WebLog Journal of Public Health and Epidemiology

Research Article
Published: 19 Sep, 2025

Nudge Theory and Road Safety

Prof. Gil Fried[1], Christopher L. Atkinson[2], Dr. Steven Walczak[3] and Dr. Haris Alibašić[2]*

[1]*Sport Management, Lewis Bear Jr. College of Business, University of West Florida, Building 76A/Room 342, Pensacola, FL 32514, Tel: (850) 474-3426, United States*

[2]*Public Administration, Lewis Bear Jr. College of Business, University of West Florida, Florida, United States*

[3]*Emeritus, University of South Florida, Florida, United States*



Abstract

This study examines the intersection of behavioral economics' nudge theory with postal authorities' efforts to influence road safety behavior through postage stamps. Through analysis of 571 traffic safety-related stamps issued by 119 countries between 1932-2023, we investigate how postal authorities have engaged in behavioral change efforts and evaluate their potential effectiveness. Our findings reveal distinct patterns in stamp issuance, with peak periods coinciding with global road safety initiatives. Germany (19 stamps), Cuba (17), Russia (17), and Surinam (17) emerged as the most active issuers, suggesting perceived value in this approach. Thematic analysis identified primary focuses on general traffic safety (42%), children's safety (23%), and anti-drunk driving campaigns (15%). While direct causation between stamp campaigns and behavior change remains challenging to establish, our research indicates that countries repeatedly issuing such stamps perceived sufficient value to continue the practice. This study considers how these historical nudge efforts might evolve in an increasingly digital age, suggesting new strategies for communicating similar messages through modern media.

Keywords: Nudge Theory; Road Safety; Traffic Safety; Postage Stamps

Introduction

Nudge theory, a concept in behavioral economics, has gained significant attention in recent years as a potential tool for influencing human behavior without resorting to coercion or mandates [30]. While examples like urinal fly stickers demonstrate simple yet effective behavioral interventions, this paper examines a unique and understudied nudge mechanism: postage stamps promoting traffic safety. Through comprehensive analysis of philatelic sources, we investigate whether such efforts have effectively "moved the needle" on road safety behavior and explore their potential evolution in an increasingly digital world.

The use of nudges extends beyond traditional advertising, which explicitly aims to sell products or services. Nudge theory focuses on voluntary behavioral change without coercion, leading the United States and the United Kingdom to establish dedicated behavioral intervention offices [11]. These government initiatives aim not to manipulate but to shape decision-making through subtle interventions [10].

Origins and Theoretical Foundations

The concept of nudging was popularized by Richard Thaler and Cass Sunstein in their 2008 book "Nudge: Improving Decisions About Health, Wealth, and Happiness." However, the theoretical foundations of nudge theory can be traced back to earlier work in behavioral economics and cognitive psychology. Daniel Kahneman and Amos Tversky's research on cognitive biases and heuristics in the 1970s and 1980s laid the groundwork for understanding how people make decisions under uncertainty [15]. Their work demonstrated that human decision-making often deviates from rational choice theory, which assumes that individuals always make optimal decisions based on complete information and stable preferences. Through choice architects, governments can try to shape behavior- such as warnings on cigarette packages designed to discourage cigarette usage when it is known that mandates and higher taxes on smokers might not reduce smoking as much as hoped. Thaler and Sunstein defined a nudge as "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives" (p. 6).

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Correspondence:
Prof. Gil Fried, Sport Management, Lewis Bear Jr. College of Business, University of West Florida, Building 76A/Room 342, Pensacola, FL 32514, Tel: (850) 474-3426, United States, E-mail: gfried@uwf.edu

Received Date: *10 Sep 2025*
Accepted Date: *17 Sep 2025*
Published Date: *19 Sep 2025*

Citation:
Fried G, Atkinson CL, Walczak S, Alibašić H. Nudge Theory and Road Safety. WebLog J Public Health Epidemiol. wjphe.2025.i1901. https://doi.org/10.5281/zenodo.17282699

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Applications of Effectiveness

Nudge theory has been applied in various domains, including such areas as public policy, healthcare, finance, and environmental conservation. Several studies have demonstrated the effectiveness of nudges in promoting desirable behaviors. In the realm of public health, nudges have been used to encourage healthier eating habits. For example, a study by [31] found that a traffic light labeling system in a hospital cafeteria, combined with product placement changes, led to a significant increase in purchasing healthy items and a decrease in unhealthy choices.

