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Consequences and Response to Identity Theft Victimization among Older Americans

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Abstract

Society's growing reliance on technology to transfer private information has created more opportunities for identity thieves to access personal data. Research on identity theft, specifically among older adults, is virtually nonexistent, yet research on victims of all ages indicates a positive association between older age and more severe economic and psychological consequences. Using data on victims ages 65 and older from the 2016 and 2018 National Crime Victimization Survey Identity Theft Supplement, this study examines how socioeconomic status, demographic characteristics, and incident-specific factors relate to how much money is stolen, the likelihood of experiencing out-of-pocket costs, emotional distress, and reporting identity theft. Older adults with incomes at or below 150 percent of the federal poverty level (FPL) were between two and three times as likely to suffer out-of-pocket costs relative to those at more than 500 percent FPL. Female victims were 74 percent more likely to feel distressed by the incident, as were those who suffered out-of-pocket costs and had more money stolen. Experiencing subsequent problems with friends and family members following identity theft was significantly associated with emotional distress but negatively associated with reporting to law enforcement. Results indicate that emotional distress and reporting decisions are driven largely by the financial severity of the incident and the duration of misuse, and less by socioeconomic and race characteristics. Greater advocacy and psychological support are needed to help vulnerable older adults recover from identity crimes, particularly those who experience more severe or prolonged incidents of identity misuse.

Keywords: Identity theft, victimization, emotional distress, socioeconomic status, identity misuse, financial crime

JEL Keywords: Behavioral finance; welfare, well-being, and poverty

Introduction

There is a growing body of research on the predictors and consequences of financial victimization of older adults. Existing research focuses primarily on two types of victimization— *financial abuse/exploitation*, a form of elder abuse in which the perpetrator occupies a position of expected trust like a friend, family member, or caregiver (Hall, Karch, & Crosby, 2016); and *financial fraud and scams,* where a stranger uses false promises or fabricated threats to deceive the victim into paying money (DeLiema, 2018). Limited research to date has examined the impact of a third form of financial victimization – *identity theft* – on older adults, despite the increasing prevalence of this serious crime (Harrell, 2019).

Identity theft is the intentional, unauthorized use of a person's identifying information for unlawful purposes (Federal Trade Commission, 1998). It includes infiltration into a person's existing accounts, using a person's identity to open new accounts, and using personal information to obtain instrumental goods and services such as healthcare and public benefits (Harrell, 2019). Similar to financial fraud, the vast majority of identity theft victims do not have a pre-existing personal relationship with the perpetrator. Yet unlike fraud, most incidents do not involve a direct exchange of information or payment. Rather, identifying information is taken and used without the victim's knowledge or consent, such as through a data breach or malware attack.

Prior research demonstrates that victims experience severe monetary and non-monetary consequences following financial victimization. Longitudinal research has demonstrated that elder mistreatment, including financial exploitation, is associated with increased risks of poor mental and physical health outcomes (Acierno et al, 2017), hospitalization (Dong & Simon, 2013), and mortality (Lachs et al., 1998). Fraud victims report feeling embarrassed and ashamed, angry, stressed, and anxious, with some reporting depression and strained relationships with family and friends (Button, Lewis, & Tapley, 2014; FINRA Foundation, 2015). Sharp and colleagues (2003) found that maladaptive psychological and somatic symptoms increased post- identity theft victimization.

Negative outcomes may be more prevalent and severe among older retired victims who lack employment opportunities to make up for their losses, or who are unable to navigate the process of resolving the incident with financial institutions or reporting to appropriate agencies. Additionally, because older generations have relatively greater wealth than younger generations (Gale, et al., 2020), they may experience higher levels of theft. Indeed, consumer fraud reports indicate that adults in their 80's experience three to four times higher median losses per scam ($1,600) than adults ages 20 to 49 (FTC, 2020).

Using data from the 2012 and 2014 National Crime Victimization Survey (NCVS) Identity Theft Supplement (ITS), Burnes, DeLiema, and Langton (2020) showed that Baby Boomers were significantly more likely than Millennials to be victims of identity theft and that the risk of victimization by existing account identity theft increased with income. Results from the most recent 2016 ITS show that older adults suffered an estimated $2.5 billion in financial losses (Harrell, 2019). Higher-income individuals have more assets and higher credit limits. They may have more financial and other types of accounts. Therefore, we predict that:

H_1: Older identity theft victims with higher socioeconomic status— measured as percent of household income above the federal poverty level—will have greater amounts of money stolen by identity thieves.

Several recent studies have examined the financial, psychological, and health consequences of identity theft among US adults of all ages. The 2016 NCVS-ITS shows that 12 percent of victims experienced out-of-pocket costs, with average losses of $690 (Harrell, 2019). Reynolds (2020) found that unmarried victims and those with lower incomes and educational attainment were significantly more likely to experience out-of-pocket costs following identity theft, as were Hispanic/Latino respondents. Age was positively associated with out-of-pocket costs for incidents that involved misuse of bank account information. Reynolds (2020) also found that the risk of out-of-pocket costs differed by the type of identity theft, such that those who experienced misuse of credit card information were significantly more likely to be reimbursed than victims of bank account identity theft.

Recovering costs from financial institutions following identity theft and having charges removed by other organizations requires that victims be proactive in resolving identity theft. Substantial evidence suggests that consumer action is associated with higher socioeconomic status and education (e.g., Morganosky & Buckley, 1987; Halvorsen & Møkkelgård, 2017). More recent research using consumer complaint data from the Consumer Financial Protection Bureau (Haendler & Heimer, 2021) found that cases filed by consumers living in low-income and heavily African American zip codes were 30 percent less likely to be resolved with the consumer receiving financial restitution. Based on these studies and prior identity theft research, we predict that:

H_2: Older adult identity theft victims with lower educational attainment and lower socioeconomic status will be more likely to experience out-of-pocket costs.

H_3: Older African American and Hispanic/Latino identity theft victims will be more likely to experience out-of-pocket costs than non-Hispanic white victims.

Using data from the 2012 NCVS-ITS, Randa and Reynes (2019) examined the predictors of emotional distress among all adults. Thirty two percent of victims reported that the identity theft incident caused them moderate to severe distress, with older adults, women, and those with lower household incomes significantly more likely to report distress. Time spent resolving the incident with credit bureaus and financial institutions was also positively related to distress.

Using the same data, Golladay and Holtfreter (2017) examined the emotional and physical consequences following identity theft victimization and similarly found that older adults, minorities, and those who suffered higher losses reported an increasing number of emotional consequences—worry/anxiety, anger, depression, vulnerability, feeling unsafe, confused, violated, etc. There was also a negative association between emotional consequences and socioeconomic status, suggesting that those who are better off financially suffer less in the aftermath of victimization. Based on these prior studies, we hypothesize that:

H4: Female identity theft victims will report higher levels of emotional distress.

H5: Age will be positively associated with emotional distress.

H6: Older adult identity theft victims with lower educational attainment and lower socioeconomic status will be more likely to report emotional distress.

