

Developing a Practical Intervention to Prevent Identity Theft: A Behavioral-  
Science Field Study

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(ABSTRACT)

Cashiers' identification-checking behaviors were observed at two grocery stores with the aim to actively involve cashiers in decreasing credit-card fraud. After baseline observations, cashiers at one store received a participative goal-setting and feedback intervention, whereby they collaboratively set a store goal for checking customers' identification. Over 23 days, the cashiers received one-to-one verbal feedback on their store's identification-checking percentages. The percentage of identification-checked purchases at the intervention store increased from 0.2 percent at Baseline to 9.7 percent during the Intervention. Then, it declined to 2.3 percent during Withdrawal, showing functional control of the intervention over the cashiers' target behavior. The cashiers at the other store served as the control group, and their percentage of identification-checked purchases were 0.3 percent, 0.4 percent, and 0.7 percent respectively during each of the A-B-A phases at the intervention store. It was also found the intervention affected male cashiers more than female cashiers. The present study also assessed the social validity of the current intervention by surveying both customers and cashiers from the intervention store. The results showed that customers do not mind getting their ID checked, while cashiers consider it important to check a customer for identification during a credit purchase.

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## Developing a Practical Intervention to Prevent Identity Theft: A Behavioral Science Field Study

With the growing expansion of technology and the use of the Internet, identity theft is increasing as a serious societal problem. As defined by the FTC (Federal Trade Commission), identity theft is the crime of obtaining and using another person's identity, usually for economic gain. Identity theft is broken down into various categories such as credit-card fraud, phone or utilities fraud, government documents or benefits fraud, and bank fraud among other categories. In the 1990's, identity theft was noticed as a widespread activity that victimized many people, which led to the passing of the Identity Theft and Assumption Deterrence Act in 1998. This act made identity theft a federal crime. However, the passing of this act did not slow down the number of identity theft cases reported. Identity theft has surpassed traditional crimes, such as burglaries. In a given year, about 2.6 percent of Americans have their homes burglarized, but about 4.3 percent of U.S. residents have their identities stolen (Abagnale, 2007).

It was widely believed the major cause of identity theft was through on-line transactions. However, this is not the case. In cases where the method was known, 68.2 percent of information was obtained off-line versus only 11.6 percent obtained on-line in 2004 ([www.bbb.org](http://www.bbb.org)). Over the years, these numbers have stayed fairly consistent. The most frequently reported off-line source of information used to commit fraud was a lost or stolen wallet or checkbook ([www.bbb.org](http://www.bbb.org)).

### **The Frequency of Identity Theft**

As the new millennium hit, so did identity thieves. In 2001, 86,240 identity-theft victims filed a complaint to the Federal Trade Commission (FTC) (FTC, 2006). In 2002, those numbers nearly doubled to 161,946 (FTC, 2006). As technology became more advanced, the identity-theft cases reported to the FTC hit 215,194 in 2003 (FTC, 2006). Those cases continued to rise in 2004 to 247,034 (FTC, 2006). Now, with many avenues to exploit their victims, criminals went to work in 2005, increasing the number of identity-theft cases reported to 259,276 (FTC, 2006). Fortunately, those numbers declined in 2006 to 246,035 (FTC, 2007). The number of identity-theft cases reported to

the FTC, unfortunately, rose in 2007 compared to the previous year to 258,427 cases (FTC, 2008). However, these numbers should be read and interpreted with caution because many identity-theft cases go unreported by individuals and organizations.

### **The Underreporting of Identity Theft**

Survey data collected by the Consumer Sentinel and the Identity Theft Data Clearinghouse found that 158,535 victims in 2007 failed to report their case to the police department (FTC, 2008). Besides not knowing they can receive help or the correct procedures to follow to report their case, other possible reasons for not reporting identity theft include: 1) victims do not know they have been victimized, 2) they do not want to go through a lot of hassles, 3) they know the criminal(s), and 4) they are ashamed to admit they have been victimized (Abagnale, 2007).

Since identity theft is not an observable crime, many identity-theft cases get underreported by individuals because many people do not know they have been victimized. Victims do not usually find out they have been victimized until they either get a credit-card statement in the mail, are disapproved for a loan, or even rejected for a job. According to the FTC, the average victim does not realize his or her identity has been stolen until 13 months later (Abagnale, 2007). By that time, the thief has moved on and assumed someone else's identity (Abagnale, 2007). Unfortunately, the victim is left to straighten up all the damage left by the thief.

After experiencing identity theft, clearing one's name is a struggle. The process gets so frustrating at times that people give up and allow a thief to escape, while assuming the personal loss. According to a study conducted by the Identity Theft Resource Center (ITRC), the estimated time spent for a victim to get back his or her credit and good name was around 600 hours of work (Arata, 2004). According to data from the ITRC in 2007, 70 percent of identity-theft victims indicated it took them up to 12 months to clear issues of all misinformation on their credit report ([www.idtheftcenter.org](http://www.idtheftcenter.org)). It took another 12 percent of the victims two years, and 19 percent more than two years ([www.idtheftcenter.org](http://www.idtheftcenter.org)). Plus, the hiring of lawyers adds financial costs to this extreme response cost.

Some victims also do not report they have been victimized because they know the person who victimized them. In about one-third of the identity-theft cases reported, the victim is an acquaintance of the thief ([www.idtheftcenter.org](http://www.idtheftcenter.org)). Even more surprising, the identity thief is often a relative of the victim. Bottom line: Identity thieves often turn out to be relatives, friends, neighbors, roommates, or workplace colleagues of the victim. Thus, some victims may feel compelled to keep quiet on being victimized in order to protect the reputation of a family member or friend.

Victims also do not report they have been victimized because they feel ashamed (Abagnale, 2007). The ITRC found the emotional impact of identity theft on victims to be likened to that felt by victims of more violent crimes, such as rape, violent assault, and repeated battering ([www.idtheftcenter.org](http://www.idtheftcenter.org)). The strongest feelings expressed were rage, betrayal, unprotection by police, personal financial fears, a sense of powerlessness, frustration, exhaustion, an inability to trust people, as well as the desire to give up and stop fighting the system ([www.idtheftcenter.org](http://www.idtheftcenter.org)). Long-term emotional responses include feeling extreme loss, feeling captive and ready to give up, and suicide ([www.idtheftcenter.org](http://www.idtheftcenter.org)). The symptoms displayed by some of the victims are classic examples of Post Traumatic Stress Disorder (PTSD) and secondary PTSD (from secondary wounding) ([www.idtheftcenter.org](http://www.idtheftcenter.org)).

### **The Impact of Identity Theft on Taxpayers and the Business Community**

As previously noted, resolving an identity-theft case can take substantial time and money on the part of an individual victim. However, victims of identity theft are not the only ones experiencing negative consequences. Organizations are definitely affected, but most importantly, taxpayers are also negatively impacted. Indeed, identity theft removes millions of dollars from the American economy every year (Abagnale, 2007).

The business community is impacted tremendously by identity theft. In many cases, businesses are forced by the credit-card companies to pay the bill of an identity theft. The business community loses between \$40,000 and \$92,000 per individual's name in fraudulent transactions each year (Pastore, 2004). In 2007, the average loss in goods and services to businesses, as indicated by ITRC data, was \$48,941 compared to

\$87,303 in 2006. And, this is not taking into account how much money it takes to investigate an identity theft.

Like many individual victims, organizations also fail to report incidents of identity theft to the proper authorities and take a financial loss (Lacey & Cuganesan, 2004). Many employers fail to report identity theft so they can protect the reputation of their organization (Abagnale, 2007). Unfortunately, a business's financial loss is often transferred to the consumer in the form of higher prices (Taylor, 2003).

Besides paying for identity theft through expensive goods and services, taxpaying individuals also pick up the bill to investigate and prosecute identity thieves (Abagnale, 2007). The U.S. Government Accounting Office (GAO) found the average financial investigation by the FBI or U.S. Secret Services costs between \$15,000 and \$20,000 (Pastore, 2004). The executive office for U.S. Attorneys estimated the average cost of prosecuting a white-collar crime case, such as identity theft, was \$11,443 ([www.idtheftcenter.org](http://www.idtheftcenter.org)). Calculating these numbers together, one can see just how much of our economy is burdened by this crime.

### **The Identity-Theft Process**

Identity theft has drawn incredible attention, from television commercials to prevention books. An examination of the literature reveals identity theft occurs in three stages: a) the thief steals information from a potential victim, b) the thief uses the victim's personal information, and c) the victim finds out he or she has been victimized.

In Stage 1, the thief steals information from a potential victim. There are many identity-theft prevention books and articles that cover this stage. Unfortunately, the preventive strategies laid out in the material do not work for all people, partly because the steps are not infallible. Some of the steps fail to take into account: a) most information on a victim is obtained through a lost or stolen purse or checkbook ([www.bbb.org](http://www.bbb.org)), b) most thieves have regular access to the victim's house or belongings (since they are acquaintances), and c) people cannot keep track of everything mailed to them. Even after

following most of the preventive strategies, such as placing fraud alerts on credit files, identity thieves are still able to borrow peoples' names (Sovern, 2004).

In Stage 2, the identity thief uses the victim's personal information to obtain goods and services from businesses. No published literature has evaluated the impact of behavior-change interventions at this point of the identity-theft process. Most of the work conducted at this stage is through the work of Information Technology (IT) Professionals. These are the individuals responsible for designing the debit and credit-card transaction machine at the cash registers of businesses. At this stage of the identity-theft process, the only people who interact with the identity thief are employees of the business. According to research by Lacey and Cuganesan (2004), the main identity-theft prevention control used at this stage is a visual inspection of a person's identification (ID).

In Stage 3, the victim finds out he or she has been victimized. This stage can occur anytime in the identity-theft process. During this stage, victims try to restore their credit and contact the proper authorities. At this stage, much of the data are collected via surveys. Such research focuses on a victim's demographics, financial loss, repair time, and use of preventive measures (Berg, 2005), among other variables. Data are collected at this stage to convince politicians to pass laws that can protect individuals from identity theft. It is also in this stage the data and tips for prevention guides, books, and articles are collected.

One of the major reasons identity theft is still a problem is because people investigating identity theft fail to intervene at the most critical stage of the identity-theft process—the merchant level or Stage 2. Most of the available research examined the after-math of identity theft, which does not inform prevention. In order to prevent identity theft significantly, identity theft needs to be stopped at Stage 2 of the identity-theft process. Successful intervention at Stage 2, will prevent Stage 3. The present study was designed to examine identity theft at Stage 2, since business employees interact with identity thieves immediately before the crime takes place.

## **Credit-Card Fraud**

As mentioned earlier, there are several types of identity theft. The present study focused on credit-card fraud since it is the most common type of identity theft. Credit-card fraud made up 25 percent of identity-theft cases reported in 2006 (FTC, 2007), and 23 percent of reported identity-theft cases in 2007 (FTC, 2008). Credit-card fraud, excluding on-line purchases, is one of the simplest forms of identity theft to prevent. All business employees or cashiers have to do is check for ID, but most do not do this on a regular basis. According to a Virginia Beach police supervisor, “The number of credit-card fraud cases could be cut in half if retailers verified the identities of card users” (Mather, 2006).

Unfortunately, there are no accurate records readily available to access how many people are victims of credit-card fraud in stores because: a) some people and business fail to report incidents of credit-card fraud, and b) the credit-card fraud data reported by the FTC is a combination of credit-card fraud occurring on-line and in stores. Even if retailers did check customers for ID, it is impossible to estimate how many criminals they might catch. Therefore, the clinical significance of checking customers for ID is unknown at this time. However, authors (Anderson, Durbin, & Salinger, 2008; Stovern, 2004) do agree that if retailers checked customers for ID the number of reported credit-card fraud cases would decrease. The amount that it would decrease by is also unknown because data is not available on how many stores actually have their employees check customers for ID, but from personal experience, media coverage, and the research literature that number is relatively low.