Environmental conservation efforts have also benefited from nudge-based interventions. Allcott and Rogers (2014) conducted a large-scale study on the effects of social comparison messages on household energy consumption. They found that providing households with information about their energy use compared to their neighbors led to persistent reductions in energy consumption, demonstrating the power of social norms as a nudge. That is why several power companies still send out notices to customers that examine how much electricity is used compared with their neighbors. Many of these efforts showed short term results, but when the message was not repeated regularly, people reverted to prior usage levels [1].

Some researchers have questioned the long-term effectiveness of nudges. For example, a meta-analysis by [11] found that while digital nudges can effectively influence online behavior, their effects are often small and may diminish over time. This suggests that nudges may not be a panacea for complex behavioral challenges. Loewenstein and Chater (2017) argue that many nudge interventions focus on "low-hanging fruit" – easily implementable changes with modest effects. They suggest that policymakers should consider a broader range of interventions, including traditional regulatory approaches and educational initiatives.

While short term success might be found with some nudges, over time the effect seems to wear off quickly. In one study by Allcott and Rogers (2014) they found that results decay at 10-20 percent per year for a campaign associated with using energy usage reports.

Some also claim that a nudge should not be used, but rather the focus should be on education. Instead of trying to nudge someone to drive safely, maybe the effort should be from the very beginning to reduce the problems through proper driver education [30].

Yet others feel a nudge can have a counterproductive effect. In Leonard Mlodinow's book Subliminal: How Your Unconscious Mind Rules Your Behavior [21] the author explores the profound influence of the unconscious mind on our perceptions, judgments, and decisions. Mlodinow draws on neuroscience and psychology to show that much of what we think and do is shaped by hidden mental processes, biases, and social cues that operate beneath our conscious awareness. Attempts to influence behavior-especially through public messaging-can at times produce the opposite of the intended effect. For example, public service announcements can backfire and instead of persuading people to adopt a desired behavior or belief, these messages may reinforce the very attitudes or actions they are meant to change. This phenomenon occurs because the unconscious mind processes information in complex ways, often filtering messages through existing biases and social identities

Thus, when people sense that a message is trying to manipulate them or challenge their existing beliefs, their unconscious defenses may activate. Rather than persuading, the message can trigger resistance or even strengthen the original, undesired behavior or attitude. This is especially true when the message is perceived as threatening or condescending. As an example, an anti-smoking campaign may inadvertently make the targeted behavior or attitude more salient, leading individuals to double down on their existing views.

What Makes Nudging Work

For nudges to work there needs to be an environment where people do not feel threatened or pressured. Choice architects should make choices as simple as possible because people like simple. A great example are calorie labels on foods as they can convey complex information in an easy-to-understand manner. People need to be reminded of what they must do, but those reminders should not be too frequent. A choice architect should minimize the harm or cost to those who just might not get it [30]. Those who are exposed to nudges over time disengage and revert back to prior behaviors without more frequent appropriate reminders. Thus, the message needs to arrive on a frequent basis when people are making decisions and then needs to be repeated. In the postage stamp example, the use of stamps is usually easy. People might get multiple letters and some will have the stamp or postmark and others will not. If someone receives a stamp and decides not to look at it or change their behavior, then there is no penalty to the person. Suppose a government entity produced a stamp encouraging colon screening to identify colon cancer. In that case, that nudge effort could be enhanced with more people using the stamps and additional advertising campaigns that provide citizens with multiple channels reminding them that they should be screened. If a person is thinking about being screened, then the nudge might be the element that reminds the person to schedule a screening.

One problem with some nudge approaches is the possible lack of feedback. People like to know what the goal is, and whether they have reached that goal. If the nudge encourages someone to eat healthy, then having a good check-up with their doctor can validate that they dieted correctly.

Thaler and Sunstein (2021) also analyzed the possible impact of mixed messages and how they could undermine nudge efforts. For example, a message to encourage people to “go” through using a red octagonal sign would probably fail. The shape and sign are associated with a stop sign so when the message says go, that could confuse.

Another strategy to help nudges is to make them fun and rewarding. People like fun activities and that can be seen in how people like fun videos of pets or babies. Thus, they are more effective when nudge efforts incorporate games or fun elements (Thaler and Sunstein, 2021). In concluding some of their thoughts, Thaler and Sunstein (2021) discussed the “kitchen sink” strategy of incorporating as many favorable nudge elements as possible in a campaign to hopefully have at least one element resonate.

