of amenities at Las Vegas Strip resorts, the role of FP offers in patronage decisions may importantly differ.

The within-subjects design was most helpful in controlling for differences at the level of the individual, but the pre- and post-demotion periods were separated by six months. This design was intended to mitigate the possibility of period-based seasonality effects, while limiting the experimental interruption to the normal FP offer protocol. Fortunately, the entire 18-month span of the experiment was conducted during an economically stable period. However, differences in personal financial conditions could have occurred between the pre- and post-demotion periods. Additionally, some degree of year-over-year seasonality could have been present. These concerns were somewhat muted by the stability of the FP$15 results. Still, because most FP campaigns are perpetual, it is recommended that future studies be conducted over time.

A paucity of research exists with regard to the impact of FP on visitation. Most of the work has focused on spend per visit. Ultimately, the chief concern will be the total net spend over time, which comprises both spend per trip and visitation frequency, but many claims within the industry persist regarding the latter. Additional research on visitation impacts would be helpful in clarifying any such effects.

From the perspective of operant conditioning and the extinction rate of the tracked behaviors, future studies designed to measure the timing of any changes in behavior during a post-demotion period may be of interest to operators. For example, it is possible that initial responses to downgraded offers may be met with significantly decreased loyalty

behavior that eventually repairs over time. Such work would be especially meaningful to those harboring trepidations related to potential negative customer reactions to FP offer reductions. It may also help explain differences in findings such as those between this study and Söderlund and Colliander (2015).

Further, any replication of this work or similar designs could employ stratified random sampling to improve the homogeneity of the subjects included in the study. For example, stratification could enhance the similarity of factors such as the distance of the subject's residence from the casino, such that no offer condition is afforded an advantage in this regard. The current study randomly assigned subjects to the experimental groups from a common FP offer tier, but it's possible that some differences in personal characteristics could still be present.

As noted in the Materials & Methods section, the management of the focal casino reported that no material changes in the non-FP promotional activities were present across the pre- and post-demotion periods. Still, any such difference could potentially affect the loyalty metrics examined in this study. In practice, any programmatic or broad-based revisions to an FP offer protocol would likely be subject to this limitation. Holding all other promotional activity absolutely constant over a lengthy duration would be a most difficult task for a going concern.

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