### **Previous Behavioral Science Research**

Since no national or local data was available on the prevalence of cashiers’ ID-checking behavior in stores. Downing and Geller (2009) went out into their community to collect baseline data on cashiers’ ID-checking behavior in an attempt to understand this problem locally. Downing and Geller (2009) found out of 1,789 purchases in the Virginia Tech community, only 102 purchases (5.7%) were checked for ID. Another intriguing finding that emerged from this study was the observation the customer’s ID

was checked on 8.1% of those purchases (n=1,070) when the cashier swiped the card compared to 2% of those purchases (n=715) when the customer (and observer) swiped the card.

In a follow-up field study, Downing and Geller (2009) implemented an intervention to increase cashiers' identification-checking behavior by placing a one-inch yellow sticker on a debit or credit card with the words "CASHIERS: PLEASE CHECK PHOTO ID" written in bold letters. Using an A-B-A (baseline-intervention-withdrawal) design, Downing and Geller failed to demonstrate an increase in cashiers' ID-checking behaviors as a function of this prompting intervention. Thus, antecedents alone were not effective at increasing cashiers' ID-checking behavior.

The present study examined the ID-checking behavior of local grocery store cashiers, and subsequently collaborated with the cashiers to set goals to increase their checking of customers' IDs. The present study extends the prior research by investigating cashiers' perceptions of perceived barriers to checking for ID in order to develop more effective ways to increase ID checking. The social validity of the current intervention was estimated by assessing customers' reactions to the identity-theft prevention technique.

### **Goal Setting and Feedback**

As reviewed by Locke and Latham (2002), goal setting and feedback has been shown to have beneficial impact on organizational performance. The effects of goal setting and feedback on task performance is one of the most robust and replicable findings in the psychological literature (Locke, Shaw, Saari, & Latham, 1981). The theory of goal setting argues in order for goals to lead to improved performance they must be specific and challenging, yet achievable. Locke and Latham (1990) found specific, difficult goals led to higher performance than "do your best" goals. The effect sizes in meta-analyses showing specific, difficult goals are more effective than "do your best" goals ranged from .42 to .80 (Locke & Latham, 1990).

Numerous studies have shown that setting a specific, difficult goal leads to significant increases in employee productivity (Locke & Latham, 1984) and organizational profitability (Terpstra & Rozell, 1994). For example, Latham and Baldes (1975) increased the logs loaded on unionized truck drivers' trucks from 60% to 90% of the legal allowable weight using goal setting and feedback. As a result, they saved the company \$250,000 in nine months. Latham and Saari (1982) saved a company \$2.7 million in 18 weeks by using goal setting and feedback to increase unionized truck drivers' trips to the mill. As reviewed by Geller and Ludwig (1997), goal setting and feedback has also been used to increase employees' safety on the job.

Goal setting and feedback interventions have been shown to improve individuals' performance on diverse tasks, from card sorting (London & Oldham, 1976) to dieting behavior (Bandura & Simon, 1977). Throughout the psychological literature, the effects of goal setting and feedback has been shown to increase performance on well over 100 different tasks involving more than 40,000 participants in at least eight countries working in laboratory, simulation, and field settings (Locke & Latham, 2002). Normally, failures to replicate the effects of goal setting and feedback are usually due to errors on the part of the experimenter (Locke & Latham, 1990).

Despite the overwhelming success of Locke and Latham's goal-setting approach, a couple of studies have noted undesired side effects as a result of assigning people goals. More specifically, Latham and Yukl (1975) noted the logging crews in their study perceived they were under unwarranted production pressure from their assigned goal because they knew their goal was not a demand of management. Ludwig and Geller (1997) observed drivers assigned a safety goal improved their target behavior, but demonstrated psychological reactance by decreasing the frequency of two related safety-driving behaviors. To negate these possible undesired side effects of assigned goal setting, the present study used participative goal setting to involve the participants in the goal development process.

Participative goal setting is when a group or team of individuals collaborate to develop their own group goals. Research by Latham, Mitchell, and Dossett (1978) and

Latham & Yukl (1975) have shown that when groups develop their own goals they are more difficult than the goals assigned by the experimenter or supervisor. Studies comparing the performance of participants with assigned versus participative set goals found no significant differences between the two goal-setting conditions (Latham & Yukl, 1976; Latham et al., 1978; Ludwig & Geller, 1997), except Latham and Yukl (1975) found participative goal setting for educationally disadvantaged workers was superior to assigned goal setting because the participative group goals were more difficult than the assigned group. When goal difficulty was held constant across the two goal-setting conditions, no significant differences were found on the target behavior (Dossett, Latham, & Mitchell, 1979; Latham & Saari, 1979; Latham & Steele, 1983; Ludwig & Geller, 1997).

Participative goal setting has been theorized to work because it enhances goal commitment since it direct individuals to choose to make a public commitment. And as a result, a public commitment makes one's actions a matter of integrity in one's eyes and in those of others (Hollenbeck, Williams, & Klein, 1989). Participative goal setting also makes individuals feel a sense of ownership for the goals, since they helped to develop the goal (Locke & Latham, 2002). Another reason for the success of participative goal setting is that it leads participants to share knowledge or exchange information in order to work together and strategically achieve their goal (Latham, Winters, & Locke, 1994). Working together to set a goal also creates interpersonal support among team members which also might contribute to the success of participative goal setting (Lock et al., 1981).

Whether assigning a goal or having participants derive their own goal, the best goals are SMART, and they have been used by safety professionals to decrease the incidence of occupational injuries worldwide (Geller, 2005). Smart goals are: "S" for specific, meaning a certain behavior to achieve is specified; "M" for motivational which means consequences available after the goal is reached are defined; "A" for achievable which means the participants believe they can obtain the challenging goal; "R" for relevant, meaning the participants believe the goal connects to a worthwhile personal

and/or organizational mission; and “T” for trackable, which means the target behavior can be observed and recorded with regard to progress at reaching the goal.

### **Purpose**

The present study employed a participative goal-setting and feedback intervention to increase cashiers’ ID-checking behavior. For the store receiving the intervention, it was predicted the cashiers’ ID-checking behavior will be relatively low at Baseline and Withdrawal, but significantly higher during the Intervention phase. From prior field observation by Downing and Geller (2009), it was expected the cashiers will only check customers’ ID minimally during the Baseline stage.

During the Intervention phase, with an application of goal-setting and feedback techniques, the cashiers were expected to increase the frequency of the target behavior in order to reach their goal. After the intervention is removed, the target behavior was expected to decrease in frequency to the baseline levels. For the control store receiving the repeated baseline design, it was hypothesized the cashiers’ ID-checking behavior would be relatively low throughout the study, as observed in prior research on ID-checking behavior (Downing & Geller, 2009).

Customers’ overall reactions to being checked for ID were evaluated by a survey. Many cashiers claim they do not ask for ID because they are afraid of getting a negative reaction from the customers. Results from this survey indicated whether this is a valid excuse for not checking a customer’s ID. Customers’ reactions to this survey also indicated whether the intervention was socially valid, meaning is it practical to use from both the user’s (i.e., the customer) and the receiver’s (i.e., the cashier) perspective. It was hypothesized that customers’ reactions to being checked for ID would be relatively positive, if they realize it’s for their own protection against identity theft.

### **Method**

#### **Participants and Setting**

The participants in the study were trained front-end cashiers (N=66) working the morning shift until 5:30PM at one of two large grocery stores (Store I or Store C) located in a large university community in southwest Virginia. Store I (the Intervention site) contained a total of 38 cashiers (18 males and 20 females), but 16 of these cashiers (9 males and 7 females) did not receive the intervention, so they were designated to the within-store control group.

Of the 16 cashiers in the within-store control group, 15 (93.8%) were White and 1 (6.3%) was Black/African American. The intervention group consisted of 21 cashiers (9 males and 12 females). Of the 21 cashiers in the intervention group, 19 (90.5%) were White, 1 (4.8%) was Black/African American, and 1 (4.8%) was Asian. Store C (the Control site) contained a total of 28 cashiers (14 males and 14 females). Of the 28 cashiers in Store C, 26 (92.9%) were White and 2 (7.1%) were Black/African American.

The surrounding community contained a population of roughly 43,000 people, including college students. The two grocery stores are located within five miles of each other and have the same franchise name. The credit-card transactions of Store I make up about 30% of the store's daily business transactions, while the credit-card transactions of Store C make up about 26% of the store's daily business transactions.

**Customer survey participants.** A total of 393 customers from Store I were recruited to take the Customer Survey. Out of the 393 customers, 148 customers (85 women and 63 men) declined to take the survey, which led to a 38% rejection rate. Of the 245 customers who took the Customer Survey, 146 (59.6%) were women and 99 (40.4%) were men.

Of the 245 customers who took the Customer Survey, 217 (88.6%) were White, 11 (4.5%) were Black/African American, 9 (3.7%) were Asian, 1 (.4%) was Hispanic or Latino, 5 (2%) identified themselves as "Other", and 2 (.8%) customers' ethnicity was not recorded. Sixty of the customers (24.5%) were identified as being between 18-30 years of age, 105 (42.9%) were identified as being between 31-49 years of age, 51

(20.8%) were identified as being between 50-65 years of age, 28 (11.4%) were identified as being 66 years or older, and one (0.4%) customer's age was not identified.

**Cashier survey participants.** A total of 18 cashiers were recruited at Store I to take the Perceived Barriers (PB) Survey. Out of the 18 cashiers, only one female cashier declined to participate, leading to a 94.7% acceptance rate. Out of the 17 cashiers who took the PB Survey, 9 (52.9%) were women and 8 (47.1%) were men who worked at Store I for an average of 31.97 months (SD= 28.22). Out of the 17 cashiers, 15 (88.2%) were White, 1 (5.9%) was Asian, and 1 (5.9%) was Hispanic or Latino.

## **Materials**

**Cashier observation datasheet.** The research assistants monitoring the cashiers' ID-checking behavior in the store recorded their observational data on a Cashier Observation (CO) Datasheet. The CO Datasheet (included in Appendix A) contains spaces to record six specific observations for the cashiers being observed, including: 1) type of payment used by the customer, 2) the gender of the customer, 3) whether the customer's ID was checked, 4) the monetary value of the customer's purchase, 5) the number of people in line while the customer is being checked out, and 6) the age of the customer. The CO Datasheet also requests the cash register number, gender, and name of the cashier (only during the intervention and withdrawal stage) being observed.

**Customer survey and rejection sheet.** The research assistants who collected interview data from the customers recorded the customers' responses on the Customer Survey (CS) Datasheet (shown in Appendix B) which contains ten questions. Three questions targeted the demographics of the customer and one asked about the type of payment used. The remaining questions, except one estimating the cost of the customer's merchandise, related to the customer's attitudes toward being checked for ID and the frequency their ID has been checked in the particular store.

All these questions were in a "Yes/No" format except the demographics information and payment-type questions. The customer's attitudes towards being checked for ID and the frequency their ID has been checked were rated on a five-point

Likert scale. A rejection sheet (shown in Appendix C) was used to record the number of customers per gender who refused to participate in this interview.

**Perceived barriers survey.** To collect information on the cashiers' perceived barriers, the author administered the Perceived Barriers (PB) Survey to the store's cashiers. The PB Survey (included in Appendix D) contains 20 questions assessing the cashier's current ID-checking behavior (Questions 1, 2, and 3), perceived barriers that may interfere with them checking ID (Questions 5, 6, 7, 8, 10, and 17), their knowledge and attitude about identity theft (Questions 4, 9, 11, 12, 13, 14, and 15), the cashier's perception of ID-checking behavior in the store (Questions 16 and 17), whether they know an identity-theft victim (Question 19), and an open-ended question (Question 20) soliciting cashiers to list reasons they believe cashiers in their store do not check for ID.

An additional question (Question 18) was used to assess the collective-efficacy of the cashiers. Collective-efficacy, as defined by Bandura (1997), is the group's shared belief in its capabilities to organize and execute the courses of action required to accomplish a task. Thus, this question examined the cashier's perceptions of the store's cashiers' ability to check customers' ID when they make a credit purchase. Demographic information was also collected.

Answers to the questions were rated on a five-point Likert scale, except the questions regarding demographic information, cashier's opinions about the number of customers cashiers check or should check for ID, knowledge of an identity-theft victim, the open-ended question investigating additional barriers, and the collective-efficacy question.