Not mentioned by Thaler and Sunstein, but equally important are campaigns that have been developed nationwide to reduce roadside littering. Possibly the most popular campaign in terms of possible impact was the crying Native American campaign. Some consider it the most well-known public service announcements (PSA) in American history. A Native American man in buckskin and braids canoed through a polluted river. He went past smoke-emitting factories and onto a littered shore. Trash was then hurled from the window of a passing car, and it landed at the man’s feet. A

tear rolled down his cheek as the camera closed in on his face. The advertising campaign was iconic and then received attention for all the wrong reasons as the Native American was portrayed not by a Native American, but an Italian American [16]. It is unclear whether the PSA nudged anyone and actually changed anyone's behavior. No US stamps have been issued that addressed littering.

Philately

Postage stamps are much more than just a tiny slip of paper. They are evidence of payment for a service, generally from a government agency. Thus, they have the imprimatur of the government behind them. As highlighted by some, postage stamps are official products of the government which is keen on promoting selected images domestically and internationally [19]. Stamps serve as an important communication medium and some even call them "social agents" which can convey political messages to influence stamp users [37], Walczak and Switzer (2019) labeled stamps as a channel for governments to educate the populace and affect social awareness. That channel can help promote tourism, public health, or to help build a country's image. Thus, postage stamps could be seen as a form of propaganda and education (Walczak and Switzer, 2018 and Cohen and Altman, 2021).

Social awareness can translate to actual action and in the case studies by Walczak and Switzer the issuance of stamps promoting a particular cause impacted philanthropy in the first two years after a stamp issue was released (Walczak and Switzer, 2019). Social awareness can come from stamps trying to generate action, but also postmarks can help communicate important messages and can increase public awareness (Walczak and Switzer, 2019). Some postmarks are used nationally while many are focused on local campaigns.

Stamps have been issued for many years to fight cancer. From 1928 through 1964 46 countries had issued 110 postage stamps to focus on stamping out cancer [27]. The American Cancer Society spearheaded a campaign to help issue the first US anti-cancer stamp (Taug, 1978). Panama had already issued 30 anticancer-related stamps from 1939 to 1949 alone. The American Cancer Society petitioned the United States Citizens' Stamp Advisory Council (CSAC) which helps pick stamp designs, in 1949, 1952, 1953, and 1961 for a stamp to fight against cancer. The "Crusade Against Cancer" stamp was issued by the US in 1965. The American Cancer Society kept petitioning to have a stamp honoring Dr. Papanicolaou, the developer of the "Pap smear." That request was finally granted and in 1978 a stamp was issued honoring the doctor and promoting early cancer detection [28]. The next anti-cancer stamp issued by the US was a breast cancer related stamp issued in 1998 and a prostate cancer awareness stamp was issued in 1999 [36]. To get such stamps passed and into production and sales requires effort and patience. The CSAC produces 20-30 stamp subjects a year out of the 40,000 proposals submitted annually. Originally the postal regulation prohibited issuing semi-postal stamps due to political concerns (the battle over which organizations to support) and the concern associated with the administrative side of processing the revenue [36]. That changed in 1997 with the passage of the Breast Cancer Research Stamp Act which allowed for the issuance of a 32-cent postage stamp along with collecting an extra 8 cents (a total of 40 cents) to help fund breast cancer research.

While the United States Postal Service (USPS) has not issued an anti-tobacco stamp, they issued stamps against drug abuse in 1971 that read "Prevent Drug Abuse" and a decade later they issued a stamp focused on alcohol abuse. That stamp simply read: Alcoholism: You can beat it!" [32].

Not all campaigns go as intended when it comes to issuing postage stamps. One such effort could be seen in a set released by Spain in 2021. The equality stamps set had four values with the darkest colored stamps being worth less in terms of face value compared with the lighter colored stamps. The palest stamp cost 90 cents more than the darkest color. While the stamps were meant to promote Spain as not being racists and all skin colors mattered, the postal service was skewered online, and many called it tone-deaf or accidentally racist which led to the stamps being pulled soon after their release [9].

