Increasing Employee-Guest Interactions using a Guest-Delivered Token Economy at a Zoological Facility

by

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A thesis submitted to the School of Behavior Analysis at
Florida Institute of Technology
in partial fulfillment of the requirements
for the degree of

Master of Science
in
Applied Behavior Analysis and Organizational Behavior Management

Melbourne, Florida
April, 2018

We the undersigned committee hereby approve the attached thesis, "Increasing Employee-Guest Interactions using a Guest-Delivered Token Economy at a Zoological Facility," by Cassie Maureen Vergason.

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Abstract

Title: Increasing Employee-Guest Interactions using a Guest-Delivered Token Economy at a Zoological Facility

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Token economies have been used for many years to improve a multitude of behaviors in a variety of settings. However, research on token economies as an intervention to improve customer service-related behaviors of employees in organizations is limited. The current study assessed this issue by evaluating a guest-delivered token economy to improve employee-guest interactions at a zoological facility. Results showed increases of 35.3% and 45.0% in correct employee-guest interactions in each intervention phase compared to baseline, thus suggesting that a guest-delivered token economy is an effective way to improve customer service (guest interactions)-related behaviors. Limitations of the current study and areas of future research are discussed.

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Guest Interactions

Zoological Facilities

Token Economy

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Acknowledgement

I would like to extend my deepest appreciation to the following individuals for their endless support during the creation of this thesis.

My advisor/mentor, Dr. Nicole Gravina. Thank you so much for your constant support and guidance. I truly appreciate your knowledge and commitment during this process. You were so encouraging as I proposed to conduct a thesis, which allowed me to combine my passion for both animals and behavior analysis. I am forever grateful for the endless hours you spent working on this thesis and for fostering my interest in Organizational Behavior Management.

My committee member/mentor, Dr. Darby Proctor. Thank you for the countless ways in which you have helped and supported me in my professional development. From my time as an undergraduate to a graduate student, your advice and mentorship has made me a better zoological professional and researcher. You have encouraged me to pursue a career with animals that I only once imagined as a dream. You have provided opportunities to engage and learn from the animals who are my greatest passion and for that I am eternally grateful. Thank you for everything you have done for me and the opportunity to pursue my dreams.

My committee member, Dr. Nicholas Weatherly. Thank you so much for your time on this project. Your contributions and feedback during this thesis process have been invaluable.

The participating zoological facility. Thank you to the zoological facility that allowed me the opportunity to conduct this project, especially the Director of Human Resources. From the development of a class project idea to an entire thesis, I was welcomed, encouraged, and supported throughout the duration of my endeavors. This project would have not been possible without all of your help. This has been an incredible learning opportunity and this experience will forever shape my career.

Dedication

I would like to dedicate this thesis to my family. I will never be able to thank you enough for everything you have done for me.

My parents, Reid and Suzy,

My sister, Missy,

My grandparents, Jim and Patricia, Warren and Carol,

The animals who I have cared for, learned from, and received inspiration

Introduction

Extinction of wildlife is a growing concern in today's human-modified world. For many species, extinction is imminent due to habitat loss, poaching, loss of prey, the illegal pet trade, and a multitude of other factors (AZA, 2017). Therefore, the protection of threatened and endangered species is critical. Fortunately, the preservation of wild animals is the primary goal of the 230 Association of Zoos and Aquariums accredited zoological facilities located around the world. The key way these facilities achieve the goal of wildlife conservation is through the education of the 183 million visitors who attend these institutions each year (AZA, 2017). By providing guests with opportunities to connect with exotic animals, zoological professionals are able to inform patrons about the plight of wild animals and ways they can be protected. Moreover, these interactions potentially further science, conservation, and research efforts.

For example, Hacker and Miller (2016) used a one-page survey to assess guests' perceptions of elephant conservation after observing the animals in their exhibit at a zoological park. Fascinatingly, the results showed that the greatest changes in the guests' intentions to act in conservation-related behaviors was self-reported to be the result of having the opportunity to observe the elephants. These results are supported by the findings of Clayton, Fraser, and Saunders (2008) who found that up-close encounters with animals encouraged positive guest interactions and in turn promoted a higher likelihood of learning. Furthermore, a study

conducted by Marcellini and Jenssen (1988) found that the average length of stay at a reptile house located at a zoological facility was 14.7 minutes, of which, eight minutes were spent looking at displays. These results suggest that guests will engage with education opportunities when they are available and these opportunities have the potential to facilitate learning.

Spotte and Clark (2004) assessed if aquarium visitors could demonstrate short-term retention of facts depicted on graphic boards displayed near animal exhibits. Ten-question interviews were conducted with visitors to assess learning and retention of knowledge as a result of visiting the aquarium. The results of this study indicated that the number of correct answers were significantly higher in the experimental group at the *exit* of the aquarium compared to the control group at the *entrance* of the aquarium. Moreover, this evidence of short-term fact retention further suggests that interacting with educational opportunities at a zoo can promote learning of conservation efforts.

Ultimately, the authors of the aforementioned study were able to demonstrate short-term learning of zoological information by patrons after visiting an aquarium. However, the information probed by the experimenters was provided to the guests via graphical display and not by the verbal behavior of an employee. It is possible that interacting with zoo employees may be an even more educationally salient event, compared to a guest interacting with a graphical display.

Although zoological facilities greatly support educational learning and wildlife conservation, research systematically analyzing the exact impact of these initiatives on guests is limited. Methodological difficulties provide shortcomings for this area of research, specifically related to how best to assess changes in learning that solely result from visiting the zoo (Marino, Lilienfeld, Malamud, Nobis, & Broglio, 2010). However, it is critical that this area of study continues as there is much to discover regarding exactly how visitors learn and how zoological facilities can promote the greatest likelihood of learning and subsequent conservation efforts. For example, research conducted in this area has mostly examined the impact of graphical displays rather than interactions with employees. Therefore, the first step may be to increase engagement with employees and then later evaluate the content of the conversations and educational impact of those interactions as well as guest satisfaction.