H7: Older African American and older Hispanic/Latino identity theft victims will be more likely to report emotional distress than non-Hispanic white victims.

H8: Measures of incident severity—longer duration of identity misuse, greater amount stolen, experiencing out-of-pocket costs, hours spent resolving the incident—will be positively associated with reporting emotional distress.

The decision to report identity theft to law enforcement and consumer agencies is likely influenced by the financial and psychological impact of the crime, and also the victim's sociodemographic characteristics which shape their knowledge, awareness, and perceptions of reporting agencies as well as confidence in law enforcement. Prior research using the 2012 ITS found that eight percent of victims ages 17 and older reported to law enforcement (Reyns & Randa, 2017). Research on financial fraud found that age was negatively associated with reporting fraud (FINRA Foundation, 2015), and Bearden & Mason (1984) similarly show that age is negatively associated with consumer complaining behavior. Therefore, we predict that:

H9: Age will be negatively associated with reporting identity theft.

Differences in reporting by race and socioeconomic status are complex. Low-income and minority populations historically have less trust in authorities to resolve crimes in which they are victims (Wu, Sun, & Triplett, 2009). More recently, Raval (2020) found that the characteristics of those who file complaints differ based on the nature of the complaint and the agency the case is filed with. Specifically, he found a higher complaint rate to the Consumer Financial Protection Bureau by residents living in African American and college educated areas compared to the FTC or Better Business Bureaus. There were also higher rates of finance-related complaints from African American communities across all reporting agencies.

Research performed by Reyns and Randa (2017) indicated that those with higher incomes were *less* likely to report victimization to law enforcement. This finding was replicated in a Dutch national sample that suggested that identity theft victims were significantly less likely to report to the police when they had higher income and education (van de Weijer, Leukfeldt, & Bernasco, 2019). The researchers also found that positive attitudes toward the police and negative ratings of neighborhood safety were significantly associated with reporting. Using the ITS 2012 sample, Golladay (2017) found that minorities age 18 and older were significantly more likely to report victimization to a credit bureau relative to white victims. Together, this evidence suggests that individuals who belong to a minority race or ethnicity and those who have lower income and education are more likely

to report, but no research has examined the factors associated with reporting among older adults specifically or examined identity theft reporting to a federal consumer complaint agency like the Federal Trade Commission.

Because the literature is inconsistent on the socioeconomic and demographic correlates of consumer complaint behavior and identity theft reporting behavior, we do not have *a priori* hypotheses on the relationship between identity theft reporting and socioeconomic status specifically among older adult victims.

For identity theft, measures of crime seriousness—emotional distress, increasing amounts of money stolen, and experiencing out-of-pocket costs—have been shown to be significantly associated with reporting existing credit card and bank account identity theft to law enforcement (Golladay, 2017; Reyns & Randa, 2017). Based on this prior research, we predict that:

> H_{10}: Measures of incident severity—longer duration of identity misuse, greater amount stolen, experiencing out-of-pocket costs, hours spent resolving the incident—will be positively associated with reporting.

Study Purpose

The current body of research suggests that identity theft victimization has a disproportionately negative impact on older adults and low-income adults, but no studies have specifically examined the correlates of financial and psychological consequences among older victims, and how these consequences relate to their decision to report fraud.

Using combined data on victims from the most recently available 2016 and 2018 NCVS-ITS, we test hypotheses relating to how socioeconomic status, demographic characteristics, and other incident-related factors relate to the total amount stolen, out-of-pocket costs, emotional distress, and crime reporting among victims ages 65 and older, controlling for the type of identity theft experienced. Results offer insight into what groups are in greatest need of support resources, financial recovery, and identity protection.

Methods

Sample

This study is restricted to respondents ages 65 and older who reported identity theft victimization occurring in the past 12 months in the 2016 and/or 2018 NCVS-ITS survey (N=3,619). These cross-sectional ITS surveys were administered during 6-month periods in each of the years and are consistent in survey content and methodology. They were combined for additional statistical power and more robust estimates. The ITS survey is administered to respondents ages 16 and older at the end of their NCVS interview using computer-assisted personal interviewing or computer-assisted telephone interviewing. Respondents are asked whether they have experienced different types of misuse of identifying information during the prior year. Those who answer affirmatively are asked to think about the most recent incident and answer more detailed, incident-specific questions

about the nature and consequences of the experience. For the purpose of this paper, respondents who experienced only *attempted* incidents of identity theft, victims who experienced identity misuse after providing information in response to a scam phone call or email (fraud), and those who experienced incidents perpetrated by a friend, family member or caregiver (financial exploitation/abuse) are excluded from the analysis to maintain distinct boundaries between these different types of financial victimization.

The broader NCVS study uses a two-stage, stratified cluster sample design representing US residents living in housing units or group quarters. The overall NCVS-ITS unit response rate was 61 percent in 2016 and 72 percent in 2018. Selection bias analysis found little or no bias to ITS estimates due to non-response (US Department of Justice [DOJ], 2016; DOJ, 2018). Data were weighted to reflect a nationally representative sample regarding age, gender, and race/ethnicity and to compensate for survey nonresponse and aspects of the staged sampling design. Further details on NCVS-ITS methods can be found at the Bureau of Justice Statistics website.

Dependent variables

The present study uses six dependent variables. Five are coded dichotomously and one is ordinal. Descriptive statistics (n, %) on each dependent variable are presented in Table 1.

Table 1. Summary statistics for dependent variables

	Variable name	N	% of total
	Total Amount Stolen		
	$0	983	27.2%
	$1 - 100	941	26.0%
I.	$101-500	808	22.3%
	$501 or more	623	17.2%
	Not sure (removed from analysis)	264	7.3%
II.	*Out of pocket Costs*	1288	35.6%
III.	Yes	254	7.0%
	Not sure (removed from analysis)	269	7.4%
IV.	Emotional Distress (moderate to severe)	1288	35.6%
V.	Reported to Law Enforcement	271	7.5%
VI.	Reported to a Credit Bureau	253	7.0%
VII.	Reported to a Consumer Protection Agency	80	2.2%

Total amount stolen. Respondents reported how much money (in dollars) identity thieves initially obtained in the incident, regardless of whether these losses were ultimately recovered or reimbursed. In more than a quarter of identity theft incidents, identity thieves did not obtain any money. Seven percent (n=264) of victims did not know how much money was stolen and were excluded from the analysis. Median amount stolen was $100 (mean=$558 and standard deviation (SD)=1,796). Based on the response distribution, values were recoded into four categories: $0 (reference category; 29 percent of total), $1-100 (28 percent), $101-500 (24 percent), and $501 and greater (18 percent). Four categories

(as opposed to a dichotomous $0/above $0 operationalization) allowed us to capture the wide variation in amounts stolen without reducing all amounts into a single category.