## **Design and Procedure**

The present study took place in two grocery stores located in Blacksburg, VA. Store I served as the intervention site, while Store C served as the control site. The experimental design was an A-B-A (Baseline-Intervention-Withdrawal) reversal design (at Store I) with a nonequivalent control (at Store C).

**Store I (the intervention site).** Before the study began in Store I, the store manager informed the front-end staff (i.e., cashiers and baggers) that people would be coming into the store to observe cashiers' various check-out behaviors with the customers, such as ID checking. After giving the store manager six days to inform his front-end staff about the observations, research assistants entered the store to make behavioral observations, signaling the start of Baseline (Phase 1). Baseline lasted for 46 days (including 13 consecutive days when observations were not taken in the store).

**Baseline observations.** During Baseline, observers recorded the cashiers' ID-checking behavior. They stood in the front of the store behind the baggers and systematically monitored the ID-checking behavior of the cashiers as they checked out customers. When two observers worked together, they only communicated about the data when deciding which cashier's line to observe. When the observer(s) were questioned about their actions from customers or cashiers, they stated, "I'm (We're) observing the store's check-out process such as customer interaction and ID checking".

As the observer(s) watched the cashiers checking out a customer, they recorded their observational data on the CO Datasheet (shown in Appendix A). The observer(s) recorded the cashier's gender and register number in the heading before they observed them for five purchases. On Day 37 of Baseline, the observers started to record the cashier's name in the heading along with the cashier's register number and gender. This process was done to: 1) track cashiers hired close to the start of the Intervention date, 2) track cashiers who checked customers' ID, and 3) get observers in the routine of recording the cashier's name.

For each purchase observed by the observer(s), when a customer paid using a credit card (as indicated by circling "CC" under Payment), the observer(s) recorded: a) the gender of the customer (by circling "M" for male and "F" for female under Gender), b) whether the customer's ID was checked by the cashier (by circling "Y" for yes and "N" for no under Checked), c) the amount of the customer's purchase, d) the number of paying customers in the line as the cashier started to check out the customer, and e) the age of the customer (by circling "1" for Age 18-34, "2" for Age 35-49, "3" for Age 50-

65, and “4” for Age 65 and up under Age). However, if the customer paid using another form of payment besides a credit card (as indicated by circling “O” under Payment), the observer(s) stopped their observations for this customer.

If a customer made a purchase containing alcohol or tobacco, the observer(s) made a note of this on the observation sheet so these observations could be excluded from data analysis, because it is the law to check customers’ ID for these purchases. Purchases made paying half in credit and half in cash were also noted for exclusion. Tax-exempt purchases were also noted and excluded from the data set.

After observing a cashier for five purchases, the observer(s) watched another cashier for five purchases while noting their gender and cash-register number in the heading. If a cashier closed down or left his or her register while being observed, the observer(s) made a note of this event and moved on to observe another cashier for five purchases. After monitoring each cashier in the store for five purchases, the observers initiated another round of cashier observations. The observer(s) kept observing the cashiers until the end of their shift, which was one hour. Observer(s) ended up monitoring the ID-checking behaviors of the cashiers from 12:30PM-5:30PM on weekdays and 12:30PM-3:30PM on weekends.

*Customer survey.* On Day 15 of Baseline, research assistants were stationed at the entrance of Store I in order to try to interview everyone leaving the store who made a purchase. These research assistants (called “Recruiters”) collected survey data on the customers’ reactions to being checked for ID by the store’s cashiers. The Recruiters asked the customers the questions listed on the CS Datasheet (shown in Appendix B). Before a customer was interviewed, the Recruiters read the following script to get their individual consent to participate:

Hi, how are you doing today? My name is \_\_\_\_\_. And, I’m conducting a study to assess customers’ attitudes towards being checked for identification when they make a credit purchase. Would you like to participate?

If the customer said, “No”, they were thanked for his or her time. And, the Recruiters recorded the event, including the gender of the customer on the rejection sheet. If the customer said, “Yes”, they were verbally given the survey by Recruiters, who recorded their responses. After completion of the survey, the customers were thanked for their participation. This customer-interview procedure lasted for six days.

*Cashier survey.* After 34 days of collecting Baseline data, the author administered the PB Survey (shown in Appendix D) to the store’s cashiers on the 35<sup>th</sup> day. Cashiers were recruited on their breaks, during down time, or when they were getting off work. The following script was read to a potential recruit:

Hi, how are you doing today? My name is Chris Downing. And, I’m conducting a study to examine potential barriers that may prevent cashiers from checking a customer’s identification when they make a credit purchase. Would you like to participate?

If the cashier said, “No”, he or she was thanked. However, when cashiers said, “Yes”, the author gave them a copy of the informed consent form and read over it with them. After reading over the informed consent form, the author gave the cashiers time to look it over and ask any questions. After addressing and clarifying any questions, the author handed the PB Survey to the cashiers so they could read over the questions and record their responses. After completing the survey, the cashiers were thanked for their participation and given a copy of the informed consent form for their records. The recruitment and administration of the PB Survey lasted for four days.

After collecting data for the PB Survey, the author calculated the mean rating or sum for the questions on the PB Survey and the CS Datasheet. The author also performed a content analysis on the open-ended question on the PB Survey. The results from the surveys were calculated so they could be presented to the store’s cashiers during the start of the Intervention Phase. This assessment provided information useful for establishing communication between management and cashiers on the importance of

identity theft (specifically, credit-card fraud) and pinpointing any potential barriers that may exist regarding checking customers' ID.

*Intervention process.* After 39 days of Baseline, the author went into Store I to meet with the store's cashiers and manager. Before meeting with the cashiers, the author met with the store manager to discuss the cashiers' overall ID-checking percentage during Baseline and the results from the customer and cashier surveys. The store manager was presented with a copy of the results as the author explained them. After discussing the results and clarifying any questions about them, the author received the store's manager approval to meet with the cashiers. The author met with the morning shift and mid-shift front-end-trained cashiers twice.

*The first meeting.* The first meeting with the morning and mid-shift cashiers lasted for five days. During the first meeting, the author met with the store's front-end-trained cashiers in groups of two or individually at their cash registers to discuss their overall ID-checking percentage during Baseline along with the results from the customer and cashier surveys. Similar to the meeting with the store manager, the cashiers were presented with a copy of the results as the author explained them. While meeting with the cashiers, the store manager gave them his approval of this event and its objective, and informed them he would handle any customer complaints related to this issue.

After the results were discussed, the author answered any questions, issues, and concerns the cashiers had. Then, the purpose of the meeting, which was to get cashiers to start checking customers' ID, was brought to their attention. Before proceeding to the second part of the meeting, the author asked for the cashiers' verbal consent to participate in the ID-checking process. If a cashier said, "Yes", he or she was admitted in the study. If a cashier said, "No", he or she was thanked and did not participate in the rest of the study, while their Intervention and Withdrawal data was excluded from data analysis. No cashier refused to participate in the ID-checking process.

For the cashiers that choose to participate in the study, they were asked to come up with an overall ID-checking percentage goal for the number of credit-card purchases

they thought the cashiers who participated in the study could check. The author reminded the cashiers to take the Baseline data presented into mind while developing their percentage. After the cashiers had time to come up with their percentage, the author asked them to verbally state their percentage. As the cashiers stated their percentage, the author recorded their verbal response.

After the cashiers gave their verbal response, the author notified them that the response of each cashier participating in the study would be used in determining the overall ID-checking percentage goal for the cashiers to check as a team. Then, the author addressed any remaining questions the cashiers had. After addressing any questions, the meeting ended and the author moved on to another cashier or group of cashiers. Once the author met with the cashiers available in the store, the author left the store.

A group goal was used because the cashiers were seen as a work team carrying out daily organizational duties. Kozlowski and Bell (2003) defined a work team as a group of two or more individuals who: a) exist to perform organizationally relevant tasks, b) share one or more common goals, c) interact socially, d) exhibit task interdependencies, e) maintain and manage boundaries, and f) are embedded in an organizational context.

The cashiers in the study fit all of these criteria because they performed organizationally relevant tasks while at work. They shared a common goal of working together to provide excellent customer satisfaction and service for the customer. They shared their personal lives with each other, and one cashier was even teaching other cashiers how to speak Spanish. They worked individually or in pairs to check out customers.

Besides the store manager, the cashiers served as a resource for one another when they had problems or issues on the job or outside the job. The cashiers also trained new cashiers how to check out and handle customers. And as the last criteria highlights, this all occurs in an organizational (store) context where the cashiers maintained and managed their boundaries with one another, the customers, and the store manager.

*The second meeting.* After 44 days of Baseline, the author met with the store manager to inform him of the overall ID-checking percentage goal. Then, the author met, again, with the morning and mid-shift cashiers for two days. The purpose of the second meeting was to get their approval of the 15% overall ID-checking percentage goal created by averaging each cashier's percentage response from the first meeting. The goal of 15 percent was selected as opposed to 72.5 percent answered on the collective-efficacy question because: a) the cashiers know a majority of the customers who come into the store, b) most purchases are not large enough to warrant taking the time to check, c) the cashiers' ID-checking behavior during Baseline was extremely low, and d) it is believed cashiers might have misinterpreted the collective-efficacy question (along with the questions assessing the cashier's perception of ID-checking behavior in the store) as including ID checking for alcohol and tobacco purchases.

The author met with the cashiers individually or in groups of two to get their opinion on the overall ID-checking percentage goal. During the meeting, the author explained how the percentage was calculated and showed the cashiers a list of the percentage responses made by them and the other cashiers. After explaining how the percentage was calculated, the author asked the cashiers to verbally confirm if they approved the overall ID-checking percentage goal. If the cashier said, "Yes", they were told when the goal, if accepted, was going to go into effect. If the cashier said, "No", the author asked them to address any issues they had with the overall ID-checking-percentage. The overall ID-checking percentage goal was accepted when a majority of the cashiers responded, "Yes".

When the cashiers accepted the collective overall ID-checking percentage goal or when the goal was accepted by a majority vote, the cashiers were informed they would receive feedback individually the day the goal was put into place on the group's progress toward achieving the goal from the data provided by the observer(s). The observer(s) followed the same procedure as Baseline along with recording the cashier's gender, register number, and name in the heading before they observed them. Cashiers' names were recorded in order to track which cashiers received the intervention. On Day 46,

after clarifying any remaining questions, the author left the store, marking the beginning of the Intervention phase.

During the second meeting, some of the cashiers who participated in the first meeting was unable to participate in the second meeting. The next time these cashiers were seen working, the author informed them about the 15% overall ID-checking percentage goal.

*Feedback.* On the first morning of the Intervention phase, the author went back to the store to give the cashiers verbal feedback on the group's previous day's overall ID-checking percentage. The verbal feedback was given individually to the cashiers at their cash register whenever they did not have customers in their line. The verbal feedback was to inform them of the group's progress towards achieving the store's collective goal. The cashiers received one of two verbal feedback scripts depending on their achievement of their 15% overall ID-checking percentage goal from the previous day. When the cashiers reached or passed the store's 15% collective goal, they received the following script:

Hi, how are you doing today? I just wanted to let you know we reached (or passed) our store's 15% ID-checking percentage goal, yesterday. We had an ID-checking percentage of XX%. Thanks for your effort and keep up the good work.

However, when the cashiers failed to reach the store's 15% collective goal, they received the following script:

Hi, how are you doing today? I just wanted to let you know that we did not reach our store's 15% ID-checking percentage goal, yesterday. We had an ID-checking percentage of XX%. Lets improve that percentage and bring it up to at least 15%.

The day after the goal was set, the author delivered one of two feedback scripts to the working cashiers who received the intervention for 23 consecutive days. The author

provided feedback to the cashiers twice a day, once for the morning shift and once for the mid-day shift. The cashiers on the morning shift were given one-to-one verbal feedback two and a half hours before the observer(s) started to record their ID-checking behavior in the morning for the current day.