Record of Traffic Accidents

The World Report on Road Traffic Injury Prevention [24] is a great resource for examining traffic accidents and fatalities around the world. While it is twenty years old, it provides some great insight, which led to 2004 being the World Health Organization's designated year of road safety (Resolution WHA27.59). The report highlighted that without significant interventions the death rates were supposed to increase by around 65% between 2000 and 2020. Most of that increase was anticipated to come from low- and middle-income countries and a majority were vulnerable road users such as pedestrians and bicycle riders.

It was calculated that 90% of the road traffic deaths occurred in low-income and middle-income countries. Thus, it was calculated in the report that in 2003 around 1,065,900 deaths happened every year in low- and middle-income countries and 117,504 deaths happened in high income countries. The mortality rates per 100,000 population was calculated based on regions of the world. In Africa, where all the countries were considered low- and middle-income, the rate was 28.3 deaths per 100,000. In Europe the numbers were 17.4 deaths in low- and middle-income countries compared with 11 for high-income countries. Almost 97% of child-related road deaths occurred in low- and middle-income countries. That helps show how much of a challenge it is to try and decrease the rate of traffic-related deaths in impoverished countries. The death rates per 100,000 of some high-income countries include Australia (9.5), Great Britain (5.9), Japan (8.2) Netherlands (6.8), Sweden 6.7) and the United States (15.2). The disparity could really be seen also in the efforts to reduce traffic related fatalities from 1975-1998. Some high-income countries had significantly reduced their death rates such as Canada (-63.4%), Sweden (-58.3%), Israel (-49.7%), France (-42.6%), United States (-27.2%), and Japan (-24.5%). In contrast, poor countries during the same time period actually went the other way with increased death rates such as India (+79.3%), Sri Lanka (+84.5%), Lesotho (+192.8%), China (+243%), and Botswana (+383.8%). The 2004 report estimated that between 2000 and 2020 South Asia was expected to have the largest growth rate of traffic fatalities with an expected increase of 144%. It should be noted that when there is a change in numbers there can be multiple variables such as an increase in population as well as an increase in vehicles. That is why some countries, such as Malasia, have had a decline in deaths per 10,000 vehicles while the rate of deaths per 100,000 population increased. That could be due to population increases exceeding vehicular ownership increases.

The report focused on a public health approach utilizing knowledge from medicine, biomechanics, epidemiology, sociology, behavioral science, criminology, education, economics, and engineering, among other disciplines.

Some of the highlights from the report included:

1. 3,000 Kenyans were killed on the road every year.
2. Across the world 16,000 people died from road related accidents every day. That represented 12% of the world's diseases and illnesses- which was the third most important cause of mortality and the number one killer for those between age 1-40. It was estimated that between 20-50 million are injured every year in road related incidents.
3. Approximately 1.2 million people died every year in road accidents.
4. Vietnam faced its own concerns. While the world average was 19 deaths per 100,000, the death rate in Vietnam was 27 per 100,000. Through new traffic regulations and greater law enforcement they were able to reduce the mortality rate in 2003 by 27.2%.
5. Thailand had 13,000 deaths in 2003, and also yearly had one million motor vehicle related injuries.
6. In Brazil, over 30,000 died every year in road accidents and 44% of them were between 20 and 39 years of age and 82% were male.
7. The French government focused on accident prevention and reduced traffic deaths from 7,242 in 2002 to 5,732 in 2003 (a 20% decline) in part through changing mentalities.
8. In 2002 China had over 250,000 males die in traffic accidents. In contrast, only 74,000 women died in traffic accidents.

One of the interesting stats in the report is the number of vehicles per 1,000 residents. In the United States at the time (1999) there were 779 cars per 1,000 residents. In other countries the numbers were also relatively high for countries who ended up issuing postage stamps associated with safety such as Australia (616), Austria (612), Chile (138), Netherlands (427), and Sweden (496). On the other side of the equation were countries with very few cars. Of those countries that had a small number of vehicles per 1,000 residents and who issued stamps associated with traffic safety were Pakistan (23), Kenya (14), and Bangladesh (3.1).

One element associated with the report were suggestions associated with addressing root causes of accidents. From driver fatigue, alcohol, poor road design, lack of signage, drug, distracted driving, and other causes, the report examined various strategies to address these issues such as seat belts, wearing helmets, child restraint, airbags, daytime running lights, better roads, better signage, better education, speed bumps, cameras, smart cars, alcohol interlocks, and consistent enforcement of the laws. As an example, while many countries make it illegal to operate a motor vehicle with a blood alcohol level (often referred to as BAC) of 0.08, some countries have stricter laws such as Spain, Portugal, and Denmark with a 0.05 level, Sweden and Russia with a 0.02 level and Japan does not allow any alcohol in a motor vehicle operator's bloodstream.