Out-of-pocket costs. Out-of-pocket costs are monetary losses that are not reimbursed or recovered following victimization. Because only seven percent (n=254) of older victims experienced out-of-pocket costs, this variable was dichotomized where 0= no loss and 1= any loss. Median out-of-pocket losses were $200 (mean=$667, SD=1,487). Those who did not know whether they suffered out-of-pocket costs (seven percent) were excluded from this analysis (n=269).

Emotional distress. On a 4-point Likert scale, respondents were asked to rate how distressed they were following the misuse of their personal information. Responses included "not at all distressing", "mildly distressing", "moderately distressing", and "severely distressing." The item was dichotomized such that those who rated their distress as moderate or severe were coded as "1" (n=1,288, 36 percent).

Reported to law enforcement. Respondents were asked whether they reported the incident to law enforcement, such as the local police, a sheriff's office, or a federal law enforcement agency to report misuse of their personal information. Those who said "yes" (n=271, 8%) were coded as "1".

Reported to a credit bureau. Respondents who reported that they contacted a credit bureau following the misuse of their information were coded as "1" (n=253, seven percent).

Reported to a consumer agency. Respondents were asked whether they (1) contacted a State or local government consumer affairs agency, such as the State Attorney General's office (n=49, one point four percent), (2) the Federal Trade Commission (n=34, zero-point nine percent , or (3) another consumer agency, such as the Better Business Bureau or the National Consumer League (n=34, zero-point nine percent . Those who said "yes" to one or more of those items were coded "1" (n=80, two-point two percent).

Independent variables

Socioeconomic indicators. Educational attainment was coded as 0=less than high school, 1=high school or GED equivalent, 2=some college/associate degree, and 3=Bachelor's degree or higher. Percent of the federal poverty level (FPL) was an ordinal variable that measures a respondent's household income as a percentage of the federal poverty level, determined by the US Department of Health and Human Services. It is a more robust measure than simply using household income because it takes into account the household size. Harrell and colleagues (2014) provide additional information on how this measure was calculated. Seven levels were used in the analysis: 0-100 percent FPL, 101-150 percent , 151-200 percent , 201-300 percent , 301-400 percent , 401-500 percent , and 501 percent FPL or higher (reference).

Demographic characteristics. Age was coded continuously. Race was coded as 0=White, non-Latino, 1=Black/African American, non-Latino, 2= Latino, and 3=other race/ethnicity, non-Latino. Sex was 1=female. Marital status was 1= married.

Types of identity misuse. Because prior research shows that the likelihood of being reimbursed or having funds recovered varies based on the nature of identity theft, *types of identity misuse* were divided into five categories based on how the respondent answered the ITS victimization screening questions. The reference category is *existing credit card account*:

"During the past 12 months, has someone used or attempted to use one or more of your existing credit cards without your permission?" (yes=1).

Other existing accounts include respondents who said yes to one or both of the following questions: "Has someone, without your permission, used or attempted to use your existing checking or savings account, including any debit or ATM cards?" (yes=1), and/or: "Has someone misused or attempted to misuse another type of existing account such as your telephone, cable, gas or electric accounts, online payment account like PayPal, insurance policies, entertainment account like iTunes, or something else?" Before answering the items on existing bank account and credit card identity theft, respondents were first asked if they owned either of these accounts. If not, that particular item was skipped.

New accounts identity theft was measured using the question: "Has someone, without your permission, used or attempted to use your personal information to open any NEW accounts such as wireless telephone accounts, credit card accounts, loans, bank accounts, online payment accounts, or something else?" (yes=1). The fourth category is instrumental identity theft that was measured using the following item: "Has someone used or attempted to use your personal information for some other fraudulent purpose, such as filing a fraudulent tax return, getting medical care, applying for a job or government benefits; giving your information to the police when they were charged with a crime or traffic violation, or something else?" (yes=1).

Multiple types of identity theft were defined as a single incident of information exposure (e.g., a stolen wallet) that results in the multiple types of identity theft as described in the categories above. Multiple types of identity theft occur when a single incident of information exposure (e.g., a stolen wallet) results in more than one of the aforementioned types of identity theft, such as unapproved credit card charges in addition to new accounts being opened or online account takeover.

Incident-specific factors. Respondents were asked whether they experienced banking and/or credit problems following identity theft and if they were successful in clearing up the financial and credit issues associated with the misuse of their information. Those who said "yes" were coded as 1= incident resolved.

Time to discovery measured how much time passed between when the victim's information was misused and when they discovered the misuse, where 0=one day or less, 1=more than a day but less than a week, 2=at least a week, but less than one month, 3= one month to less than six months, 4= six months or more, and 5=unknown.

Time to resolve was measured continuously as the number of hours it took the victim to clear up any financial and/or credit problems associated with identity theft. Respondents were asked if the incident caused them to have significant problems with family members or friends, including getting into more arguments or fights, not feeling they could trust them as much, or not feeling as close to them as before (*Subsequent problems with family/friends*; 1=yes). They were also asked if they experienced any credit or banking related problems as a result of identity theft, such as being turned down for a line of credit, a loan, or a checking account; having to pay a higher interest rate; or having checks bounce (*Subsequent financial and/or credit problems*; 1=yes). They were also asked if they contacted a bank, credit card company, or other financial institution following the incident (*Contacted financial institution*; 1=yes). This behavior may also affect whether the victim was able to recover all or a portion of their stolen funds or reverse unapproved charges.

   Multiple ID theft incidents measures whether the victim experienced other separate incidents of identity theft within the past 12-months (1=yes), and *prior victimization* measures whether the respondent experienced identity theft victimization occurring prior to the past 12 months (1=yes). Weighted sample characteristics on incident-specific factors and types of identity theft are presented in Table 2.

   Table 2. Weighted incident characteristics

	Weighted N	%
Type of identity theft		
Existing credit card ID theft	1603987	25.2%
Multiple types of ID theft	458079	7.2%
Other existing account ID theft	3996398	62.9%
New account ID theft	180248	2.8%
Instrumental ID theft	116352	1.8%
Amount of time info used prior to the discovery of ID theft		
One day or less (1-24 hours)	2912181	45.8%
More than a day, but less than a week (25 hours-6 days)	1420349	22.3%
At least a week, but less than one month (7-30 days)	973319	15.3%
One month to less than six months	541698	8.5%
Six months or more	69665	1.1%
Unknown	437851	6.9%
Other incident characteristics		
Incident was resolved	5269221	92.7%
Financial and credit problems following ID theft	142042	2.2%
Subsequent family/friend relationship problems	56723	0.9%
Multiple ID theft incidents in 12 mo.	1487988	23.4%
Prior ID theft (more than 12 months ago)	1546016	24.3%

Analysis

Population weights were applied in all analyses. Models were analyzed in SPSS 25 using complex samples procedures to account for the address-based sampling design of the NCVS. Using ordinal regression, *total amount stolen* was regressed on demographic and socioeconomic victim characteristics (N=3,330). The four levels of the dependent variable were: $0 stolen, $1-100, $101-500, and $501 or more. Additional independent variables included the type of identity theft (existing credit card=reference) and whether the victim contacted their financial institution to report the incident.