However, on the fourth day, the author switched the feedback time from two and a half hours before the observer(s) began their observations to half an hour in the morning because on the second and third days a few of the morning cashiers wanted to be prompted later in the day to check customers' ID. The cashiers said they kept forgetting to check customers' ID when the feedback was delivered early because they were not accustomed to performing the target behavior.

In addition to providing one-to-one verbal feedback to the morning shift cashiers, the author also delivered one-to-one verbal feedback to the mid-shift cashiers. The mid-shift cashiers received feedback from the author a half an hour into the start of their shift.

After Day 23 of the Intervention phase, the author met individually with the cashiers and thanked them for their participation and hard work. When the author thanked the cashiers, they were given a graph of their overall ID-checking percentages from the Intervention phase. The cashiers were also encouraged to continue checking customers' ID when a credit purchase was made. After giving the cashiers the graph and encouraging them to continue checking customers' ID, the author left the store and did not return to give them anymore verbal feedback. This signaled the start of the Withdrawal phase, which lasted 15 consecutive days.

*Within-store control group.* The cashiers who did not receive the intervention were assigned to the in-store control group. The in-store control group were cashiers the author was unable to meet with because they were either busy assisting customers or stationed in other areas of the store. The in-store control group comprised of cashiers who did not receive any verbal feedback and were not told by the author about the store's 15% ID-checking percentage goal. The observational data of these cashiers were collected and recorded the same as the cashiers who received the intervention.

***Withdrawal phase.*** During the Withdrawal phase, the observer(s) entered the store following the same procedure as during the Intervention phase. They recorded the cashiers' names during this phase to track any new employees hired by the store. The observer(s) recorded the cashiers' ID-checking behavior for 15 consecutive days during the Withdrawal phase. The day after the Withdrawal phase ended, the author returned to the store to thank the store manager and cashiers individually for their help and cooperation. The A-B-A design lasted for a total of 84 days in Store I. See Figure 1 for Store I's research design timeline.

**Store C (the control site).** While collecting data at Store I, observers were also collecting data in Store C. Data collection in Store C began and ended the same day as data collection in Store I. Like Store I, the grocery store manager informed his front-end staff people would be coming into their store to observe cashiers' various check-out behaviors with the customers, such as ID-checking. After giving the store manager six days to inform his front-end staff about being observed, observers entered the store to systematically record cashiers' ID-checking behaviors only at Baseline. They followed the same procedure as the observer(s) doing observations during Baseline in Store I. The observer(s) conducted observations in Store C for 84 days (including 11 consecutive days when observations were not taken in the store), which was the duration of the three A-B-A phases in Store I. After the last day of the study, the author thanked the store manager for allowing his store's participation in the study.

## **Results**

### **Interobserver Reliability**

Interobserver reliability was calculated for each dependent variable by dividing the number of agreed upon observations made by the two independent observers by the total number of observations and multiplying the result by 100.

Reliability data were collected for 6,042 observations, representing 50% of the observations collected. Overall, reliability (or percentage agreement) was 99% for the payment method used by the customer, 99% for the customer's gender, 100% for the

cashier checking the customer's ID, 95% for the amount spent by the customer, 94% for the number of paying customer's in line behind the customer being checked out, 92% for the age category of the customer, and 98% for noting alcohol, tobacco, gift card, and tax exempt purchases. There were no differences in interobserver reliability results across the two stores.

### **Cashiers' Observed ID-Checking Behavior**

Overall, a total of 12,109 observations were recorded. After accounting for only credit-card purchases and excluding alcohol, tax exempt, employee, and tobacco purchases, 4,386 observations remained (2,002 observations for Store I and 2,384 observations for Store C). An additional 66 observations from the Intervention and Withdrawal phases of Store I was also discarded because: 1) a new female employee was hired during the last week of the Intervention period and was being trained on the job to become familiar with the store's check-out procedure, and 2) some of the observations did not have a cashier's name recorded to link it to the data. After discarding the 66 observations, a total of 1,936 observations were left for Store I. Of these, 121 were identified for the within-store control group.

Figure 2 depicts a time-series view of the cashiers' ID-checking behavior throughout the study for Store I's intervention cashiers and Store C's cashiers. Since the cashiers' names were not recorded by the observers until Day 37 of Baseline, Store I's intervention cashiers' Baseline data also contains the data of cashiers who did not receive the intervention. The daily percentage of purchases checked for identification for each group was calculated by using the ratio of the number of customers' checked for identification pertaining to that group divided by the total number of customers observed making a credit purchase on that day for that group. When observations were made, the average number of credit-card purchases observed per day was 32, ranging from 3 to 82. Table 1 shows the daily sample size of credit-card purchases and percentage of ID checking amongst Store C's cashiers and Store I's intervention cashiers<sup>1</sup>.

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<sup>1</sup> The daily sample size of credit-card purchases and percentage of ID checking amongst Store I's intervention cashiers also contain the Baseline data from cashiers who did not receive the intervention.

A visual inspection of the time-series graph shows the ID-checking behavior of the cashiers in Store I started off low with barely anyone checking during Baseline. Then during the Intervention phase, the cashiers' ID-checking behavior increased markedly. Subsequently, the cashiers' ID-checking behavior returned to the low Baseline level during the Withdrawal phase. This return to baseline suggests functional control of the intervention over the cashiers' target behavior. Throughout the study, the ID-checking behaviors of the cashiers in Store C remained at the low Baseline percentages observed at both stores.

Figure 3 depicts the percentage of ID-checked purchases per phase for Store I's intervention and the within-store control cashiers<sup>2</sup> and Store C's cashiers, calculated by using the ratio of the number of customers' checked for identification in the phase for each group divided by the total number of customers making a credit purchase in that phase for each group.

A visual inspection of the time-series graph shows the ID-checking behavior of Store I's intervention cashiers and Store C's cashiers are close at Baseline, as Store I's cashiers checked 0.9 percent (n=216 observations) of overall purchases for ID compared to Store C's 0.3 percent (n=1223 observations). Store I's within-store control cashiers checked zero purchases (n=48 observations) for ID at Baseline. During the Intervention at Store I, the intervention cashiers' overall ID-checking percentage jumped up to 9.7 percent (n=579 observations), an 8.8 increase in percentage points from the store's Baseline). The within-store control cashiers' overall ID-checking behavior percentage rose from 0 to 1.9 percent (n=54 observations), which was due to one female cashier checking for ID. Store C's cashiers' (which did not received the Intervention) overall ID-checking percentage increased from 0.3 to 0.4 percent (n=831 observations). However, during withdrawal at Store I, the intervention cashiers' overall ID-checking percentage dropped to 2.3 percent (n=260 observations), while the within-store control cashiers'

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<sup>2</sup> Since cashiers' names were not recorded by the observers until Day 37 of Baseline, 742 Baseline observations for Store I were unable to be identified as belonging to the intervention or the within-store control cashiers.

overall ID-checking behavior fell back to zero percent (n=15 observations). Store C's cashiers' overall ID-checking percentage rose to 0.7 percent (n=277 observations).

Given the study entailed ten Chi-Square tests, Bonferroni corrections were conducted to adjust for potential inflation of the family-wise Type-1 error rate. To examine whether there was a difference in ID-checking between Store I's intervention and Store C's control group, a Chi-Square test was performed on each phase to see if the store cashiers differed in ID-checking. To compare the two stores at Baseline, a 2 store (Store I, Store C) x 2 ID checked (yes, no)  $\chi^2$  test was performed. Following the Bonferroni correction, the Chi-Square test revealed there was not a significant difference between the stores' ID checking during Baseline,  $\chi^2 (1, n= 2,230) = 0.340, p > .001$ .

However, a 2 group (intervention, Store C) x 2 ID checked (yes, no)  $\chi^2$  test comparing the two groups during the Intervention phase at Store I found a significant difference in ID checking,  $\chi^2 (1, n= 1,410) = 73.8, p < .001$  subsequent to Bonferroni correction. During Withdrawal at Store I, a 2 group (intervention, Store C) x 2 ID checked (yes, no)  $\chi^2$  test showed there was not a significant difference in ID checking between the two groups,  $\chi^2 (1, n= 537) = 2.298, p > .001$  subsequent to Bonferroni correction.

To examine whether Store I's control group's ID-checking behavior differed from Store I's intervention group and Store C's control group during the Intervention and Withdrawal phases, four separate Chi-Square tests were run to investigate the differences between the groups. To compare Store I's control and intervention group's ID-checking behavior during the Intervention phase, a 2 group (intervention, within Store I control) x 2 ID checked (yes, no)  $\chi^2$  test was performed. Following the Bonferroni correction, the Chi-Square test showed the two groups' ID-checking behavior were not different from each other,  $\chi^2 (1, n= 633) = 3.69, p > .001$ . The same result was found for the ID-checking behavior of the two groups during the Withdrawal phase,  $\chi^2 (1, n= 275) = 0.354, p > .001$  subsequent to Bonferroni correction.

To compare the ID-checking behavior between the cashiers in the two control groups during the Intervention phase, a 2 group (Store C, within Store I control) x 2 ID checked (yes, no)  $\chi^2$  test was performed. The results revealed the two control groups did not differ in their ID-checking behavior,  $\chi^2 (1, n= 885) = 2.51, p > .001$  subsequent to Bonferroni correction. Following the Bonferroni correction, a 2 group (Store C, within Store I control) x ID Checked (yes, no)  $\chi^2$  test showed the two control groups did not differ in their ID-checking behavior during the Withdrawal phase,  $\chi^2 (1, n= 292) = 0.109, p > .001$ .

**Gender differences of cashiers who received the intervention.** Figure 4 depicts the percentage of ID-checked purchases by male and female cashiers for each phase<sup>3</sup> of Store I to compare the ID-checking behavior of male and female cashiers in regards to the intervention. The percentage of ID-checked purchases for each cashier's gender was calculated for each phase by using the ratio of the number of customers' checked for identification by each cashier's gender in the phase divided by the total number of customers making a credit purchase in that phase for each cashiers' gender.

To examine the ID-checking behavior between male and female cashiers for each phase<sup>3</sup>, a 2 gender (male, female) x 3 phase (baseline, intervention, withdrawal) ANOVA revealed a significance interaction,  $F (2, n=1832) = 32.5, p < .001$ . A visual inspection of the time-series graph in Figure 4 shows that the percentage of ID-checked purchases for male and female cashiers is almost equivalent during Baseline. But during the Intervention phase, males checked customers for ID almost five times more often than their female counterparts. During the Withdrawal phase, both groups' percentage of ID-checked purchases declined. The female cashiers' percentage returned close to their Baseline percentage, while the male cashiers' percentage was greater than their Baseline percentage and the female cashiers' Withdrawal percentage. There were also main effects found for phase,  $F (2, n=1832) = 79.2, p < .001$ , and gender,  $F (1, n=1832) = 53.1, p < .001$ .

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<sup>3</sup> Since cashiers' names were not recorded by the observers until Day 37 of Baseline, the male and female cashiers' Baseline data also contain the data of cashiers who did not receive the intervention.

As shown in Tables 2 and 3, only two customers were checked for ID during Baseline. They were checked by two male cashiers (Male Cashier 4 and an unidentified male cashier). The tables also show female cashiers were observed handling more credit-card purchases than male cashiers.

Tables 4 and 5 depict the ID-checking behavior of each cashier in Store I who received the Intervention. As shown in Table 4, six female cashiers checked 4.2% of their credit purchases (16 out of 378) and accounted for 28.6 percent of the customers checked for ID during the intervention. As shown in Table 5, five male cashiers checked 19.9% of their credit purchases (40 out of 201) and accounted for 71.4 percent of the customers checked for ID during the Intervention. Even though female cashiers had more opportunities to check customers' ID for credit purchases, male cashiers were more likely to check customers for ID. In addition, the female cashiers received a combined total of 77 one-to-one verbal feedbacks regarding their ID-checking behavior compared to the male cashiers' combined total of 46 one-to-one verbal feedbacks.

However, the gender effect shown during the Intervention in Figure 3 is due to the ID-checking behavior of three male cashiers (Male Cashier 1, 28, and 26). These three male cashiers checked 36 out of the 56 customers during the Intervention and accounted for 64.3% of the customers checked for ID during this phase. These three male cashiers' ID-checking behavior was substantially higher from the other cashiers' ID-checking behavior during the Intervention.