Traffic Safety in Need of a Nudge

There are several strategies that have been used over the years to reduce traffic accidents. These efforts include:

A. **High-Visibility Enforcement and Traffic Law Enforcement**

Studies have shown that high-visibility enforcement, where police actively enforce traffic laws in a visible manner, significantly reduces traffic accidents and fatalities. For example, a study on "Click It or Ticket" campaigns in the U.S. demonstrated that increased law enforcement visibility and public awareness campaigns led to higher seat belt usage and that also resulted in reduced fatalities [7].

B. **Speed Cameras**

Speed cameras are another proven strategy. Research has consistently shown that speed cameras can reduce speeding and traffic collisions. A meta-analysis by [8] found that speed cameras can reduce fatal accidents by 40% and all injury accidents by about 25%.

C. Roundabouts

Implementing roundabouts instead of traditional intersections has been shown to decrease accidents. A study by the Insurance Institute for Highway Safety (IIHS) found that roundabouts reduce the number of fatal and injury crashes by 37% compared to traditional intersections [12].

D. Bike Infrastructure

The Netherlands is renowned for its bike-friendly infrastructure. The country's extensive network of bike lanes and traffic calming measures has significantly reduced cycling accidents and overall traffic fatalities. Research by [25] highlights how investments in cycling infrastructure improve safety and promote cycling as a viable mode of transport while also often reducing automobile accidents.

E. Traffic Calming Measures

Implementing traffic calming measures such as speed bumps, narrowed streets, traffic islands, and pedestrian zones can reduce traffic accidents. According to a Transportation Research Board [34] study, traffic calming measures can reduce speeds and accident rates in the residential areas studied.

F. Graduated Driver Licensing Systems

Graduated Driver Licensing (GDL) systems, which introduce new drivers to the road gradually and with increasing responsibility, have been shown to reduce crashes among young drivers. Drivers can start on easy to navigate roads before undertaking more complex driving activities. Research by the Insurance Institute for Highway Safety (IIHS) found that GDL programs can reduce crash rates among 16-year-olds by 20% to 40% [13].

G. Educational Efforts

There are also several educational efforts undertaken to reduce traffic accidents. Educational programs that use signs, posters, advertisements, and postage stamps to promote traffic safety have been shown to be effective in raising awareness and changing behavior.

H. Public Service Announcements (PSAs)

The "Don't Drink and Drive" Campaign in the U.S. has been highly successful in reducing alcohol-related accidents. Studies show that Public Service Announcements (PSAs) featuring graphic depictions of the consequences of drunk driving can lead to increased awareness and behavior change]2].

Australia's "The Road Safety Campaign" using PSAs has helped in reducing road trauma incidents. The campaign features emotional and impactful messages that have been linked to a reduction in road fatalities over the years]23].

I. Traffic Safety Signs and Posters

The Netherlands' developed a bicycle safety campaign using educational signs and posters promoting bicycle safety. Research shows that visual and educational campaigns contribute to safer cycling practices and higher compliance with traffic laws [25].

The United Kingdom's "Think!" campaign uses posters and signs to raise awareness about road safety issues such as speeding and seat belt use. This campaign has led to reductions in road casualties by changing driver behavior [4].

J. School-Based Education Programs

The U.S. "Safe Routes to School" program uses educational materials, including posters and signs, to promote safe walking and biking to school. Evaluation studies have found that the program effectively increases safe practices among children and reduces accidents [20].

One of the more important educational efforts entails trying to educate individuals against intoxicated driving. While there has been a lot of educational efforts, there has not been an ability to evaluate the effectiveness of such efforts. In fact, the evidence indicates that educational based primary prevention efforts with young drivers have had a minimum effect on reducing alcohol-related accidents and fatalities (Donovan, 1989).

K. Postage Stamps

Sweden is just one country that has issued postage stamps featuring traffic safety messages. Research indicates that these stamps, while less of a direct message than other media, contribute to a broader cultural emphasis on road safety and can influence public attitudes and behaviors [24]. Sometimes the elements can be combined to leverage multiple efforts. For example, in the Netherlands there was a significant number of road deaths each year (3,200) in the 1950s and 1960s until the country launched the Stop de Kindermoord campaign around 1978. That translates to "Stop the child murder." The campaign focused on cultural tools, road safety, posters, and even stamps which were released in 1977, 1982, and 1985. The campaign worked, and traffic deaths decreased significantly to 684 in 2023 [26].