   Using logistic regression, *out-of-pocket costs* were regressed on the same demographic and socioeconomic characteristics, as well as the type of identity theft and whether the victim contacted their financial institution following the incident (N=3,325). *Emotional distress* was regressed on demographic and socioeconomic characteristics, type of identity theft, and other incident-specific factors (N=3,118). These additional factors included banking and/or credit problems=1, incident resolved =1, time to discovery

(ordinal), hours spent resolving the incident (continuous), social relationship problems=1, multiple identity theft incidents=1, and prior identity theft victimization=1. *Reported to law enforcement, reported to a credit bureau, and reported to a consumer complaint agency* were separately regressed on demographic and socioeconomic victim characteristics, type of identity theft, banking and/or credit problems, time to discovery, hours spent resolving the incident, social relationship problems=1, multiple identity theft incidents, and prior identity theft victimization.

Results

Sample characteristics

Table 3 presents weighted sample characteristics. Roughly half of the identity theft victims surveyed were female (51 percent) and 64 percent were married. Mean age was 72 years-old (SD=6.1). Forty-five percent of victims had a bachelor's degree or higher. The majority lived in a suburban environment (57 percent), followed by urban (28 percent) and rural (15 percent). Eighty-six percent were white (non-Latino), seven percent were African American, and four percent were Hispanic/Latino. Accounting for household size, approximately five percent of victims had annual household incomes at or below 100 percent FPL, whereas 38 percent had incomes that were 501% percentFPL or greater.

Table 3. Weighted sample characteristics

	Weighted N	%
Female	3823762	51.0%
Married	4748712	63.8%
Urbanicity		
Rural	1133505	15.2%
Suburban	4217140	56.5%
Urban	2115722	28.3%
Race		
White (non-Latino)	6416255	85.9%
African American	502025	6.7%
Hispanic	329662	4.4%
Asian/Indigenous/Pacific Islander /other/multiple races	218426	2.9%
Educational attainment		
Less than high school diploma	467136	6.3%
High school graduate	1430213	19.3%
Some college/associate degree	2206786	29.8%
College degree or more	3297343	44.5%
Percent of federal poverty level		
0-100%	397688	5.3%
101-150%	392393	5.3%
151-200%	559010	7.5%

201-300%	1347241	18.0%
301-400%	1080857	14.5%
401-500%	865352	11.6%
501% or higher	2823826	37.8%

Compared to the overall US population of adults ages 65 and older in 2016/2017 (Administration for Community Living, 2018), identity theft victims are significantly more non-Hispanic white (86 percent compared to 77 percent), fewer live in poverty (100 percent FPL or lower = five percent compared to nine percent), and they are more educated. For example, 45% of victims have at least a bachelor's degree compared to 30 percent for all adults ages 65 and older in 2017.

Total amount stolen

Few victim characteristics were associated with the total amount of money stolen (Model 1, Table 4). For example, victim age only trended toward a positive association with the total amount stolen by identity thieves. For example, the odds of having increasing amounts of money stolen increased by 1% each year (Odds ratio (OR) =1.01, 95% Confidence Interval (CI)=0.99, 1.02, p=.066). Contrary to predictions outlined in H_1, we did not find a relationship between higher socioeconomic status and amount stolen. Educational attainment, percent of FPL, marital status, sex, urbanicity, and race/ethnicity were not associated with the total amount stolen.

Type of identity theft reported was significant such that experiencing multiple types of identity theft was related to increasing amounts of money stolen compared to existing credit card identity theft (OR=1.69, 95%CI=1.15, 2.49, p=.009), whereas new account identity theft and instrumental identity theft were associated with lower amounts of money stolen (p=.004 and p=.005, respectively). Contacting a financial institution was also negatively associated with the amount stolen (OR=0.40, 95%CI=0.30, 0.54, p<.001).

Out-of-pocket costs

As shown in Model 2, Table 4, victims living at or below the federal poverty level were more than three times as likely to suffer out-of-pocket costs compared to victims living at 501 percent FPL or greater (OR=3.12, 95%CI=1.61, 6.06, p=.001). Also, those between 100 and 150 percent FPL were significantly more likely to experience out-of-pocket costs (OR=2.21, 95%CI=1.27, 3.85, p=.005). These findings partially support our second hypothesis. We did not find support that lower educational attainment was associated with out-of-pocket costs, nor that African American and Hispanic victims were more likely to suffer out-of-pocket costs (H_3). Other demographic characteristics—age, sex, and marital status, were also not significant.

Relative to those who reported existing credit card identity theft, those who reported other existing account identity theft were significantly less likely to suffer out-of-pocket costs (OR=0.47, 95%CI=0.33, 0.67, p<.001), suggesting that this type of identity theft is less likely to involve personal financial losses. Unlike the total amount stolen, out-of-pocket costs were not related to contacting financial institutions.

Table 4. Factors associated with increasing amounts of money stolen and out-of-pocket costs following identity theft

		Model 1: Total Amount Stolen (N=3,330)				Model 2: Out-of-pocket costs (N=3,325)			
			95%CI				95%CI		
		OR	2.5%	97.5%		OR	2.5%	97.5%	
	Age (continuous)	1.01	1.00	1.02	†	1.02	0.99	1.04	
	Female	0.94	0.81	1.09		0.87	0.62	1.22	
	Married	1.00	0.86	1.17		0.76	0.52	1.11	
Urbanicity	Urban	---	---	---		---	---	---	
	Rural	0.86	0.66	1.12		1.16	0.65	2.07	
	Suburban	0.88	0.75	1.04		0.72	0.50	1.04	†
Race/ Ethnicity	Non-Hispanic white (reference)	---	---	---		---	---	---	
	African American	1.20	0.87	1.66		1.36	0.74	2.51	
	Hispanic	0.76	0.46	1.25		0.99	0.46	2.15	
	Asian/Indigenous/Pacific Islander/other/multiple races	1.30	0.86	1.98		1.16	0.44	3.08	
Educational attainment	Less than high school diploma (reference)	---	---	---		---	---	---	
	High school graduate	0.88	0.64	1.20		0.97	0.45	2.09	
	Some college/associate degree	0.94	0.69	1.28		0.79	0.39	1.59	
	College degree or more	0.84	0.62	1.13		1.21	0.57	2.55	
Percent of federal poverty level	0-100%	0.96	0.70	1.31		3.12	1.61	6.05	**
	101-150%	1.17	0.84	1.65		2.21	1.27	3.85	**
	151-200%	0.87	0.67	1.14		1.06	0.55	2.06	
	201-300%	1.09	0.87	1.36		1.37	0.82	2.27	
	301-400%	1.10	0.87	1.39		0.94	0.46	1.91	
	401-500%	1.18	0.93	1.50		1.28	0.72	2.26	
	501% or higher (reference)	---	---	---		---	---	---	
Type of ID theft	Existing credit card ID theft (reference)	---	---	---		---	---	---	
	Multiple types of ID theft	1.69	1.14	2.49	**	1.22	0.66	2.25	
	Other existing account ID theft	0.93	0.79	1.09		0.47	0.33	0.67	***
	New account ID theft	0.38	0.20	0.74	**	0.47	0.20	1.11	†
	Instrumental ID theft	0.33	0.16	0.71	**	0.58	0.19	1.82	
	Contacted financial institution	0.40	0.30	0.54	***	1.42	0.79	2.54	

Note: † p<.1, *p<.05, **p<.01, ***p<.001. All analyses are weighted. OR=odds ratio.