Similar to the Baseline and Intervention phases, the female cashiers had more opportunities to check customers for ID than male cashiers during the Withdrawal phase, as shown in Tables 6 and 7. As shown in Table 6, female cashiers had an opportunity to check 179 credit purchases for ID, but only one cashier (Female Cashier 25) checked a customer's ID. Like the Intervention phase, she checked one customer's ID.

The male cashiers, on the other hand, had less of an opportunity (two times less) to check customers for ID compared to female cashiers. As depicted in Table 7, four male cashiers were observed checking out customers who made credit purchases that did

not contain alcohol or tobacco products compared to ten female cashiers. Out of the four cashiers, two of them (Male Cashier 1 and 28) checked a customer's ID. Male Cashier 1 checked one person's ID while Male Cashier 28 checked 4 customers' ID. Male Cashier 28 checked the ID of 4 out of 6 purchases (66.7%) with a credit card during the Withdrawal phase.

**Potential determinants of ID-checking behavior.** To examine whether three other factors (i.e., age of the customers, number of customers in line, and the time the feedback was delivered to the cashiers during the intervention) influenced the intervention cashiers' ID-checking behavior at Store I during the Intervention phase, three separate Chi-Square tests were conducted. A 2 ID checked (yes, no) x 4 customer's age (18-30, 31-49, 50-65, 66 and over)  $\chi^2$  test was conducted to examine if there was a difference in customers being checked for ID based on age (See Figure 5 for percentage of customers checked for ID based on age category). The results showed that the age of the customer did not influence whether the cashier checked the customer for ID,  $\chi^2$  (3, n= 562) = 3.82,  $p > .001$  subsequent to Bonferroni correction. Following a Bonferroni correction, a 2 ID checked (yes, no) x 5 number of customers in line (0, 1, 2, 3, 4)  $\chi^2$  test revealed the number of paying customers in line did not have an effect on the cashiers' ID-checking behavior,  $\chi^2$  (4, n= 557) = 3.34,  $p > .001$ .

To investigate the possibility of a confound between the time the cashiers received feedback on their goal and their ID-checking behavior during the intervention at Store I, a Chi-Square test was conducted on the five one-hour blocks the observer(s) collected data. Following the Bonferroni correction, the two times during the day the author gave the cashiers feedback did not have a significant effect on the cashiers' ID-checking behavior,  $\chi^2$  (4, n= 579) = 10.08,  $p > .001$ .

### **Cashier Survey Results<sup>4</sup>**

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<sup>4</sup> When interpreting the results regarding Store I's cashiers' perception of ID-checking behavior in their store and the responses to the collective-efficacy of the cashiers' ID-checking behavior (Questions 16, 17, and 18), one should be cautious because it is believed cashiers might have misinterpreted these questions as checking ID for alcohol and tobacco purchases in addition to credit-card purchases.

The results from the PB Survey are shown in Tables 8 and 9. As shown from the data, the cashiers in Store I stated cashiers should check 57% of their customers' ID, but believed the cashiers in the store checked at least 34% of their customers' ID. Although cashiers believed management felt it was important to check customers' ID for credit purchases, they occasionally checked, as shown by the responses in Table 8. However, the cashiers do believe it is their responsibility to protect the safety of their customers, and they could check at least 72% of their customers' ID.

**Social validity assessed from the PB survey.** To assess the social validity of the intervention from the cashier's perspective, two questions (Questions 5 and 9) from the PB Survey were consulted. These two questions examined cashiers' opinions about checking customers' ID for a credit purchase. For the fifth question: "I feel it is a hassle for me to check a customer's identification for a credit purchase," the cashiers' average response was 2.41 (SD=0.94) on a 5-point Likert scale with 1 (*strongly disagree*) and 5 (*strongly agree*). The results suggest most cashiers disagree about it being trouble for them to check a customer's ID for a credit purchase.

For the ninth question: "I feel it is unnecessary to check a customer's identification for a credit purchase," the cashiers' average response was 2.41 (SD=1.18), indicating they disagree about it being unnecessary to check a customer's ID for a credit purchase. These survey results show these cashiers believe checking a customer's ID is important and relevant, which shows the target behavior is acceptable to those receiving the intervention.

### **Customer Survey Results**

Table 10 contains the results from the CS Survey. As shown by the response to the first question, customers in Store I rarely have their ID checked when they make credit purchases, as indicated by their average response of 1.23 (SD=0.66) on a 5-point Likert scale with 1 (*rarely*) and 5 (*always*).

**Customers' acceptance of ID checking.** The patron's acceptance of the target behavior was assessed by averaging Store I's customers' responses to two questions

(Questions 2 and 3) on the CS Survey. The two questions investigated the customer's perception of the frequency and convenience of having their IDs checked. For the second question: "How often do you think cashiers should check ID for a credit card purchase," the customers' average response was 3.98 (SD=1.28), indicating they think a cashier should check often for a customer's ID when a credit purchase is being made.

For the third question: "It would be inconvenient for me to have my ID checked every time I made a credit purchase," the customers' average response was 2.08 (SD=1.439), indicating they do not feel like it is an inconvenience for them to be asked for identification during a credit purchase. Taken together, the results imply the target behavior and its purpose is socially valid and one the customers think cashiers should do.

### **Discussion**

The present study illustrates a proactive approach toward identity theft, specifically credit-card fraud, can lead to an increase in preventive behavior. With the assistance of the participative goal-setting and feedback intervention, cashiers increased their ID-checking behavior. Although their behavior returned near baseline after the intervention was withdrawn, the study showed that actively involving cashiers in the credit-card prevention process can make a significant difference.

The study also showed that goal setting alone was not effective in improving the cashiers' ID-checking behavior. It was the combination of goal setting and feedback that increased the cashiers' ID-checking behavior, especially for the male cashiers. As seen in Figure 2, when only goal setting was introduced to the cashiers, their ID-checking behavior remained low at baseline levels. However, when goal setting was combined with feedback, the cashiers' ID-checking behavior increased considerably. This is consistent with Locke et al. (1981) who concluded that neither feedback alone nor goals alone is sufficient to improve performance, rather both are necessary because they are reciprocally dependent.

When targeting grocery-store cashiers, employees very unlikely to check for ID (Downing & Geller, 2009), the participative goal-setting and feedback intervention

increased their ID-checking behavior substantially. This suggests the intervention approach could be effective with cashiers working in other types of stores (such as retail and restaurants), although the goals would vary widely among settings. The implementation of this intervention has relatively low response cost. The intervention only requires management to communicate to their cashiers about updates and their expectations concerning credit-card fraud, and then holding those cashiers accountable for the behavior by observing them as they check out customers and offering them feedback regarding their behavior.

Store I's control cashiers' (who did not receive the intervention) ID-checking behavior did not differ significantly from the intervention cashiers' ID-checking behavior. However, this was due to the small number of observations (n=73) gathered for Store I's control cashiers with only one cashier checking a customer for ID. If the number of observations collected for these cashiers had been larger, it is assumed these two groups' ID-checking behavior would have been different. As expected, Store I's control cashiers' ID-checking behavior was not different from Store C's control cashiers' ID-checking behavior.

In regards to the intervention cashiers at Store I, the present study showed that male cashiers were more likely to check customers' ID than female cashiers. An explanation for this gender difference can be due to male cashiers as a group setting a higher team ID-checking percentage goal of 19.33 during the goal-setting meeting compared to the female cashiers' ID-checking percentage goal of 12.50 as a group (see Tables 4 and 5).

When examining each cashier's data individually in Tables 4 and 5, the results show male and female cashiers who set higher goals were more likely to check a customer's ID compared to those cashiers that set lower goals. This is especially evident in Table 5, showing two of the three male cashiers (Male Cashiers 26 and 28) who accounted for 64.3% of the ID checking during the Intervention set the two highest ID-checking percentage goals. The other male cashier of these three set the sixth highest goal of all cashiers. Another intriguing observation that emerges while observing Tables

4 and 5 is that for only male cashiers, selecting a higher team ID-checking percentage and receiving more one-to-one verbal feedback sessions led to checking more customers for ID.

Besides showing cashiers' ID-checking behavior can be increased, the present study also showed that customers' do not mind their ID being checked when their credit or debit card is used in a credit purchase. In other words, most customers agreed this preventive technique would not be an inconvenience to them. These results confirm that customers actually want businesses to look out for their safety. It was once thought that asking customers for their ID would seem like a hassle that could affect business sales. Now, since this notion has been empirically tested and not supported, the business community should feel obligated to step up and take action, as lobbyists have been trying to push companies to do this for years. With the results attained in this study, lobbyists have a starting point to build an argument that a cashier checking a customer's ID for a credit purchase is a socially valid and acceptable behavior.

However, before businesses start making their cashiers check customers' ID, they should communicate the initiation of mandatory ID checks with their customers along with educating their customers on the reasons they are implementing the ID checks. By doing this in addition to prompting customers prior to check out, customers will know what is expected and required at check out. Although this may cause some complaints among customers, it will benefit both parties in the future.

In addition to showing the social validity of the target behavior from the customer's perspective, the current study also assessed the social validity of the target behavior from the cashier's perspective. The results showed that cashiers do not mind checking a customer's ID for a credit purchase. Most cashier's feel it is a relevant behavior to do, but they still do not check because of a) the inconvenience it causes when rushing customers out of the store, b) believing customers might not have or possess the proper ID, and c) not being held accountable for the behavior (as shown in Table 9). By using standardized-company procedures to train cashiers how to interact with customers in certain situations and educating cashiers about ID checking, most of the perceived

barriers experienced by cashiers can be resolved with continuous communication between cashiers and management.

### **Significance of the Study**

The present field study is the first to successfully intervene to increase credit-card identification-checking behavior among cashiers. Others (e.g., Anderson, Durbin, & Salinger, 2008; Stovern, 2004) have called attention to the need for businesses to check customers' ID, but little has been done about it. Unlike other studies examining some type of identity theft with a survey, the present study took a behavior-based proactive approach to stop credit-card fraud at the most important stage of the identity-theft process-- at the merchant level where the crime occurs. The current research studied this missing link in the identity theft literature in hopes of inspiring other researchers to follow suit.

Another unique aspect of the study is that it sought customers' and cashiers' reactions to clear up any confusion over ID checking for credit purchases. From the cashier's perspective, there have been mixed opinions on whether customers want their ID checked, given the inconvenience this would cause them. The present study addressed this question and found customers did not mind being checked for ID. From the customer's perspective, it was assumed cashiers did not check for ID during a credit purchase because they did not see the behavior as necessary. However, the results suggest the opposite, as cashiers viewed the behavior as relevant.

The present study also contributed to the goal-setting and feedback literature by extending the external validity of the beneficial effects of goal setting and feedback. Many studies have been conducted to improve or increase a target behavior using goal-setting and feedback, but this is the first study to employ goal-setting to decrease credit-card fraud.

### **Limitations**

Although the intervention increased cashiers' ID-checking behavior, there were a few factors that could have limited the impact of the intervention or confounded the

findings. One of those factors was the cashier's familiarity with the store's customers. Unlike cashiers working in other store types, grocery-store cashiers interact with the same customers more often, especially in a relatively small university town. This became apparent when some customers mentioned they have been shopping at Store I for more than two years and knew the cashiers. Since some of the customers and cashiers were acquainted, this could have interfered with the cashiers asking these customers for ID, thus lowering the number of purchases checked for ID. The cashiers' familiarity with the store's customers could have also increased the customers' and cashiers' positive reactions to the survey.

Another factor that could have limited the intervention impact was cashiers doing multiple jobs while checking out the customers. Normally, the cashiers in the store had baggers to help them out during the check-out process. But when the store was short of help in an area, baggers were used to help out in these areas, which left cashiers alone to bag the customer's items alone. Cashiers in the store reported checking out customers and bagging items interfered with them being able to check customers for ID, especially with a line of customers.