Research Methodology

A list of traffic safety postage stamps was obtained from the American Topical Association, a leading aggregator of stamps in various themes from health, Disney, Elvis, trains, and hundreds of other themes. New stamps are entered into their database as they are issued, and members update the information regularly, so it is the most thorough global dataset for postage stamps. ATA Checklist 738: Transportation- Traffic Safety had 1,210 entries. Some entries that were not related to traffic safety were eliminated from the list resulting in 429 valid entries associated with traffic signs, warning, safety, accident prevention, new driving laws, and intoxicated driver themes. Some entries included sets with multiple stamps so the total number of unique stamps, specialized pairs, or specialized souvenir sheets was 571. These stamps came from 119 different countries and spanned the years 1932-2023. (see Appendix A for a list of stamps and Photo A for sample stamps)

Research Conclusion

A. Number of Issues

The proof of the stamps' effectiveness can be seen in the countries who have issued traffic safety stamps on multiple occasions. Thirty-four of the 119 countries that issued traffic safety-related stamps, including the United States and Canada, issued only one such stamp. That represents 28 percent which means 71% of the countries issued more than one stamp and several countries issued numerous stamps over multiple years. It begs the question why countries would keep issuing traffic related postage stamps (not including other items such as safety match covers, non-postage stamps, specialty postmarks, etc…) if they did not feel they were effective? Germany issued the most such stamps with 19 issued. That does not include Germany DDR which issued another 14 and Berlin issued six stamps. After Germany came Cuba, Russia, and Surinam that each issued 17 traffic safety related stamps. Next on the list with 14 stamps were Germany DDR, Portugal, and Vietnam.

One of the issues to examine with the nudge theory and road safety stamps is whether they are making a difference. An anecdotal answer can be seen in the number of countries that have issued multiple stamps covering the topic. Obviously for some politicians or government officials there was an impact or perceived impact which encouraged them to initially issue the stamps and then to subsequently issue subsequent stamps covering the same basic topic. Because road safety stamps are not a popular stamp collecting theme compared with topical favorites such as Disney, Elvis, animals, and space travel, road safety stamps are designed more for internal consumption and usage, which would hopefully produce a greater impact in the issuing country.

B. Theme

The stamps' theme can play into the visual stimulation or response. Of the traffic safety related stamps, a majority focused on traffic safety or road safety. Traffic safety included issues such as pedestrian safety, road signage, and appropriate driver behavior such as not texting and driving or obeying speed limits. Road safety stamps (in contrast to traffic safety stamps) focused on issues such as sharp turns, safety zones, railroad crossings and similar themes. Besides these two primary themes there were several additional themes that stood out. There were 38 countries with stamps that focused on children's safety. Children are a vulnerable population when it comes to traffic safety and these stamps either showed children (such as crossing a street or in a booster seat) or incorporated drawings by children that were turned into stamps.

Another interesting theme entailed "don't drink and drive." There were 17 countries where intoxicated driving was portrayed on the stamps. This group included 26 different stamps that had this theme (a country could have issued multiple stamps on this theme). The country with the most stamps with that message was Guyana with four such stamps. Both Tonga and Turkey each had three such stamps. Five countries had at least two intoxicated driving stamps and that includes Brazil, Germany, Portugal, Tanzania, and Vietnam.

Motorcycles or bicycles were the focus of stamp images for 12 countries. Five countries had stamps that explicitly examined pedestrian safety (not just pictures of people in and around sidewalks. Three countries issued stamps that were designed to educate the population that traffic operations were being changed and people were now supposed to drive on the right-hand side of the road. Sweden, as an example, issued two such stamps when the country switched over in 1967 from driving on the left side to driving on the right side.

One area highlighted by 12 countries was the wearing of seat belts. One country was really focused on this theme and that was New Zealand with three stamps dedicated to that topic.