Emotional Distress

Table 5 presents the results of emotional distress regressed on victim demographic and socioeconomic characteristics, along with incident related factors that may impact psychological outcomes following victimization. In support of H₄ and prior research, we found that female victims were 74 percent more likely to report distress than male victims (95%CI=1.44, 2.11, *p*<.001). In contrast to our predictions, we did not find support for H₅ or H₆, such that victim age, percent of poverty, and educational attainment were not associated with distress.

Table 5. Factors associated with emotional distress following identity theft (N=3,118)

		OR	95% CI 2.5%	97.5%	
	Age (continuous)	1.00	0.99	1.02	
	Female	1.74	1.44	2.11	***
	Married	1.01	0.80	1.27	
Urbanicity	Urban	---	---	---	
	Rural	1.19	0.91	1.57	
	Suburban	1.08	0.89	1.32	
Race/Ethnicity	Non-Hispanic white (reference)	---	---	---	
	African American	1.44	0.98	2.12	†
	Hispanic	0.93	0.55	1.57	
	Asian/Indigenous/Pacific Islander/other/multiple races	1.04	0.65	1.66	
Educational attainment	Less than high school diploma (reference)	---	---	---	
	High school graduate	1.17	0.75	1.82	
	Some college/associate degree	1.35	0.89	2.04	
	College degree or more	1.39	0.91	2.11	
Percent of federal poverty level	0-100%	0.83	0.51	1.35	
	101-150%	1.33	0.82	2.14	
	151-200%	1.10	0.75	1.60	
	201-300%	0.97	0.72	1.31	
	301-400%	1.21	0.90	1.62	
	401-500%	1.01	0.75	1.37	
	501% or higher (reference)	---	---	---	
Type of ID theft	Existing credit card ID theft (reference)	---	---	---	
	Multiple types of ID theft	1.12	0.76	1.67	
	Other existing account ID theft	0.75	0.59	0.96	*
	New account ID theft	1.92	1.06	3.46	*
	Instrumental ID theft	1.53	0.84	2.80	

	$0 (reference)	---	---	---	
Total amount stolen	$1 - 100	0.93	0.71	1.22	
	$101-500	1.46	1.13	1.89	**
	$501 or more	2.36	1.78	3.14	***
	Experienced out-of-pocket costs	1.61	1.12	2.31	*
Length of time information was misused prior to discovery	One day or less (reference)	---	---	---	
	More than a day, but less than a week	1.39	1.06	1.82	*
	At least a week, but less than one month	1.46	1.11	1.92	**
	One month to less than six months	2.12	1.50	2.99	***
	Six months or more	1.79	0.81	3.96	
	Unknown	1.44	1.01	2.05	*
Other incident characteristics	Incident was resolved	0.91	0.65	1.28	
	Number of hours spent resolving the incident	1.03	1.02	1.05	***
	Subsequent financial and/or credit problems	1.64	0.83	3.25	
	Subsequent problems with friends/family	5.63	1.54	20.59	**
	Multiple incidents within past 12-months	1.45	1.15	1.83	**
	Prior ID theft victimization	1.21	0.96	1.52	

Note: † p<.1, *p<.05, **p<.01, ***p<.001. All analyses are weighted. OR= odds ratio.

Results provide only limited support for H7. Relative to older non-Hispanic white victims, older African American victims were 44 percent more likely to experience emotional distress, although this effect only trended toward statistical significance (95%CI=0.98, 2.13, *p*=.063). Hispanic victims were not more likely to report distress relative to white victims.

Findings support H8, meaning that more severe incidents result in greater likelihood of emotional distress. Victims who suffered out-of-pocket costs were 61 percent more likely to report emotional distress relative to those with no out-of-pocket costs (95%CI=1.12, 2.31, *p*=.010). Even after controlling for out-of-pocket costs, those who had between $101 and $500 stolen were 46 percent more likely to feel distressed (95%CI=1.29, 1.89, *p*=.004), and those who had $501 or more stolen were nearly two and a half times as likely to feel distressed (OR=2.36, 95%CI=1.78, 3.14, *p*<.001) compared to those who had no money stolen. Relative to those who discovered their identity had been misused within one day or less, those who discovered the misuse between a day and a week later were 39 percent more likely to report distress (95%CI=1.06, 1.82, *p*=.017). If identity theft was discovered at least a week but less than one month later, respondents were 46 percent more likely to feel distressed (95%CI=1.11, 1.92, *p*=.007), and those who discovered it between one and six months later were twice as likely to feel distressed (OR=2.12, 95%CI=1.50, 3.00, *p*<.001). Those who were not sure how long their information was misused were 44 percent more likely to feel distressed compared to those who discovered it in the same day (95%CI=1.01, 2.05, *p*=.045).

Experiencing multiple incidents of identity theft within the same year was also significantly associated with distress (OR=1.45, 95%CI=1.15, 1.83, *p*=.002). The more hours it took the victim to resolve the incident the greater the odds of feeling distress (OR=1.03, 95%CI=1.02, 1.05, *p*<.001). Older victims who reported that the incident negatively impacted their relationships with friends and/or family members were more than five times as likely to report moderate to severe emotional distress (OR=5.63, 95%CI=1.54, 20.60, *p*=.009).

Type of identity theft victimization was related to distress. Other existing account identity theft was negatively associated with distress (OR=0.75, 95%CI=0.59, 0.96, *p*=.021), whereas new account identity theft was positively associated with distress (OR=1.92, 95%CI=1.06, 3.46, *p*=.030).

Identity theft reporting

Separate models were analyzed to determine the correlates of reporting to law enforcement, a credit bureau, and a consumer complaint agency (Table 6). Correlates of reporting differed across organizations/agencies. Controlling on the type of identity theft, few demographic or socioeconomic factors were significantly associated with reporting to any organization or agency. For example, age was not negatively associated with reporting as predicted (H_9).

Although no predictions were made on how socioeconomic status and education impact rates of reporting, results show that respondents with some college or an associate's degree were more than twice as likely as those with less than a high school degree to report to the police and a credit bureau (*p*<.05). Those living at or below the poverty level (0-100 percent FPL) were 66 percent less likely to report to police than those living at 501 percent or more FPL (OR=0.33, 95%CI=0.13, 0.88, *p*=.027). A similar trend was seen for reporting to a credit bureau although it was not statistically significant (OR=0.40, 95%CI=0.15, 1.07, *p*=.067). These findings are in line with trends in consumer complaints in general but differ from other research on reporting identity theft (Reyns & Randa, 2017; van de Weijer, Leukfeldt, & Bernasco, 2019).