Besides a cashier checking out customers and bagging items, another factor that could have limited the intervention impact was the motivation of the employees to check customers' ID. As seen in Tables 4 and 5, some cashiers checked ID more than others. A possible reason why a couple of the cashiers checked was because they know victims of identity theft or was victimized themselves, as shown in Table 8. So, they were motivated to check customers' ID more than others. Some cashiers wanted to help out because they thought it was a good idea, while others felt it was an inconvenience at times.

Promotional events held by the stores also interfered with cashiers' ID-checking behavior. During both the Intervention and the Withdrawal phases, both stores held events promoting "Feed the Hungry" and "Environmental Sustainability". During each event, cashiers were asked to perform additional duties, besides checking out customers. For the "Feed the Hungry" charity promotion, cashiers sold \$1 cards for a juice drive to

customers and reported to management how many they sold after each shift. For the “Environmental Sustainability” event, cashiers had to track how many recyclable bags customers used, so the corporate office could award that environmental-friendly behavior by donating a nickel for each recyclable bag used to the local community. During each of these events, cashiers might have avoided asking customers for ID because they were focused on soliciting donations from customers and at the same time trying to work two new check-out behaviors into their regular check-out routine.

Along with the promotional events being held during the study, “Senior’s Day” on Tuesdays could have also affected the ID-checking behavior of the cashiers. Since a majority of the store’s clientele on Tuesdays are seniors, most cashiers, especially the morning shift, might have been reluctant to check customers’ ID because of their age and familiarity with them.

The limited involvement of management is another limitation of the present study. Although the store manager verbalized support for the study, he was less involved with the project after the start-up of the intervention phase due to major remodeling occurring in the store and preparing to relocate to another store. With little involvement by management in their study, Latham and Yukl (1975) concluded the stimulation and encouragement needed from management to ensure goal commitment in their study was lacking, which could have hampered the ID-checking behaviors of the cashiers in the present study.

Another limitation of the present study is the inability to distinguish between most of the Baseline data of the cashiers who received the intervention and those who did not at Store I. We do know the two cashiers that checked the customers for ID belonged to the intervention group. However, it would have been interesting to be able to observe the individual behavior responses between the cashiers in Store I throughout the study.

The greatest limitation of the present study is the short duration of the Intervention and Withdrawal phases. The Intervention phase lasted 23 days, while the Withdrawal phase lasted 15 days. If more time was allotted for these phrases, especially

the Intervention phase, more data could have been collected to reveal a difference between Store I's intervention and within-store control cashiers.

### **Future Research**

Future research investigating ways to decrease the probability of credit-card fraud by increasing cashiers' ID-checking should extend the duration of the Intervention and Withdrawal phases of the present study. An extension of these phases will give researchers a better perception of the impact and durability of the intervention. In addition to improving the length of the Intervention and Withdrawal phases, future research should also replicate the present study with more involvement from management to see if this increases the cashiers' ID-checking behavior. Future research should also test the generalizability of the present intervention by applying it at other types of stores. If replication is found, then a possible solution to combat credit-card fraud might have been discovered.

Future research should also study the impact of using individual goals instead of group goals. By using individual goals, cashiers might be more motivated to check customers for ID because: a) they will be held more accountable for their behavior because they cannot social loaf, and b) they will have a better assessment of their behavior in relation to their goal. If cashiers established and received feedback regarding their individual goals in the present study, it is possible the cashiers' ID-checking behavior would have increased to a higher level.

Future studies could also compare cashiers who have to swipe the customers' card versus cashiers who have the customers swipe their own card. As suggested by Downing and Geller (2009), cashiers who swipe the customer's card should be more receptive of the intervention and check customers' ID more than the cashiers who ask customers to swipe their own card.

Future research studies can also contribute to decreasing credit-card fraud by testing other intervention approaches. For example, a study can be designed to examine the impact of the store manager rather than a researcher delivering the goal-setting and

feedback intervention to the cashiers. Such management support would be expected to dramatically increase the impact of the intervention. Whatever the intervention approach chosen, the more solutions available the better equipped everyone can be to take action to prevent this crime from happening.

### **Application in the Real World**

In conclusion, the participative goal-setting and feedback intervention used in the present study is an effective means for employers to hold their cashiers accountable for checking customers' ID. With a few modifications, this intervention can be applied to various businesses. Most importantly, ID-checking as a target behavior for a goal-setting and feedback intervention aligns perfectly with the mission statement of all businesses, which is to protect the well-being and safety of the company and its customers.

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Appendix A: Cashier Observation Datasheet

**Cashier Observation Datasheet**

Cash Register#: Gender: M F						
OBS#	Payment	GENDER	CHECKED	AMOUNT	# in line	AGE
1	CC O	M F	Y N			1 2 3 4
2	CC O	M F	Y N			1 2 3 4
3	CC O	M F	Y N			1 2 3 4
4	CC O	M F	Y N			1 2 3 4
5	CC O	M F	Y N			1 2 3 4
Cash Register#: Gender: M F						
OBS#	Payment	GENDER	CHECKED	AMOUNT	# in line	AGE
6	CC O	M F	Y N			1 2 3 4
7	CC O	M F	Y N			1 2 3 4
8	CC O	M F	Y N			1 2 3 4
9	CC O	M F	Y N			1 2 3 4
10	CC O	M F	Y N			1 2 3 4
Cash Register#: Gender: M F						
OBS#	Payment	GENDER	CHECKED	AMOUNT	# in line	AGE
11	CC O	M F	Y N			1 2 3 4
12	CC O	M F	Y N			1 2 3 4
13	CC O	M F	Y N			1 2 3 4
14	CC O	M F	Y N			1 2 3 4
15	CC O	M F	Y N			1 2 3 4
Cash Register#: Gender: M F						
OBS#	Payment	GENDER	CHECKED	AMOUNT	# in line	AGE
16	CC O	M F	Y N			1 2 3 4
17	CC O	M F	Y N			1 2 3 4
18	CC O	M F	Y N			1 2 3 4
19	CC O	M F	Y N			1 2 3 4
20	CC O	M F	Y N			1 2 3 4

GENDER is the gender of the customer

CHECKED is whether or not the cashier checked the customer's ID

AMOUNT is the total amount of the customer's purchase.

# in line is the total number of people in line behind the customer being observed.

AGE = 1 (18-34) 2 (35-49) 3 (50-65) 4 (65+)

PAYMENT = CC (Credit Card) O (Other - Cash, Check, Debit)

Date: \_\_\_\_\_

Start Time: \_\_\_\_\_

Location: \_\_\_\_\_

Primary DC#: \_\_\_\_\_

Reliability DC: \_\_\_\_\_



Appendix C: Rejection Sheet

Start Date: \_\_\_\_\_

DC#: \_\_\_\_\_

Time: \_\_\_\_\_

Rejection Sheet

**Number of Customer Rejections:**

**Males:**

**Females:**

Appendix D: Perceived Barriers Survey

*Demographics*

1. My gender is:

- 1) Male
- 2) Female

2. My ethnicity is (mark the one that apply):

- 1) Caucasian
- 2) Black or African American
- 3) Asian
- 4) Hispanic or Latino
- 5) American Indian or Alaskan Native
- 6) Native Hawaiian or Pacific Islander
- 7) Other

3. How long have you worked at this store: \_\_\_\_\_ years, \_\_\_\_\_ months

## Cashier's Survey

In the following section, please use the rating scale below to describe how accurately each statement describes *you*.

**1 Rarely    2 Occasionally    3 Sometimes    4 Often    5 Always**

1. When a customer makes a credit purchase, I check for identification.

1      2      3      4      5

2. When the cash register prompts me to check the customer's identification, I do it.

1      2      3      4      5

3. When I have a long line of customers, I check identification for credit purchases.

1      2      3      4      5

4. Identity theft has occurred in my store.

1      2      3      4      5

In this section, please use the rating scale below to indicate *your* feelings towards each statement.

**1 Strongly Disagree    2 Disagree    3 Neutral    4 Agree    5 Strongly Agree**

5. I feel it is a hassle for me to check a customer's identification for a credit purchase.

1      2      3      4      5

6. Management feels it is important to check a customer's identification for a credit purchase.

1      2      3      4      5

In this section, please use the rating scale below to represent *your* feelings towards each statement.

**1 Strongly Disagree    2 Disagree    3 Neutral    4 Agree    5 Strongly Agree**

7. I was trained to check customers' identification when they make credit purchases.

1      2      3      4      5

8. Management is concern about me checking customers' identification for credit purchases.

1      2      3      4      5

9. I feel it is unnecessary to check a customer's identification for a credit purchase.

1      2      3      4      5

10. Customers are offended when I ask for their identification.

1      2      3      4      5

11. Identity theft has been a problem in my store.

1      2      3      4      5

12. Most customers seems to appreciate a cashier's request for identification

1      2      3      4      5

13. Identity theft in our store does not affect me.

1      2      3      4      5

14. When I am a customer, I would like a cashier to check my identification when I make a credit purchase.

1      2      3      4      5

15. I believe it is the cashier's responsibility to look out for the safety of their customers.

1      2      3      4      5

16. What overall percentage of customers' identification do you think the front-line cashiers in the store currently check (**Ranging from 0%-100%**)? \_\_\_\_\_

17. What overall percentage of customers' identification do you think the front-line cashiers in the store should check (**Ranging from 0%-100%**)? \_\_\_\_\_

18. What overall percentage of customers' identification do you think the front-line cashiers in the store could check (**Ranging from 0%-100%**)? \_\_\_\_\_

19. I know someone who has been a victim of identity theft. (Circle: Yes/No)

Yes

No

20. List some reasons you think that cashiers in your store may not check identification when customers make credit purchases.

Table 1: Daily Sample Size of Credit-Card Purchases and Percentages of ID Checking amongst Store C's Control Cashiers and Store I's Intervention Cashiers

		Store C <sup>6</sup>		Store I <sup>7</sup>	
		n Size	Percentage	n Size	Percentage
2/12	Baseline <sup>5</sup>	20	0.00	18	0.00
2/13		69	0.00	36	0.00
2/14		48	0.00	41	0.00
2/15		28	0.00	25	0.00
2/16		78	0.00	34	0.00
2/17		22	0.00	0*	--
2/18		43	2.33	24	4.17
2/19		43	2.33	32	0.00
2/20		82	0.00	30	0.00
2/21		51	0.00	48	0.00
2/22		12	0.00	0*	--
2/23		68	0.00	29	0.00
2/24		13	0.00	0*	--
2/25		68	0.00	32	0.00
2/26		12	0.00	38	0.00
2/27		56	0.00	58	0.00
2/28		0*	--	23	0.00
3/1		0*	--	31	0.00
3/2		26	0.00	36	0.00
3/3		32	0.00	14	0.00
3/4		16	0.00	45	0.00
3/5		25	0.00	21	0.00
3/6		35	2.86	57	0.00
3/7		0**	--	0**	--
3/8		0**	--	0**	--
3/9		0**	--	0**	--
3/10		0**	--	0**	--
3/11		0**	--	0**	--
3/12		0**	--	0**	--
3/13		0**	--	0**	--
3/14		0**	--	0**	--
3/15	0**	--	0**	--	
3/16	0**	--	0**	--	
3/17	0**	--	0**	--	
3/18	8	12.50	0*	--	
3/19	46	0.00	0*	--	
3/20	58	0.00	43	0.00	
3/21	28	0.00	25	0.00	
3/22	29	0.00	34	0.00	
3/23	36	0.00	34	0.00	
3/24	20	0.00	23	0.00	
3/25	0*	--	18	0.00	
3/26	35	0.00	40	0.00	
3/27	47	0.00	47	0.00	
3/28	34	0.00	35	0.00	
3/29	35	0.00	31	3.23	
3/30	Intervention	30	0.00	32	0.00
3/31		34	0.00	36	0.00

4/1		38	0.00	30	0.00
4/2		44	0.00	14	21.43
4/3		57	1.75	32	6.25
4/4		34	0.00	16	0.00
4/5		28	0.00	32	15.63
4/6		29	0.00	35	8.57
4/7		39	0.00	7	0.00
4/8		37	0.00	43	27.91
4/9		43	0.00	44	9.09
4/10		49	0.00	19	0.00
4/11		17	0.00	14	0.00
4/12		23	0.00	24	0.00
4/13		50	2.00	23	47.83
4/14		41	0.00	26	3.85
4/15		70	0.00	29	0.00
4/16		17	0.00	10	40.00
4/17		49	2.04	35	0.00
4/18		22	0.00	7	14.29
4/19		16	0.00	9	0.00
4/20		36	0.00	27	25.93
4/21		28	0.00	35	8.57
4/22		33	0.00	22	9.09
4/23	Withdrawal	0*	--	43	6.98
4/24		3	0.00	21	4.76
4/25		0*	--	7	0.00
4/26		0*	--	7	0.00
4/27		0*	--	10	0.00
4/28		0*	--	20	0.00
4/29		17	0.00	15	0.00
4/30		24	0.00	21	0.00
5/1		81	0.00	26	0.00
5/2		11	0.00	0*	--
5/3		46	0.00	17	0.00
5/4		40	5.00	28	0.00
5/5		0*	--	14	0.00
5/6		22	0.00	9	0.00

Note. <sup>3</sup>Since cashiers' names were not recorded by the observers until Day 37 of Baseline, Store I's intervention cashiers' Baseline data also contains the data of cashiers who did not receive the intervention.