Guest Satisfaction

As previously noted, interactions with guests in zoological facilities serve as opportunities to discuss the institutions' conservation efforts (AZA, 2017). Indeed, these interactions between guests and employees may also increase the guests as well as the employees' satisfaction (Tomas, Scott, & Crompton, 2002). Furthermore, research shows that when interactions with employees in service-based organizations are positive, guests are more likely to revisit the organization (Brown & Sulzer-Azaroff, 1994). This suggests that perhaps employees actively

greeting guests may be a type of guest interaction that is a viable and relatively simple way in which organizations can proactively maintain patrons. Guests, who frequently return, help the organization reduce costs, as reports claim that it is five times cheaper to maintain a current customer than to expand the costs of obtaining a new one (Spechler, 1989). Additionally, for zoological facilities, repeated visits by guests provide the added benefit of increased opportunities to educate the community about wildlife conservation (Gremler & Gwinner, 2008). Ultimately, it is critical that the amount of guest greetings in organizations is high in order to promote guest retention via high levels of guest satisfaction.

Guest satisfaction can be defined as guests perceiving the goods and services of an organization as both valuable and beneficial, thus fulfilling their original expectations (Worsfold, Fisher, McPhail, Francis, & Thomas, 2016). Ultimately, to achieve guest satisfaction, an organization must provide quality guest service (Therrien, Wilder, Rodriguez, & Wine, 2005). One way to improve guest satisfaction is via guest interactions, specifically in the form of a guest greeting. When systematically studied, guest greetings have been found to have a positive correlation with guest satisfaction.

Brown and Sulzer-Azaroff (1994) implemented a feedback system to increase friendliness in service behaviors (smiling, greeting, and making eye contact with patrons) and assessed if the increased friendliness had any impact on the satisfaction of patrons. To assess customer satisfaction, a survey box was

available in which guests could place colored poker chips into five slots each labeled with varying levels of satisfaction. The results of the feedback system showed an increase in all three of the targeted guest service behaviors as well as a positive correlation with guest satisfaction. Ultimately, these findings highlight the value in employees engaging in friendly service behaviors such as a guest greeting. Employees should greet guests as it is a viable manner to increase guest satisfaction in organizations, and in turn benefit the organizations (Spechler, 1989).

Fortunately, greetings of guests can be increased with the implementation of performance feedback and in turn, build rapport with guests via increased satisfaction. For example, a study conducted by Therrien, Wilder, Rodriguez, and Wine (2005) evaluated an intervention to increase guest greetings by employees at a sandwich shop. The authors assessed the circumstances in which employees would greet guests using a pre-intervention analysis. The results of the analysis showed that a guest greeting was most likely to occur when there was a chime on the door of the restaurant and when the employees were in the presence of the restaurant manager.

These results demonstrate that although the antecedent intervention of the door chime was effective at improving guest greetings, a consequence-based intervention was needed to achieve the greatest level of guest greetings. However, the manager of the restaurant reported that while he spent as much time as he could in the presence of the employees, it was costly for him to do so. Therefore, it is

desirable that the form of feedback provided to employees upon guest interaction is convenient and time efficient to promote maintenance (Therrien, Wilder, Rodriguez, & Wine, 2005).

Token Economies

One system that can be used to change the behavior of a group of employees is a token economy. A token economy uses tangible, generalized conditioned reinforcers, that can be exchanged for a variety of primary reinforcers (Kazdin & Bootzin, 1972). An example of a token economy would be a physical object, such as a poker chip, that is delivered contingent on the occurrence of a desired behavior. The token would then be later exchanged, in a manner similar to currency, for reinforcers such as a preferred item or activity. The successes of token economies for increasing appropriate behaviors and decreasing problem behaviors have been well documented (for a review see: Kazdin, 1982). Additionally, token economies have been implemented in a multitude of settings and populations, including with delinquents, individuals with intellectual disabilities, and school children (Kazdin & Bootzin, 1972).

According to Allyon and Azrin (1968), there are multiple benefits to using tangible conditioned reinforcers. For example, the number of tokens can be relative to the amount of reinforcement earned, the tokens can be transported regardless of where the behavior occurred, the amount of tokens received has no limit, the tokens are durable, and the delivery of the token can be unique to ensure they are only

delivered in the correct context and for the correct target behavior. Additionally, the interaction, when the token is delivered to the subject, could perhaps provide social reinforcement to the recipient from the deliverer as the token could act as socially mediated, positive reinforcement. Furthermore, the deliverer of the token may also receive automatic (self) reinforcement as a result of simply delivering the token to the recipient (Kazdin & Bootzin, 1972).

According to Reitman, Murphy, Hupp, and O'Callaghan (2004), token economies implemented in school settings have been shown to improve both the social behavior of students as well as their academic performance. For example, Robinson, Newby, and Ganzell (1981) used a token system to promote students working together on tasks in elementary-aged, hyperactively identified boys to promote improvements in academically-related behaviors. Prior to the intervention, the 18, third-grade aged boys who acted as participants engaged in little to no instances of simultaneous play with a peer. Additionally, the reading levels of the students ranged from first-grade to the third-grade level, thus there were some individuals whose reading abilities were low for their grade. There were four differently colored tokens that could be exchanged for time playing video games contingent on different behaviors. Green tokens were contingent on passing a quiz demonstrating that the student had learned all seven words in the unit, yellow tokens were contingent on a student teaching another student those seven words, red tokens were earned if the words could be used in a sentence, and white tokens

were earned if that student could then teach another student to use the words in a sentence. Results of the intervention showed that the children not only cooperatively worked together as a result of the token system, but also showed higher amounts of completed tasks both in the amount of assignments completed and the amount of vocabulary tests passed by the whole class. Therefore, these results indicate that token economies are able to promote positive behavior changes in classroom settings.