As hypothesized (H_{10}), measures of incident severity were positively associated with reporting, although results differed by organization/agency. Experiencing out-of-pocket costs was only associated with reporting to the police, such that those who lost money were more than twice as likely to contact law enforcement compared to those who were not sure (OR=2.27, 95%CI=1.09, 4.75, *p*=.029). Emotional distress, hours spent trying to resolve the incident, and having information misused for six months or more (relative to a day or less) were all positively associated with reporting for all organizations/agencies. Those who stated that the incident was moderately to severely distressing were between two and four times more likely to report the crime, with emotional distress having the strongest effect on reporting to a consumer complaint agency (OR=4.13, 95%CI=2.03, 8.41, *p*<.001). For every additional hour spent resolving the incident, a respondent was between one point nine percent and two-point nine percent more likely to report the crime (*p*<.01), and consumers who had their information misused for six months or more were between 2.7 and 4.6 times as likely to report the crime compared to those whose information was misused for a day or less.

Table 6. Factors associated with reporting identity theft victimization

		Reported to law enforcement (N=3,443)				Reported to a credit bureau (N=3,442)				Reported to consumer complaint agency (N=3,446)			
			95% CI				95% CI				95% CI		
		OR	2.5%	97.5%		OR	2.5%	97.5%		OR	2.5%	97.5%	
	Age (continuous)	1.00	0.96	1.03		0.99	0.96	1.03		1.03	0.97	1.09	
	Female	0.79	0.54	1.16		0.87	0.61	1.24		1.04	0.61	1.80	
	Married	1.00	0.68	1.49		0.88	0.62	1.26		0.84	0.52	1.35	
Urbanicity	Urban	---	---	---		---	---	---		---	---	---	
	Rural	1.11	0.66	1.87		0.97	0.54	1.74		1.52	0.59	3.91	
	Suburban	1.15	0.76	1.74		0.82	0.53	1.29		1.47	0.71	3.02	
Race/ Ethnicity	Non-Hispanic white (reference)	---	---	---		---	---	---		---	---	---	
	African American	1.08	0.57	2.04		1.02	0.52	2.00		1.42	0.62	3.29	
	Hispanic	1.35	0.60	3.02		0.73	0.34	1.60		0.61	0.04	8.39	
	Asian/Indigenous/Pacific Islander/other/multiple races	1.36	0.52	3.55		0.56	0.13	2.42		1.60	0.36	7.10	
Educational attainment	Less than high school diploma (reference)	---	---	---		---	---	---		---	---	---	
	High school graduate	2.43	0.92	6.44	†	1.84	0.71	4.75		2.06	0.34	12.36	
	Some college/associate degree	2.62	1.00	6.87	†	2.70	1.09	6.71	*	2.47	0.49	12.48	
	College degree or more	1.87	0.68	5.15		2.23	0.86	5.73	†	1.29	0.21	7.90	
Percent of federal poverty level	0-100%	0.33	0.13	0.88	*	0.40	0.15	1.07	†	1.00	0.28	3.60	
	101-150%	1.59	0.70	3.61		0.92	0.42	2.03		1.59	0.43	5.95	
	151-200%	1.10	0.55	2.18		1.16	0.55	2.42		1.12	0.37	3.41	
	201-300%	1.00	0.63	1.60		0.75	0.46	1.21		1.35	0.62	2.98	
	301-400%	0.77	0.44	1.36		0.78	0.42	1.45		1.84	0.92	3.67	†
	401-500%	0.68	0.38	1.22		1.33	0.76	2.33		1.80	0.64	5.04	
	501% or higher (reference)	---	---	---		---	---	---		---	---	---	

Note: † p<.1, *p<.05, **p<.01, ***p<.001. All analyses are weighted. OR= odds ratio.

Table 6 continued. Factors associated with reporting identity theft victimization

		Reported to law enforcement (N=3,443)				Reported to a credit bureau (N=3,442)				Reported to consumer complaint agency (N=3,446)			
			95% CI				95% CI				95% CI		
		OR	2.5%	97.5%		OR	2.5%	97.5%		OR	2.5%	97.5%	
Type of ID theft	Existing credit card ID theft (reference)	---	---	---		---	---	---		---	---	---	
	Multiple types of ID theft	1.57	0.96	2.58	†	2.93	1.66	5.16	***	5.32	2.05	13.75	***
	Other existing account ID theft	0.50	0.34	0.74	**	1.16	0.70	1.94		1.54	0.72	3.28	
	New account ID theft	2.54	1.37	4.70	**	16.18	8.44	31.04	***	6.62	2.30	19.00	***
	Instrumental ID theft	2.33	1.12	4.82	*	3.32	1.51	7.31	**	2.66	0.63	11.17	
Out of pocket costs	None	1.18	0.59	2.36		0.97	0.49	1.93		0.65	0.19	2.28	
	Experienced out-of-pocket costs	2.27	1.09	4.75	*	1.19	0.50	2.81		1.17	0.28	4.81	
	Unknown (reference)	---	---	---		---	---	---		---	---	---	
Length of time information was misused prior to discovery	One day or less (reference)	---	---	---		---	---	---		---	---	---	
	More than a day, but less than a week	1.43	0.94	2.17	†	1.59	0.95	2.68	†	2.00	0.77	5.17	
	At least a week, but less than one month	1.21	0.72	2.06		1.67	0.95	2.94	†	0.92	0.37	2.26	
	One month to less than six months	1.39	0.74	2.61		1.54	0.89	2.69		2.40	0.83	6.92	
	Six months or more	4.58	1.91	10.98	**	2.82	1.07	7.42	*	2.71	0.86	8.56	†
	Unknown	1.36	0.62	2.98		1.38	0.71	2.69		1.09	0.26	4.53	
Other incident characteristics	Incident was moderately to severely distressing	2.43	1.70	3.47	***	2.16	1.46	3.20	***	4.13	2.03	8.41	***
	Number of hours spent resolving the incident	1.02	1.01	1.03	***	1.03	1.01	1.04	***	1.02	1.00	1.03	**
	Subsequent financial and/or credit problems	1.15	0.54	2.45		0.40	0.13	1.22		1.04	0.25	4.32	
	Subsequent problems with friends/family	0.19	0.05	0.74	*	0.90	0.41	1.98		0.45	0.08	2.65	
	Multiple incidents within past 12-months	1.18	0.83	1.69		1.30	0.88	1.92		0.88	0.40	1.91	
	Prior ID theft victimization	0.89	0.61	1.29		0.75	0.54	1.06		0.51	0.25	1.07	†

Note: † p<.1, *p<.05, **p<.01, ***p<.001. All analyses are weighted.

Other incident-specific factors differed in their effects on reporting decisions. For example, experiencing subsequent problems with friends and family members was associated with a *lower* likelihood of reporting to the police only (OR=0.19, 95%CI=0.05, 0.74, *p*=.017). Victims who experienced prior identity theft were approximately half as likely to report to a consumer agency (OR=0.51, 95%CI=0.25, 1.07), but this effect only trended towards statistical significance (*p*=.076).