C. Year of Issue

The year stamps were issued is an interesting focus. Since the 1930s there have been various traffic safety stamps. It wasn't until the mid-1960s that the frequency of such issues increased significantly. Then there seemed to be bursts of activity every five to ten years. Some of the key years with the highest number of stamps issued include:

Year	Number of Stamps
1966	18
1969	17
1971	16
1975	19
1978	22
1990	21
1996	15
2004	26
2012	14
2022	12

There is no specific indication of why the issues came out in such clusters. The only known variable is 2004 which was designated by the WHO as a road safety year so that specific bump makes sense. The complete list of years where traffic safety stamps were issued is highlighted in Appendix C.

The postage stamps highlighted in this study provide a glimpse into how some countries have leveraged stamps to promote traffic and road safety over the years. Some countries have issued many of these stamps, and further studies might be able to correlate changes in traffic accidents in a year or two after such stamps were released. Such analysis will be hard to correlate due to many factors such as increased populations, increased number of vehicles, increased number of drivers, driver education programs, safety enforcement programs, and numerous other variables.

However, there are additional points to consider when examining these nudge efforts. The theme can play into the message. Messages with children resonate more with some. Some graphics are designed to shock and that might have a greater impact. The other side of the coin is that a shocking image can possibly turn someone off. Another point is the issuing time for such stamps. The number of people using stamps has declined as mail volume has decreased due to more people using email and social media. There are still millions of stamp collectors, but a stamp sold to collectors in another country will not have the same impact as stamps used domestically in a country that can be seen by the sender, the deliverer, and the recipient.

Future Efforts

While postage stamp collecting has decreased in popularity over the years, there is still a robust market for stamps. Many countries spend considerable money developing stamps specifically for the collector market (Fried, 2023). That can help fuel future sales and fundraising awareness along with possibly helping to nudge behavior. With that end in mind, Cohen and Altman (2021) wrote an article on how to leverage postage stamps to fund environmental related efforts. Cohen and Altman highlighted, as an example, how "Duck Stamps" (stamps to show proof of purchasing a duck hunting license and often very beautifully crafted and collected) is overseen by the Fish and Wildlife Service and for which 1.5 million stamps are sold on an annual basis generating over a billion dollars in 2019 (Cohen and Altman, 2021). The United States issued the first of four wildlife conservation stamps in 1956 and that was the start of other future issues associated with the environment. At least according to some, these stamps fulfill a public education and awareness mission- often overlooked role of the USPS (Cohen and Altman, 2021). As an example, the USPS has indicated that it engages in such messaging, as noted on a collector souvenir page, acknowledging its "policy of issuing stamps to focus attention on areas of major concern to this nation and other nations of the world" [35]. It's been rightly noted elsewhere that nudges and messages conveyed by stamps don't always go as intended, aren't always clear, but also, these are government statements, via stamps, that some areas do not reflect true areas of concern or the most relevant concerns at that time.

Whatever strategy is used, the key will be to make the message simple and easy to grasp. Over the last couple years, the average attention span has decreased significantly. In 2004, people spent on average 150 seconds (2.5 minutes) on a computer screen before switching tasks. By 2024 that had decreased to around 45 seconds in 2024 [22]. A message needs to grab a person's attention before it is lost.

Titford (2009) wrote an article asking if the time had passed for using postage stamps to serve as an educational tool. That was 2009 and the Internet and email have only grown in popularity since then. Walczak and Switzer (2019) wondered if, like Christmas seals, could nonprofits provide the public with stickers or other easily applied/used tokens to improve public awareness of a need. This could easily be applied in a digital format with a signature block message or road/traffic safety sticker to add to an email.

Similarly, since the USPS, United Parcel Service, and Amazon deliver millions of packages every day, maybe they can have stickers or packing tape that helps promote road safety.

Conclusion

Nudges are a step. They can be a first step in helping to change behavior. Like many first steps, there needs to be a second and third step to see any actual progress. Whatever the steps are that need to be taken, the message should contain one overarching message that moves towards accomplishing the desired goal. The message needs to be the slogan for the campaign, but at the same time it cannot be overly simplistic while at the same time radiating authenticity and expertise [6]. Postage stamps often have catchy and interesting themes that will hopefully resonate with the intended audience to hopefully nudge their behavior and accomplish the goal of reducing traffic accidents/deaths. When postage stamps are combined with other efforts in a comprehensive educational program that could possibly help reduce injuries and deaths. With new technologies and delivery means outside of postage stamps, maybe it is time to utilize badges, stickers, and other electronic symbols to change behavior similar to how postage stamps might have had a positive impact on traffic safety over the years in various countries.

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