However, many teachers are hesitant to implement the token economy as they can be complicated, difficult, and time-consuming for only one person to implement (Reitman, Murphy, Hupp, & O'Callaghan, 2004). These factors often impact the acceptability of the intervention by the consumer and deliverer of the intervention. Therefore, the design of token economies should be easy to implement in order to increase acceptability and maintenance.

A limited number of studies have used token economies in organizational settings to improve employee performance. According to Jessup and Stahelski (1999), using tokens as reinforcers may increase job performance as rewards can be given immediately in contrast to the delayed reinforcers that are typically delivered in organizations, like an end of the year bonus.

For example, a token economy was implemented at two-open pit mines to improve safety performance (Fox, Hopkins, & Anger, 1987). In the study, tokens were in the form of trading stamps, which could be exchanged for thousands of

items at stores or in a magazine. Employees earned stamps for avoiding on the job injuries and equipment damage or increasing safety in the workplace. The results of the study demonstrated that the token economy was effective at reducing days lost from work due to injuries, the number of lost time injuries, and the costs of incidents and injuries. Additionally, the costs for implementing the token economy were far less in comparison to the costs associated with poor safety performance. Maintenance of the token economy and the targeted behaviors occurred for 11 and 12 years in the two mines.

Another example of a token economy intervention leading to successful increases in employee performance in the work place occurred in an industrial factory. Zohar and Fussed (1981) implemented a token economy to increase the use of employees wearing ear protection, another safety-related behavior aimed at preventing hearing loss. During the intervention, management would tour the facility daily at varying times and would deliver tokens contingent on if the employee was observed wearing ear protection. The results of the study demonstrated that the token economy was effective at increasing ear plug wearing behaviors for the employees during their scheduled time at work. This suggests that token economies may be effective in the workplace, although, the research is primarily limited to safety.

Furthermore, in the token economy research conducted in organizational settings, although the tokens were effective for improving the target behaviors, the

tokens were delivered by management (Fox, Hopkins, & Anger, 1987; Zohar & Fussed 1981). However, the use of management-delivered token economies in organizations can be challenging for leaders to implement due to timeliness and ease of implementation (Reitman, Murphy, Hupp, & O'Callaghan, 2004). Therefore, a manner in which tokens can be delivered to employees that eliminates the need for management to be the deliverer of reinforcement is an area of research that should be explored.

One alternative approach to manager-delivered tokens is guest-delivered tokens. By providing guests with a token, guests can deliver immediate feedback to employees, which can perhaps act as positive, social reinforcement, as well as delayed positive, tangible reinforcement when the employees' tokens are exchanged. Feedback from guests provides information to both the organization and the employees about their performance. Additionally, the token exchange could also potentially provide positive, social reinforcement for the guest as a result of presenting the token to the employee, thus building rapport. Ultimately, the implementation of the token economy may not only improve the amount of guest interaction, but also the amount of sharing of information about the zoo and conservation. The token can be used to not only reinforce employees engaging in guest interactions, but can also be used to prompt guests to approach employees, which may even stimulate a longer interaction.

Moreover, for zoological facilities, customer service is often facilitated by guest interaction and in turn, this guest interaction is able to facilitate the ultimate goal of zoological facilities, wildlife conservation via education (Tomas, Scott, & Crompton, 2002). Ultimately, by implementing the token economy, guest interaction could become more valuable to staff, strengthen rapport for guests, and increase the amount of guest interaction, thus increasing the success of conservation and education efforts.

Employee-Guest Interactions

However, it is a challenging task to ensure the quality of employee-guest interactions (Tomas, Scott, & Crompton, 2002). One manner in which employee-guest interactions can be defined for employees to promote clarity and facilitate quality is the 10-5 staff rule. The 10-5 staff rule states that an employee must engage in eye contact with a guest from ten feet away and then verbally greet the guest from five feet away. This rule has been implemented in many applied settings, one such organization being Walmart (Walton & Huey, 1992). However, while this rule has been implemented in applied settings, empirical assessment of the rule's implementation by employees has not yet been evaluated.

Pilot Study

Prior to the current study, management at the same site wanted to assess the quantity of 10-5 employee-guest interactions occurring at the zoological facility. Management, who suspected interactions were low, wanted to obtain a baseline level of performance by employees as well as implement solutions if performance was in fact low. Vergason, McMahon, Gravina, and Sleiman (2017) conducted a pilot study to evaluate current levels of correct 10-5 interactions and the impact of an antecedent-based intervention. First, the researchers conducted a functional assessment informally using an adaption of the Performance Diagnostic Checklist (PDC) (Austin, 2000) to assess whether deficits in antecedents and information, equipment and processes, knowledge and skills, or consequences contributed to the low level of employee-guest interactions.

The assessment also provided information into the initiatives that the zoo already had in place to increase guest interaction. Employees attended a mandatory class where they learned about guest interaction and its importance. During this class, the trainer instructed employees on how to engage in a correct 10-5 guest interaction. Monthly staff meetings were also required in which the employees were reminded of the zoo's work and mission. Lastly, front entrance employees provided stickers to first-time visitors to wear to act as a prompt for the employees to engage with these guests. Management hoped that this would result in increased engagement from the employees with these guests, thus leading to a great first

experience for the visitors at the zoo. Ultimately, the assessment indicated that the area of consequences, had the most potential deficits, as there were no consequences for the employee engaging in correct 10-5 guest interactions outside of the interaction itself.