The type of identity theft the victim experienced had the largest effects on reporting decisions, but the magnitude of effects varied by the organization/agency and the type of identity theft. Across all organizations/agencies, victims were significantly more likely to report new account identity theft compared to existing credit card identity theft (*p*<.01). Relative to existing credit card identity theft, victims were also significantly more likely to report multiple types of identity theft to a credit bureau (OR=2.93, 95%CI=1.67, 5.16, *p*<.001) and to a consumer complaint agency (OR=5.32, 95%CI=2.06, 13.75, *p*=.001), but the effect only trended for reporting to police (OR=1.57, 95%CI=0.96, 2.58, *p*=.073). Instrumental identity theft victimization was significantly associated with reporting to police (OR=2.33, 95%CI=1.24, 4.82, *p*=.023) and a credit bureau (OR=3.32, 95%CI=1.51, 7.31, *p*=.003), but not a consumer complaint agency; and reporting another form of existing account identity theft was negatively associated with reporting to police (OR=0.50, 95%CI=0.34, 0.74, *p*<.001), relative to existing credit card identity theft.

Discussion

This is the first study to examine the financial and psychological outcomes of identity theft and the correlates of reporting among older adult victims. Although only seven percent of older victims experience out-of-pocket costs associated with identity theft, 36 percent describe the experience as moderately to severely distressing, indicating that the harm resulting from personal information misuse extends beyond direct financial losses. In addition to direct losses, other costs include financial and legal troubles, ruined credit, and disruptions to personal relationships with family and friends. These consequences may be more severe for older adults with physical or cognitive impairments that make it difficult to contact multiple credit bureaus and financial institutions to report identity misuse.

While few socioeconomic status and demographic characteristics are significant among older adults, incident-specific factors are important contributors to distress. The more money that is stolen from the victim during the incident the greater the odds of emotional distress, regardless of whether losses are recovered or reimbursed. Also, the longer information is misused before the crime is discovered, and the more hours spent resolving the incident, the greater the likelihood of distress. Our findings reflect results from a smaller survey of a few hundred adult victims that found that the magnitude of financial loss, the duration of misuse of personal information, and the amount of time spent resolving the effects of the crime are all factors that increase perceived distress (Li et al., 2019).

Beyond incident-specific characteristics, we find that older African American victims and older female victims are more likely to report emotional distress, controlling for other demographic and socioeconomic characteristics. Prior work using the ITS shows that

minorities experience higher levels of distress than Caucasian individuals (Golladay & Holtfreter, 2017), and Burnes, DeLiema and Langton (2020) found that African American respondents were 58 percent more likely to report instrumental identity theft relative to other race and ethnic groups. This subtype of identity theft may be particularly stressful for victims because it involves using the victim's personal identity to obtain benefits and services that the victim is entitled to, such as healthcare, tax refunds, and enrollment in government programs. The higher prevalence of instrumental identity theft in African American communities may help account for their higher levels of distress, although this particular subtype of identity theft was not associated with higher levels of distress when controlling for race and ethnicity.

We find that the poorest older Americans are more likely to suffer out-of-pocket costs. Specifically, older Americans experiencing poverty are 3.1 times as likely to suffer a personal financial burden relative to those who live at 501 percent FPL or more, even after accounting for the type of identity theft and whether the victim contacted their financial institution about the incident. Consistent with findings from the general US adult population (Copes et al., 2010; Reynolds, 2020), these results illustrate the importance of social and economic capital in resolving identity theft incidents. To resolve identity theft, the Federal Trade Commission recommends that victims contact their financial institutions or the company involved in the incident, change their passwords, request that money be reimbursed or charges reversed, contact all three credit bureaus to place fraud alerts, and report the incident to authorities. Depending on the severity of the incident, victims may also need to place a freeze on their credit, write to credit bureaus to request corrections to their credit reports, close unauthorized new accounts, write to debt collectors explaining the situation, report to the Social Security Administration, and replace government-issued IDs. These tasks can place a tremendous burden on low-income older adults, many of whom lack access to broadband internet, supportive ties who can advocate on their behalf, or the knowledge and wherewithal to negotiate with powerful financial institutions. Older adults also have lower knowledge of cybersecurity practices to safeguard their identities from continued misuse (Nicholson et al., 2019). Research is needed to determine whether wealthy and/or White older adults are treated differently by their financial institutions when they report identity theft, and whether they are more likely to have account safeguards in place or a client/customer status that increases their odds of being reimbursed.

This is the first study to show the negative impact of identity theft on social relationships after controlling for other victim and incident-level characteristics. Maintaining strong positive social and emotional relationships is critical for health and wellbeing in later life (Cho, Martin, & Poon, 2015; Litwin & Shiovitz-Ezra, 2011). Findings here illustrate that victims who reported that identity theft caused significant problems with family members or friends were five and half times as likely to experience emotional distress, suggesting that identity theft can have severe ramifications for older adults' wellbeing. This finding also highlights how the effects of identity theft can extend beyond the individual victims into their social networks. Qualitative research is needed to understand how identity theft victimization leads to relationship discord and why this is associated with lower odds of reporting. One possibility is that family members blame the older victim for the incident, assuming that they did not keep their personal information secure or that they waited too long to take action. Victim blaming is common in fraud and is

likely a driver of low rates of reporting (Cross, 2015; Cross, Richards, & Smith, 2016). Family participation is essential to protecting older adults from identity crimes. Family members can provide account oversight and coach the older person on cybersecurity practices. Future research may address ways that families can better support older adults following identity crimes and help to reduce the stigma of victimization.

Despite high levels of emotional distress, less than seven percent of victims reported to law enforcement or credit bureaus, and even fewer reported to consumer complaint agencies. Different factors were associated with where victims reported, with out-of-pocket costs and problems with friends and family only associated with reporting to law enforcement. This study replicated only some of the findings from prior research on identity theft reporting among adults of all ages. Similar to Reyns and Randa, (2017) who examined reporting among victims ages 17 and older, we found that emotional distress and experiencing out-of-pocket losses were significantly associated with reporting, indicating that the severity of the crime motivates older adults to contact authorities. The type of identity theft was highly associated with the decision to report to different organizations/agencies, with a new account, instrumental, and multiple forms of identity theft more likely to be reported than existing credit card identity theft. Unlike Reyns and Randa, (2017) and Weijer, Leukfeldt, and Bernasco (2019), we found that among older adults, those with an associate's degree were more likely than those with less than a high school degree to report to law enforcement and a credit bureau and that those living in poverty were less likely to report than wealthy older adults. This could indicate that more educated and wealthy older adults are either more confident in law enforcement response or that they have greater sources of support to assist with contacting authorities. Unlike prior studies, we found no associations between race, ethnicity, income, and urbanicity, and the decision to report to any organization/agency.