<sup>6</sup>Sample size missing 53 observations. <sup>7</sup>Sample size missing 22 observations.

\* Denotes days when observers did not collect data. \*\* Denotes days when observers did not collect data due to Spring Break.

Table 2: The Baseline Phase’s ID-Checking Behavior of the Female Cashiers in Store I’s Intervention Group (N=12)

<b>Name</b>	<b>ID Checked</b>	<b>n Size</b>	<b>Percentage of ID-Checked Purchases</b>
Female Cashier 5	0	7	0
Female Cashier 7	0	22	0
Female Cashier 8	0	0	0
Female Cashier 12	0	18	0
Female Cashier 13	0	7	0
Female Cashier 17	0	7	0
Female Cashier 18	0	6	0
Female Cashier 20	0	19	0
Female Cashier 22	0	0	0
Female Cashier 25	0	10	0
Female Cashier 27	0	15	0
Female Cashier 29	0	18	0
<b>Total</b>	<b>0</b>	<b>129*</b>	<b>0</b>

Note. \*Since cashiers’ names were not recorded by the observers until Day 37 of Baseline, 450 observations were unable to be identified as belonging to the intervention or the within-store control group.

Table 3: The Baseline Phase’s ID-Checking Behavior of the Male Cashiers in Store I’s Intervention Group (N=9)

<b>Name</b>	<b>ID Checked</b>	<b>n Size</b>	<b>Percentage of ID-Checked Purchases</b>
Male Cashier 1	0	32	0
Male Cashier 4	1	3	33.3
Male Cashier 9	0	6	0
Male Cashier 10	0	0	0
Male Cashier 11	0	9	0
Male Cashier 23	0	3	0
Male Cashier 24	0	4	0
Male Cashier 26	0	14	0
Male Cashier 28	0	16	0
<b>Total</b>	<b>1*</b>	<b>87**</b>	<b>1.15</b>

Note. \*One more ID was checked by an unidentified male cashier belonging to the intervention group.

\*\*Since cashiers’ names were not recorded by the observers until Day 37 of Baseline, 285 observations were unable to be identified as belonging to the intervention or the within-store control group.

Table 4: The Intervention Phase's ID-Checking Behavior of the Female Cashiers in Store I's Intervention Group (N=12)

<b>Name</b>	<b>ID Checked</b>	<b>n Size</b>	<b>Percentage of ID-Checked Purchases</b>	<b>Team Percentage ID-Checking Goal per Cashier</b>	<b>Frequency of one-to-one Verbal Feedback</b>
Female Cashier 5	0	7	0	10	4
Female Cashier 7	7	92	7.6	14	13
Female Cashier 8	0	13	0	9	3
Female Cashier 12	0	73	0	4	13
Female Cashier 13	3	18	16.7	25	5
Female Cashier 17	1	58	1.7	5	8
Female Cashier 18	1	6	16.7	30	3
Female Cashier 20	0	6	0	10	3
Female Cashier 22	0	9	0	18	3
Female Cashier 25	1	15	6.7	8	5
Female Cashier 27	3	50	6.0	12	11
Female Cashier 29	0	31	0	5	6
<b>Total</b>	<b>16</b>	<b>378</b>	<b>4.23</b>	<b>12.50</b>	<b>77</b>

Table 5: The Intervention Phase's ID-Checking Behavior of the Male Cashiers in Store I's Intervention Group (N=9)

<b>Name</b>	<b>ID Checked</b>	<b>n size</b>	<b>Percentage of ID Checked Purchases</b>	<b>Team Percentage ID-Checking Goal per Cashier</b>	<b>Frequency of one-to-one Verbal Feedback</b>
Male Cashier 1	13	97	13.4	20	15
Male Cashier 4	0	1	0	12	1
Male Cashier 9	0	1	0	23	2
Male Cashier 10	2	15	13.3	15	3
Male Cashier 11	0	10	0	5	3
Male Cashier 23	0	17	0	15	3
Male Cashier 24	2	13	15.4	17	5
Male Cashier 26	6	21	28.6	32	9
Male Cashier 28	17	26	65.4	35	5
<b>Total</b>	<b>40</b>	<b>201</b>	<b>19.9</b>	<b>19.33</b>	<b>46</b>

Table 6: The Withdrawal Phase’s ID-Checking Behavior of the Female Cashiers in Store I’s Intervention Group (N=12)

<b>Name</b>	<b>ID Checked</b>	<b>n Size</b>	<b>Percentage of ID-Checked Purchases</b>
Female Cashier 5	0	15	0
Female Cashier 7	0	58	0
Female Cashier 8	0	2	0
Female Cashier 12	0	37	0
Female Cashier 13	0	0	0
Female Cashier 17	0	24	0
Female Cashier 18	0	0	0
Female Cashier 20	0	10	0
Female Cashier 22	0	3	0
Female Cashier 25	1	6	16.7
Female Cashier 27	0	10	0
Female Cashier 29	0	14	0
<b>Total</b>	<b>1</b>	<b>179</b>	<b>0.56</b>

Table 7: The Withdrawal Phase’s ID-Checking Behavior of the Male Cashiers in Store I’s Intervention Group (N=9)

<b>Name</b>	<b>ID Checked</b>	<b>n size</b>	<b>Percentage of ID-Checked Purchases</b>
Male Cashier 1	1	42	2.4
Male Cashier 4	0	0	0
Male Cashier 9	0	0	0
Male Cashier 10	0	0	0
Male Cashier 11	0	7	0
Male Cashier 23	0	0	0
Male Cashier 24	0	0	0
Male Cashier 26	0	8	0
Male Cashier 28	4	24	16.7
<b>Total</b>	<b>5</b>	<b>81</b>	<b>6.17</b>

Table 8: Results of the Perceived Barriers Survey Administered to Store I's Cashiers (N=17)

Question	Mean	Standard Deviation
1. When a customer makes a credit purchase, I check for identification.	1.71	0.92
2. When the cash register prompts me to check the customer's identification, I do it.	4.74	0.56
3. When I have a long line of customers, I check identification for credit purchases.	1.65	0.93
4. Identity theft has occurred in my store.	1.40	0.63
5. I feel it is a hassle for me to check a customer's identification for a credit purchase.	2.41	0.94
6. Management feels it is important to check a customer's identification for a credit purchase.	3.47	1.13
7. I was trained to check customers' identification when they make credit purchases.	2.76	1.48
8. Management is concern about me checking customers' identification for credit purchases.	2.94	1.48
9. I feel it is unnecessary to check a customer's identification for a credit purchase.	2.41	1.18
10. Customers are offended when I ask for their identification.	3.06	1.39
11. Identity theft has been a problem in my store.	2.13	0.92
12. Most customers seem to appreciate a cashier's request for identification.	2.88	1.41
13. Identity theft in our store does not affect me.	2.67	1.50
14. When I am a customer, I would like a cashier to check my identification when I make a credit purchase.	3.12	1.22
15. I believe it is the cashier's responsibility to look out for the safety of their customers.	3.41	1.23
16. What overall percentage of customers' identification do you think the front-line cashiers in the store <u>currently</u> check (Ranging from 0%-100%)?	34.18	34.27
17. What overall percentage of customers' identification do you think the front-line cashiers in the store <u>should</u> check (Ranging from 0%-100%)?	57.35	39.02
18. What overall percentage of customers' identification do you think the front-line cashiers in the store <u>could</u> check (Ranging from 0%-100%)?	72.06	36.45
19. I know someone who has been a victim of identity theft.	41.18*	----

Note. Questions 1-4 are rated on a 1 (Rarely) to 5 (Always) Likert Scale; Questions 5-15 are rated on a 1 (Strongly Disagree) to 5 (Strongly Agree) Likert Scale; Questions 16-18 are rated on a percentage scale (0% to 100%).

\* Percent responded Yes

Table 9: Content Analysis of the Perceived Barriers Survey Open-Ended Question from Store I's Cashiers (N=17)

<b>Question</b>	<b>Responses (<i>frequency</i>)</b>
<p>20. List some reasons you think that cashiers in your store may not check identification when customers make credit purchases.</p>	<ul style="list-style-type: none"> <li>• Only required to check with certain items and amounts (3)</li> <li>• They are not prompted (2)</li> <li>• Long lines/time constraints (7)</li> <li>• It's useless (1)</li> <li>• Same customers come into the store (1)</li> <li>• Knowing customers don't have ID on them (2)</li> <li>• No ID available (1)</li> <li>• Laziness (2)</li> <li>• Inconvenience (1)</li> <li>• Don't handle the cards (2)</li> <li>• Feel customer is trustworthy (1)</li> <li>• Thought doesn't cross one's mind (1)</li> </ul>

Table 10: Results from the Customer Survey Administered to Store I's Customers (N=245)

Question	Mean	Standard Deviation
1. How often do the cashiers in this store check your identification when you make a credit purchase, ranging from 1 (Rarely) to 5 (Always)?	1.23	0.66
2. How often do you think cashiers should check a person's ID when they make a purchase using their credit card? 1 (Never) to 5 (Always)	3.98	1.28
3. It would be inconvenient for me to have my ID checked every time I made a credit purchase? 1 (Strongly Disagree) to 5 (Strongly Agree)	2.08	1.44