Next, in the pilot study, baseline data were collected, and the results showed that during baseline employee-guest interactions were low, averaging 3% (range, 0% to 10%). Baseline was then followed by the antecedent intervention which consisted of task clarification and graphic display of feedback of baseline performance. Although many antecedent-based tools were already in place as well as the results of the assessment highlighting the need for consequences to be improved, the authors of the pilot decided to implement two antecedent-based interventions because the current antecedent-based tools already in effect were not leading to increased levels of performance. Moreover, a consequence-based intervention was not implemented as they are often reported to be time-consuming and costly. At that time, the guest-delivered token economy idea had not been formulated, so to promote timeliness and cost efficiency a combination of two antecedent-interventions were used to see if this addition would increase performance. After baseline, the Director of Human Resources then sent graphical display of the group's baseline data to all employees so that they could see the current baseline performance. Although graphic display of feedback typically functions as a consequence-based intervention, in this study we believed it

functioned as an antecedent-based intervention because the employees only received this feedback once and there was nothing contingent on increasing their performance, as the zoo was simply trying to collect a baseline average. Following the antecedent intervention, interactions increased to 28% (range, 18% to 42%). Although this was an improvement, the behavior change was not sustained. Approximately one-month later baseline was again collected, and performance levels were low, averaging again at 3%, most likely because consequences were not included in the intervention.

Based on the results from the pilot study, the present study sought to evaluate a consequence-based intervention using a guest-delivered token economy. The purpose of the present study was to increase the level of 10-5 employee-guest interactions at an Association of Zoos and Aquarium accredited zoo in the southeastern United States using a guest-delivered token economy. Ultimately, the goal of this project was to not only increase the level of guest interaction at the zoo, but to enable increased conversations about wildlife conservation through those interactions. Based on the previous studies and understanding of the effectiveness of token economies, we hypothesize that the guest-delivered token economy will increase correct 10-5 employee guest interactions at the zoological facility.

Method

Participants and Setting

The study was conducted at an Association of Zoos and Aquariums accredited zoological facility in the southeastern United States. Participants included the employees at the zoo, approximately 250, all of whom had opportunities to be represented in the study. However, due to job assignment, there may be some potential chances for certain individuals to be represented in the study more than their peers. Due to seasonal and temporary employees, the number of employees at the zoo varies depending on the time of year. The ages, sexes, and duration of employment varied for all of the employees. Additionally, every department at the zoo had the potential to be represented in the study. Tokens were delivered by both guests and confederates posing as guests. It was determined by the authors that guests selected to deliver tokens should be over the age of 18. To be conservative, guests were only selected to participate if they appeared well over the age of 40. Confederate guests were included in the study to ensure employees were contacting reinforcement and represented approximately half of the days of token delivery. The confederates were relatives of the primary investigator who volunteered to pass out tokens directly to employees while posing as actual guests. The average age of the confederate was 44.3 (range, 20 to 60). Confederate guests were trained on the operational definition of the dependent variable and were instructed using the same script on how to present the tokens to employees.

Additionally, the primary investigator would observe the confederates during training as they identified instances of correct and incorrect 10-5 guest interactions to ensure their competency. The tokens were small tangible reinforcers in the form of business cards (see Appendix A) delivered by guests to employees, contingent on correct 10-5 interactions.

Dependent Variable

10-5 guest interaction. The primary dependent variable of this study was a 10-5 guest interaction which was defined as the employee engaging in eye contact with a guest from ten feet away and then engaging in vocal, verbal behavior from five feet away. Any instance of vocal, verbal behavior with a guest, regardless of content, when following the 10-5 rule was scored by the researcher as a successful 10-5 interaction. Management of the zoo expressed that it was a high priority that the employees engaged in both eye contact and vocal, verbal behavior when interacting with guests. Therefore, partial successes in which the employees would either engage in eye contact with no vocal, verbal behavior or conversely vocal, verbal behavior with no eye contact were scored as incorrect interactions. Additionally, groups of guests were counted as one interaction. The dependent variable was computed to a percentage after dividing the number of correct interactions by the total number of potential interactions. Data on individual employee performance was not collected, only group data on the percentage of correct employee-guest interactions due to the large sample size of participants.

Data collection procedure. Data collection took place in varying locations in an effort to sample multiple employees and interactions occurring throughout the zoo. At the zoo, the primary locations where observations were conducted was at the front entrance and the café; these locations were on opposite ends of the zoo. Additionally, throughout the study there were two types of observations conducted, seated observations and walking observations to ensure that any increase in employee performance was from the impact of the token economy and not just a byproduct of observing in high traffic locations. During seated sessions, observers remained seated in the same location (i.e., front entrance or café) throughout the entire 30-minute-long observation. Walking observations of other areas of the zoo during baseline and intervention acted as probes. During these sessions, observers would walk around the zoo and collect data. Observers both seated or walking watched employee-guest interactions and collected data on a data sheet (see Appendix B) as inconspicuously as possible, thus reducing the likelihood of reactivity among employees. Sessions were conducted at various times of the day and days of the week to provide further information about the types of interactions occurring across time. Additionally, in order to be included, each observation session had to have a minimum of ten guest interactions during the 30-minute session. This way each data point would represent a minimum sample of behavior of multiple employees.

Sessions were conducted approximately three to six days per week across four months. Some days more than one observation session was conducted. Some sessions were canceled due to inclement weather and the zoo was closed one day during the study for a holiday.

Interobserver Agreement

Interobserver agreement (IOA) was gathered by a second observer who collected data independently of the primary observer during at least 30% of sessions in each phase. Individuals who acted as the second observer were trained by the primary investigator. The primary investigator would train the observers on the operational definition of the dependent variable and then would observe those individuals identify instances of correct and incorrect 10-5 guest interactions during training to ensure competency. Agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplied by 100%. Additionally, if there was disagreement between the primary investigator and the second observer, the primary investigator's observations were included in the data.

Experimental Design

An ABAB experimental design was employed to evaluate the impact of a guest-delivered token economy on employee-guest interactions. The A phase represented the observation-only phase and the B phase represented the intervention. Due to the varying days in each month and staff meeting dates,

baseline phases lasted for approximately one week and token economy phases lasted for three weeks. At the end of the token economy, employees had up to three days to exchange their earned tokens for prizes. After these three days elapsed, tokens earned in the initial token economy were no longer available for exchange and baseline data collection began. The amount of time to exchange tokens for prizes was limited to ensure that when the second baseline phase of the study began, staff would no longer be able to contact reinforcement for their performance in the previous phase.

Procedure

Baseline. During baseline, no intervention was in place and employees worked as they normally would. Baseline consisted solely of observation. Although the observers were visible to the employees, throughout the duration of the study, employees were not aware they were being observed on the target behavior.

Token economy. The intervention was introduced to the employees at staff meetings held on the first Wednesday of each month by the Director of Human Resources. At this meeting, the Director of Human Resources described how to correctly engage in a 10-5 employee guest interaction, the importance of engaging in both eye contact and vocal, verbal behavior, and the importance of guest interaction in general. The token economy was then introduced to the employees as an organizational initiative to improve employee-guest interactions. During this meeting, the staff were also provided the token economy exchange system, which

described potential prizes (see Appendix C). The tokens were exchanged for items that were relatively low-cost and cost-effective for the zoo. Additionally, to account for the fact that some staff may not be able to attend the first staff meeting explaining the token economy, an email was sent by the Director of Human Resources describing the token economy and the token exchange system. The email also included the information that was briefed to the employees regarding 10-5 employee-guest interactions during the staff meeting.

During the intervention, the primary investigator provided 13 tokens each day of the 21-day intervention to either guests over the age of 18 or confederates, resulting in 273 total tokens available to be delivered in each intervention phase. Each selected guest received one token to use. Additionally, multiple individuals in a group of guests could be presented with tokens, but each individual only had one token to deliver. After the guests were selected to participate, before providing the token, the guests were briefly informed about the zoo's 10-5 initiative and the significance of the token by using the script (see Appendix D). The tokens were then later presented to the employees by the guests at varying locations and times. However, after guests were selected and instructed on how to participate, they were never followed in order to observe that they in fact delivered the tokens. Guests were selected to deliver tokens approximately 50% of the time and confederates delivered tokens approximately 50% of the time. Confederates were provided all 13 tokens for the day and walked through the zoo as if they were guests handing out

the tokens. On some days, tokens were being passed to employees by confederates at the same time the primary investigator was conducing observations. However, on the days when the primary investigator was passing out tokens to guests, data collection was not being conducted at the same time, thus it occurred before or after guests were recruited.

Some employees were at a potential advantage due to stationary job assignments, such as the café window or an interactive animal exhibit. To mitigate this advantage, tokens were specifically only to be delivered when guests were passing these individuals after the employee had first initiated the interaction. For instances in which the guest-initiated the interaction first in order to acquire a service from the individual, such as at the food window, tokens were not to be delivered.

At the administration office of the zoo, there was a token drop-off station where at the end of each day, staff were instructed to turn in their tokens that they received for that day in order to receive credit. At the end of each token economy, the Director of Human Resources would notify the employees via email that they had up to three days to claim their prizes. The Director of Human Resources had a record of how many tokens each employee individually earned during the duration of the token economy. The employee would then stop by the director's office sometime during those three days, where they would then be presented with the prize that they had earned based on their total token amount.

Return to baseline. During the return to baseline stage of the experiment, employees were notified both during the monthly staff meeting as well as through an email reminder that the token economy was no longer available. Employee-guest interactions were discreetly observed, but no intervention was in place during this time. This phase lasted for approximately one week.

Return of the token economy. During the last phase of the experiment, the token economy was implemented again. The procedure during this phase was identical to the original token economy phase and also lasted for three weeks. Employees were both notified during the monthly staff meeting and through an email reminder that the token economy was in place again.

Integrity of the Independent Variable

To ensure proper implementation of the intervention, the author used a script (Appendix D) to ensure that guests were properly informed regarding how to deliver the tokens to employees. However, formal treatment integrity data were not collected on actual delivery of the tokens by the guests in order to reduce guest discomfort and avoid employees figuring out that data were being collected on their interactions. Additionally, confederate guests were trained on the operational definition of the dependent variable and were instructed using the same script on how to present the tokens to employees. Although, token exchanges during confederate guest-employee interactions were observed, when possible, to assess that confederate guests were delivering the tokens to staff accurately, these

interactions were not formally measured. However, confederates reported handing out all of the tokens as instructed each time. Further, senior staff kept a record of the token drop-off container results, which indicated that employees were receiving tokens and turning them in.

Results

Interobserver Agreement

Overall, IOA was collected for 33.3% of sessions. During the initial baseline phase of the study, mean agreement was 90%. During the initial token economy phase, mean agreement was 95%. During the return to baseline phase, mean agreement was 90%. Lastly, during the return to token economy phase, mean agreement was 97%.

Employee-Guest Interactions

Figure 1 depicts the percentage of correct 10-5 employee-guest interactions during baseline, initial token economy, return to baseline, and return to token economy phases. In the figure, the closed data points represent observations in which the observer collected data at either the entrance or cafe at the zoo and remained seated throughout the duration of the session. The open circles in the graph represent walking observations in which the observer walked through the zoo collecting data on the interactions occurring throughout the facility.