Figure 1. Store I's Research Timeline

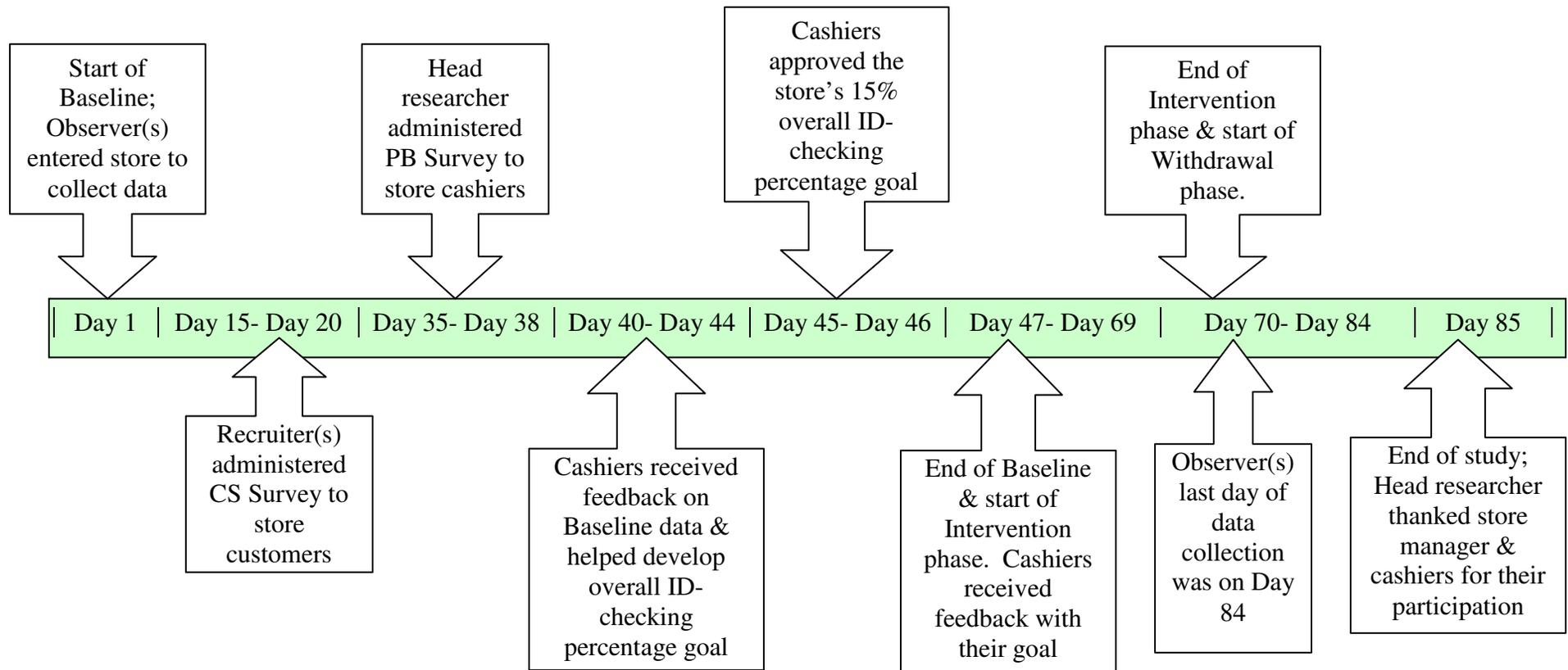


Figure 2. Cashiers' overall ID-checking behavior throughout the study for Store I's intervention cashiers and Store C's outside control cashiers.

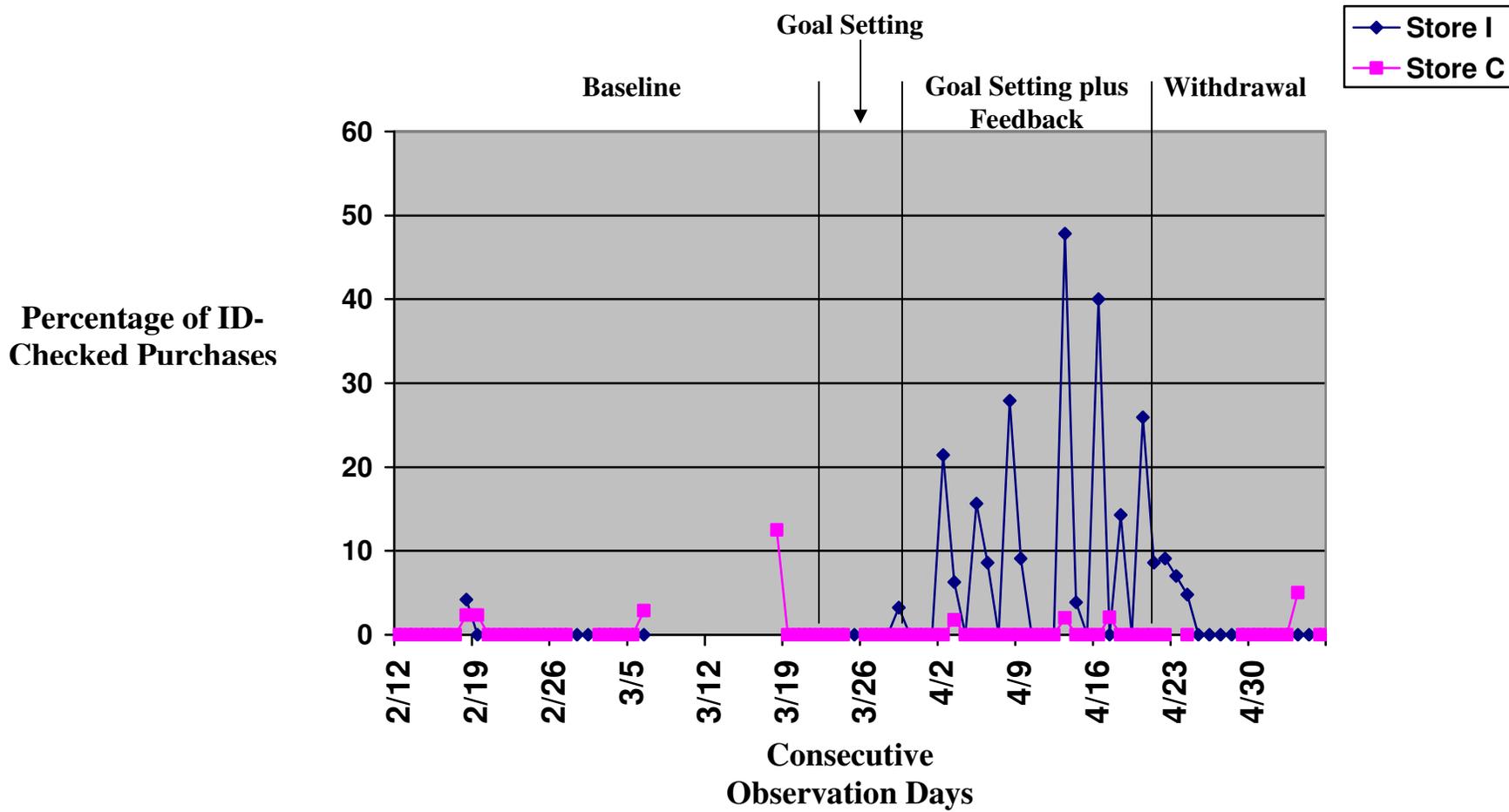


Figure 3. Cashiers' ID-checking behavior by phase for the intervention, control, and intervention-control group.

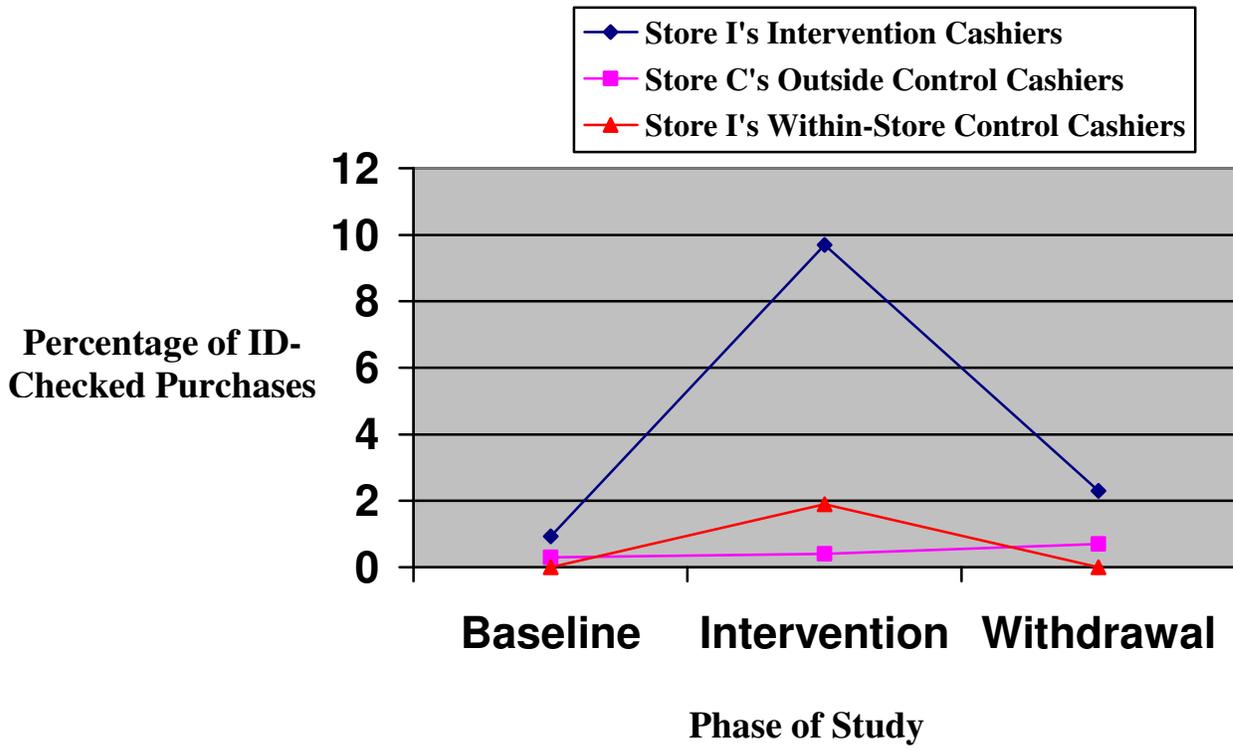


Figure 4. An examination of gender differences in Store I's intervention cashiers' overall ID-checking behavior by study phase.

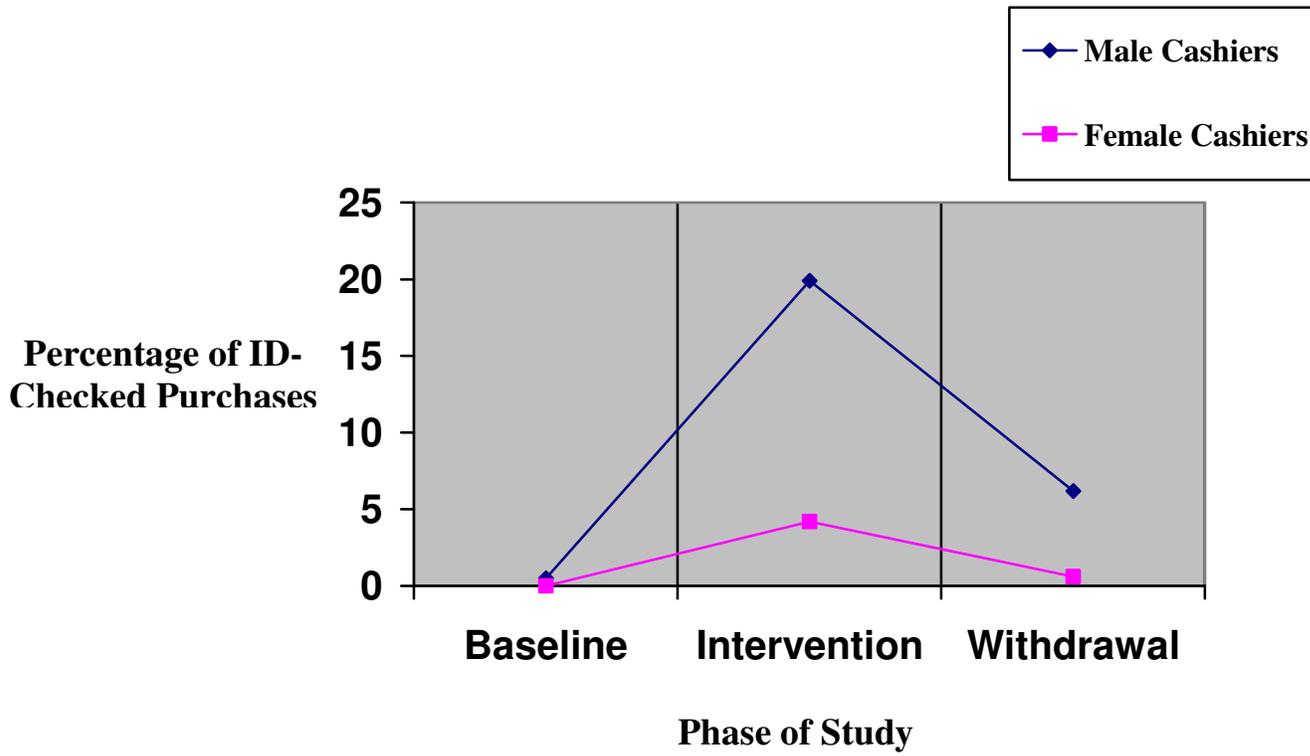


Figure 5. Cashiers' ID checking by customers' age.