During initial baseline, the mean percentage of correct greetings was 2.1% (range, 0% to 7.1%; *SD* = 3.3). During the initial token economy condition, the

mean percentage of correct greetings increased to 37.4% (range, 0% to 60%; *SD* = 19.0). During the return to baseline condition, the mean percentage of correct greetings decreased to 9.5% (range, 0% to 18%; *SD* = 5.7). Finally, during the return to token economy condition, the mean percentage of correct greetings increased to 54.0% (range, 27% to 80%; *SD* = 16.4).

Additionally, the mean percentage of correct interactions across walking observations during the first token economy was 40.0% (range, 9.1% to 60%; *SD* = 21.1) and 56.2% (range, 27% to 80%; *SD* = 22.0) in the return to token economy condition. Similarly, the mean percentage of correct interactions across seated-only observations during the first token economy was 36.2% (range, 0% to 60%; *SD* = 19.0) and 53.0% (range, 30% to 70%; *SD* = 14.3) in the return to token economy condition. Ultimately, the results during the seated versus walking observation sessions were similar, thus highlighting that the token economy had a similar impact on the interactions occurring throughout the zoo.

Senior staff reported that approximately 32% of the tokens were redeemed by employees during the first token economy phase and 26% in the second token economy phase. Additionally, during the initial token economy the average number of tokens turned in by individuals was 2.48 (range, 1 to 6) and in the return to token economy was 1.66 (range, 1 to 5). The average number of tokens turned in by individuals is believed to be low because there are approximately 250 employees at the zoo and with 273 total tokens in each intervention phase, there is just over one

token per employee. They also reported that volunteers, who were ineligible for the token economy, turned in approximately 6% of the tokens during the initial token economy phase and 7% of the tokens during the return to token economy phase. Because volunteers were ineligible for the token exchange, it is possible that more tokens were delivered to volunteers and they were not turned in. This suggests that many of the tokens were delivered during the study.

Discussion

Results of the current study, evaluating the use of a guest-delivered token economy to increase employee-guest interactions, indicate that the intervention successfully improved performance. Correct 10-5 guest interactions rose 35.3% from initial baseline scores, fell 28.0% when returning to baseline, and again rose 45.0% when the token economy was implemented again. This suggests that a guest-delivered token economy may be a viable procedure for improving employee-guest interactions in organizations. Because performance returned to baseline levels when the intervention was removed and improved when the intervention was implemented, we can be confident that the token economy was responsible for the improvements in employee-guest interactions. Therefore, suggesting that without the guest-delivered token economy intervention, high levels of guest interactions may not occur naturally.

Although the reduction in performance upon the removal of the intervention when returning to baseline provides support of experimental control, it is also

important to note that this has many implications for the organization moving forward. If the facility decides to remove the guest-delivered token economy, the data shows that performance will not sustain, thus it is critical that the intervention either stays in place or perhaps another form of feedback should be implemented.

The results of the study highlight that a guest-delivered token economy is a viable manner to provide feedback in the workplace. As previously stated, although management-delivered feedback is often effective, it can be time-consuming. Therefore, the results of this study provide a novel way for managers to implement time efficient and convenient feedback that increases employee performance. This token economy required minimal time from managers, and anecdotally employees reported enjoying the system and wanting to earn tokens.

Additionally, the relatively low exchange rate of tokens highlights that perhaps the token economy may not have been needed to increase interactions and that simply feedback from the guests during token delivery may have been enough to increase performance. Moreover, positive reinforcement could have been experienced by both the employee when they were rewarded for their correct performance by the guest, as well as the guest receiving their own form of social, positive reinforcement from providing the employee with the token. Furthermore, employees could have encountered additional positive reinforcement when turning tokens into management as they indicated a correct guest interaction and cooperation with an organizational initiative. Therefore, using guests and

confederates as the deliverers of tokens may be a viable intervention for strengthening customer service behaviors.

These results provide new information regarding the relative impact of antecedent-and consequence-based intervention components in organizations. Although this consequence-based intervention and the antecedent-only intervention in the pilot study were not directly compared, the current findings matched the results of the assessment during the pilot study that a consequence-based intervention may have been more effective at increasing guest interaction. These findings are also consistent with previous research on the differences in the effectiveness of antecedent-based and consequence-based interventions. Therefore, these findings suggest that a consequence-based intervention may be critical to increase employee performance beyond levels achieved through antecedent-only interventions.

Limitations

Although a guest-delivered token economy provides a convenient manner to implement a consequence-based intervention in organizations, it also has limitations. It is near impossible to guarantee that every guest selected to participate both delivers the tokens to employees and with accuracy. Unfortunately, being unable to control for this limitation potentially could have led to instances of improper token delivery by guests to employees. Such instances of improper token delivery by guests could have included providing tokens to staff regardless of their

10-5 guest interaction accuracy, delivering tokens to volunteers instead of employees, and not delivering tokens. In fact, it was reported that some volunteers turned in tokens. One way this study attempted to reduce some of these potential delivery issues was by providing written instructions on how to deliver the tokens for the guests on the actual token itself in addition to providing scripted verbal instructions. However, there is still evidence that treatment integrity was not 100%.

Another potential limitation of the study was that individual employee greetings data were not collected, thus preventing identification of the employees which could allow researchers to link that information to data on who received tokens and evaluate the impact of the tokens at the individual level. This also limited a comparison of individuals who were high, moderate, and low performers prior to the intervention and their individual improvements across the duration of the study and its phases. Moreover, not collecting individual employee greetings data provided an additional limitation that it could not be assessed if employee job assignment had any impact on the number of tokens they were able to receive. However, the experience of the guests is likely influenced by all of their encounters at the zoo and since the intervention improved overall guest interactions, it is likely that it also improved the overall guest experience, regardless of individual performance.

Although the token drop-off station provided some information on token delivery, there were some limitations to its use. It was reported by the token drop-

off administrator that some staff turned in cards later than the day when they actually received them. The token drop-off station also was not counted daily due to work schedules; therefore, accurate data on how many cards were delivered each day or across each intervention phase is not available. Furthermore, it is unclear how many employees contacted the token system directly by receiving a token since it was reported that not all tokens were turned in. Nevertheless, the token drop-off station did provide some assurance that tokens were being delivered.

Additionally, there may be some instances in which job assignments led to some employees having a greater chance of encountering guests with cards than other employees. For example, employees who work in public areas were around guests more often than employees who work behind the scenes. Fortunately, even if an individual only worked in private areas, most did occasionally enter public areas where they encountered guests. Although all employees were eligible to receive tokens, it is possible that the tokens were presented more often to employees who had stationary jobs than individuals who did not. To control for this, guests and confederates were instructed to only deliver tokens when the employee had to initiate the interaction rather than when they approached an employee to acquire a service, such as at the food window. Ultimately, for many employees, their job tasks are limited to the same area. Therefore, if tokens were only delivered when employees and guests were in passing, many individuals would have never contacted the cards simply as a result of their job assignment, similar to the

individuals who only work in areas behind the scenes. The data from the token drop-off station suggests that a range of employee job functions were represented by the tokens turned in so while distribution may not have been equal, the system did manage to result in a range of employees obtaining tokens.

Following each token economy phase, management reported that some staff did not claim prizes. One reason for this could have been that there was added response effort to turn in the tokens in the token drop-off container. Perhaps if there were multiple token drop-off containers located in varying locations of the zoo, perhaps it would be less effortful for employees to turn in their tokens to the one drop-off container at the front of the zoo. Another reason employees may not have been turning in their tokens could be that the prizes may not have been valuable to employees. However, performance improved in both phases. Therefore, it is possible that positive, social reinforcement that may have been obtained from receiving the tokens from guests was the actual reason for the increased performance. These findings are important because it suggests that perhaps, organizations may not even need to implement token prizes, thus eliminating the costs that are accrued during the token economy prize exchange.

In fact, performance appeared to be on an increasing trend during both phases. Ideally, each intervention phase would have continued until the data stabilized but this was not possible because the zoo desired to have a fixed number

of tokens delivered to manage costs associated with the system and this was planned before the start of the study.

Lastly, because zoos have a goal of educating the public, an ideal intervention would not only increase the level of guest interactions at the zoo, but also facilitate increased conversations regarding wildlife conservation during these interactions. However, the latter point was not systematically studied during this project. During observations, the vocal, verbal behavior of the employees was not recorded because it was often difficult to observe. This provides a limitation as the amount of education provided during these increased interactions is unknown. Therefore, we cannot be sure if the increased level of guest interactions led to an increase in discussions about wildlife conservation.

Suggestions for Future Research

The aforementioned limitations provide several ideas for additional research. Future studies should compare guest-delivered tokens to those delivered by managers or peers. It is possible that managers or peers would deliver tokens with better treatment integrity and this could influence the effectiveness of the intervention. Further, researchers could systematically assess changes in employee performance in conditions where there are differences in treatment fidelity to assess if these potential treatment integrity issues are critical to the effectiveness of the intervention. This could be achieved by alternating conditions of deliveries by confederate guests only and conditions of deliveries by guests only.

Additionally, any impact on employee performance that could have resulted from the ages of the actual guests and the confederates could be further assessed. As stated earlier, the actual guests chosen to participate had to appear well over the age of 40 to be selected. Therefore, many of the actual guests chosen appeared older than the one confederate who was 20 at the time of the study. Future studies could assess if younger or older guests are more reinforcing to interact with or if age of guest is not an influential factor in determining if demographics of guests impact the likelihood of employee interaction.

Researchers could also attempt to collect data on individual employee greetings as well as the group's percentage of correct employee-interactions so that individual level analyses can be conducted. Individual level analyses could assess whether those who receive more tokens improve their performance more than those who receive less or no tokens. This would also allow for evaluation of the impact of the tokens on employees in various job roles.

The fact that some employees did not claim their prizes suggests a number of potential areas for future research. First, researchers could evaluate employees' preferences for items used as prizes and the impact of having more preferred items available. Similarly, the cost of prize items could be manipulated to see if higher costs result in better or worse employee performance. This study attempted to select a range of prize values but a longer study with more opportunities for token

delivery could assess whether larger prizes could help sustain performance long-term.

Additionally, guest-delivered feedback via a card could be compared to the guest-delivered token economy. It is possible that the token economy is not necessary to improve performance and an even less intensive intervention that simply requests that guests provide employees feedback could be sufficient for changing behavior. The findings that not all of the employees turned in their cards highlights that perhaps prizes may not even be needed to increase employee-guest interactions. Ultimately, this could eliminate the need for the back-up reinforcers reducing the costs of purchasing prizes to deliver to employees. However, guests may be less likely to hand out tokens if they are not exchangeable for prizes. Therefore, treatment integrity in both conditions should also be assessed.

The length of the guest-delivered token economy phases in this study were predetermined by the zoo before the onset of the study. In both intervention phases, performance appeared to be on an increasing trend. Future research should consider longer intervention phases until stability can be reached to evaluate the maximum improvement possible as well as to determine if the intervention is capable of sustaining performance long-term.

A limitation of the study was that the content of the interactions was not captured. Future research should assess if the increased level of guest interactions as a result of the token economy, subsequently also results in increased discussions

about wildlife conservation between employees and guests. Moreover, an assessment of knowledge and the intention to improve conservation efforts or direct measures of improved conservations efforts (e.g., making a donation) could be conducted.

Finally, although this study was interested in increasing guest interactions in a zoological setting, researchers should explore the impact of a guest-delivered token economy in other organizational settings. Hospitality organizations, theme parks, restaurants and other customer focused organizations could examine this intervention and expand the research on token economies in the workplace.

Conclusion

In conclusion, the results of the current study corroborate previous findings in the literature related to token economy and employee performance, suggesting it may be a useful intervention for improving employee performance. In summary, the data of the study suggest that a guest-delivered token economy substantially increased correct 10-5 guest interactions and provided a novel intervention for organizations to implement a relatively simple and convenient consequence-based intervention to improve employee-guest interactions. This intervention required very little time from management and employees spoke positively about the intervention. Several opportunities exist to expand on the research related to token economies in the workplace and there are still many questions left to be answered.

Nevertheless, this study provided further support and information for designing these types of systems.

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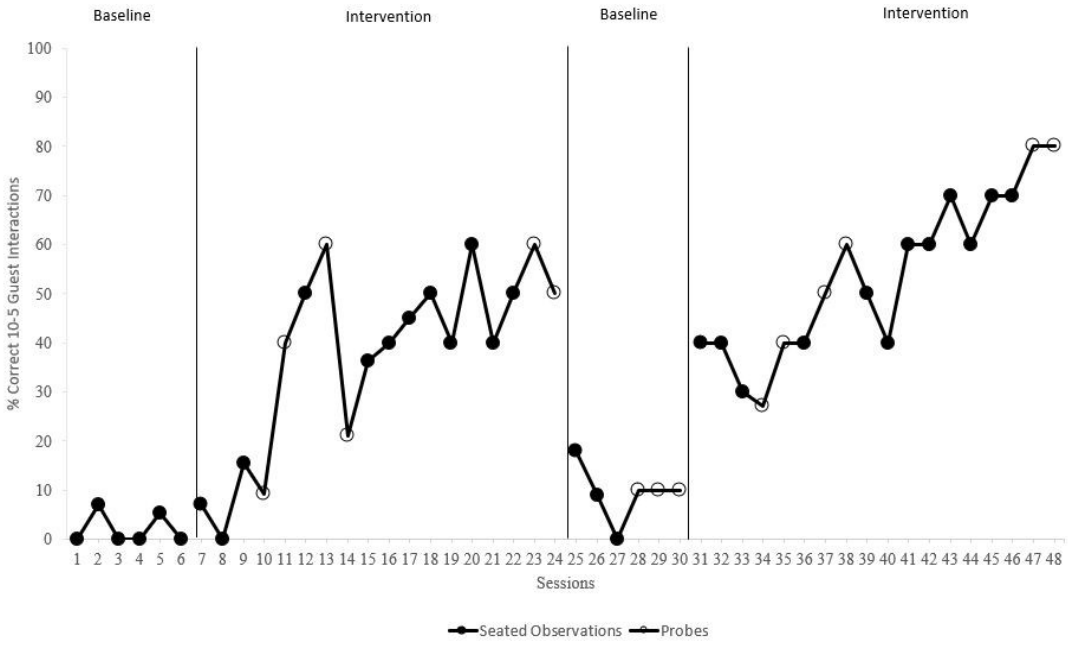
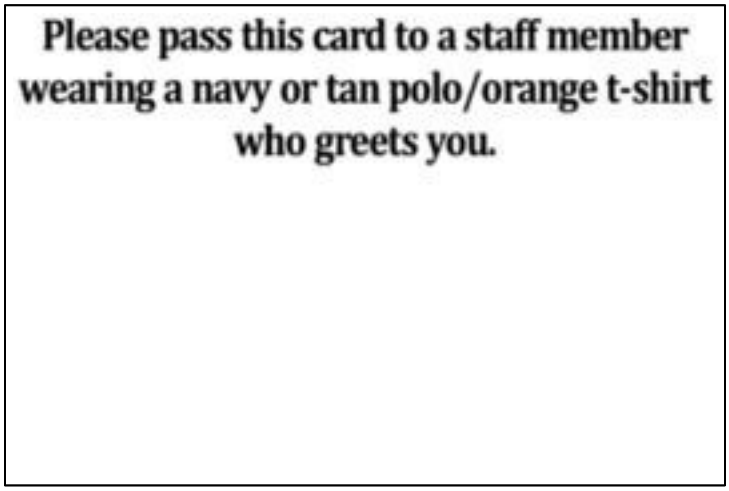


Figure 1. The percentage of correct 10-5 employee-guest interactions. Closed data points depict sessions in which the observer remained seated in the same location throughout the duration of the observation. Open data points depict walking observation sessions.

Appendix A

Tokens



Appendix B

Data Sheet

Instructions: During the 30-minute-long session, observe employees and make note of their guest interactions. Please ensure that the session consists of at least ten opportunities for employees to interact with guests.

Write "yes" in the appropriate column if the employee did engage in these behaviors. If the employee did not engage in these behaviors write "no" in the appropriate column.

Observer:	**Date:**	**Time of Observation:**
Eye Contact?	**Vocal, Verbal Behavior?**	**Correct 10-5 Interaction?**

Appendix C

Token Economy Exchange System

Tokens	Token Economy Exchange System
1	Free fountain drink - usual price $2.25
5	Free snack at café - under $5
10	Free reusable cup and 1 free drink to fill cup – approximately $8
20	Free lunch at café - approximately $10
30	Free item from sale rack at gift shop - approximately $10-$15
40	$15 gift card
50	$20 gift card
75	1 free evening special event ticket - $35 value

Appendix D

Token Delivery Script

Hello. The zoo is rewarding employees for greeting guests. If a staff member greets you do you mind giving them this card? The card gets them a prize. Please only give this card to a staff member who makes eye contact with you from ten feet away and then speaks to you from five feet away. They have to do both actions. Also, these cards are only for employees who greet you, they are the individuals wearing the tan or navy polos or orange shirts. Please only give this card to them if you're passing them and they initiate with you first. Thank you.