The Covid-19 pandemic created new risks of identity theft as many older adults turned to the internet to meet their shopping, banking, and even healthcare consultation needs. Identity theft was particularly prevalent in 2020 following the steep rise in joblessness. International criminals filed for US unemployment benefits using the stolen identities of US citizens, siphoning off approximately $36 billion from the program, or 10 percent of all funds expended for unemployment benefits under the CARES Act (Office of the Inspector General, 2020). The NCVS-ITS data used in this study were collected prior to the pandemic and it is unknown how these recent crimes affected older adults in particular, and whether they have influenced older adults' confidence in exchanging personal information with the government. Data from the forthcoming 2020 ITS may shed light on how the pandemic affected identity theft incidence and severity during Covid-19.

Implications and future research

Findings suggest that limiting the extent of losses and reducing the length of time information is misused prior to detection may reduce the emotional toll of identity theft. Older adults in particular should increase surveillance of their identifying information by using identity protection software, two-step authentication features, signing up for credit alerts, and applying low spending limits on credit cards. Other personal protection behaviors such as routinely changing passwords, making passwords complicated and varying them for each account, monitoring financial transactions, and locking up or

shredding documents, are also important for preventing identity theft (Burnes, DeLiema & Langton, 2020). In addition, financial institutions may see benefit to acting swiftly to stop suspicious transactions before charges can escalate, and organizations should not delay in informing their customers, employees, and law enforcement of data breaches that involve personal or payment information. Unfortunately, Lacey and Cuganesan (2004) report that a minority of organizations report possible data breaches to law enforcement agencies, suggesting that consumers also fail to learn about potential information exposure.

Some research has explored how identity theft might affect consumers' trust in the marketplace, particularly their confidence and willingness to engage in online transactions (Chakraborty et al., 2016; Roberts, Indermaur, & Spiranovic, 2013). Avoiding the transfer of personal information online is near impossible in today's society, as most companies and government agencies rely on the internet to do business with consumers. Future research should examine how identity theft victimization affects older consumers' trust in government agencies and other institutions, and whether it impacts online shopping and sharing of personal information in online environments.

Limitations

Although the ITS is one of the most comprehensive sources of data on identity theft, the survey excludes individuals with severe cognitive impairment and those who live in institutional settings (e.g., psychiatric care, long-term care, nursing homes). The impacts of identity theft on these vulnerable older adults are not known, although victim research on fraud indicates that cognitive decline and dementia are correlates of increased risk (Boyle et al., 2019). Unfortunately, the ITS does not include measures of whether older adults may be experiencing cognitive decline or other mental or physical health conditions that could impact distress and the ability to recover losses. Moreover, the ITS uses a one-year reference period and it may be difficult for older victims with cognitive impairment to accurately remember details of the incident and how they felt about it. Identity theft is an unusual crime in that the consequences, such as diminished credit scores or unexplained credit card charges, may be overlooked by some victims and therefore underreported. Finally, although the survey has relatively high response rates and no strong evidence of bias, it is possible that older adults who refuse to participate in the NCVS or the ITS may be more reluctant to provide personal information in a survey because they have experienced identity theft previously. This would mean that more victims are in the nonresponse group are not represented in the data.

Conclusion

Findings from this study largely align with other studies that examine the impact of identity theft victimization on adults of all ages, although older adults may present additional vulnerabilities, such as cognitive decline and isolation, which could increase their risk of serious outcomes. Also, older adults' patterns of reporting to law enforcement differ from patterns found in prior research using samples of victims of all ages. New programs and services are needed to help older victims recover, with a particular focus on low- income people and those who lack the ability to advocate for themselves. Advocates may assist older victims with contacting multiple financial institutions and credit bureaus, filing

complaints, and freezing their credit. Additional services might include victim support groups and other psychological resources, as well as to information for family caregivers on how to support older victims. Future research should assess whether cybersecurity training can help older adults secure their identity information and reduce their risk of future identity crimes.

References

Administration for Community Living. (2018). *2017 profile of older Americans*. Administration on Aging (AoA), Administration for Community Living, U.S. Department of Health and Human Services. Available at https://acl.gov/sites/default/files/Aging%20and%20Disability%20in%20America/2017OlderAmericansProfile.pdf

Acierno, R., Hernandez-Tejada, M. A., Anetzberger, G. J., Loew, D., & Muzzy, W. (2017). The National Elder Mistreatment Study: an 8-year longitudinal study of outcomes. *Journal of elder abuse & neglect*, *29*(4), 254-269.

Bearden, W. O., & Mason, J. B. (1984). An investigation of influences on consumer complaint reports. *ACR North American Advances*, *11*, 490-495.

Boyle, P. A., Yu, L., Schneider, J. A., Wilson, R. S., & Bennett, D. A. (2019). Scam awareness related to incident Alzheimer dementia and mild cognitive impairment: A prospective cohort study. *Annals of Internal Medicine*, *170*(10), 702-709.

Burnes, D., DeLiema, M., & Langton, L. (2020). Risk and protective factors of identity theft victimization in the United States. *Preventive medicine reports*, *17*, 101058.

Button, M., Lewis, C., & Tapley, J. (2014). Not a victimless crime: The impact of fraud on individual victims and their families. *Security Journal*, *27*(1), 36-54.

DeLiema, M. (2018). Elder fraud and financial exploitation: Application of routine activity theory. *The Gerontologist*, *58*(4), 706-718.

Dong, X., & Simon, M. A. (2013). Elder abuse as a risk factor for hospitalization in older persons. *JAMA Internal Medicine*, *173*(10), 911-917.

Chakraborty, R., Lee, J., Bagchi-Sen, S., Upadhyaya, S., & Rao, H. R. (2016). Online shopping intention in the context of data breach in online retail stores: An examination of older and younger adults. *Decision Support Systems*, *83*, 47-56.

Cho, J., Martin, P., & Poon, L. W., & Georgia Centenarian Study. (2015). Successful aging and subjective well-being among oldest-old adults. *The Gerontologist*, *55*(1), 132-143.

Copes, H., Kerley, K. R., Huff, R., & Kane, J. (2010). Differentiating identity theft: An exploratory study of victims using a national victimization survey. *Journal of Criminal Justice*, *38*(5), 1045-1052.

Cross, C. (2015). No laughing matter: Blaming the victim of online fraud. *International Review of Victimology*, *21*(2), 187-204.

Cross, C., Richards, K., & Smith, R. (2016). The reporting experiences and support needs of victims of online fraud. *Trends and Issues in Crime and Criminal Justice*, *518*, 1-14.

Federal Trade Commission. (1998). Identity Theft and Assumption Deterrence Act. Washington, DC: Federal Trade Commission. https://www.ftc.gov/node/119459

Federal Trade Commission. (2020). *Protecting older consumers 2019-2020: A report of the Federal Trade Commission.* Available at https://www.ftc.gov/reports/protecting-older-consumers-2019-2020-report-federal-trade-commission

FINRA Investor Education Foundation. (2015). *Non-traditional costs of financial fraud.* Applied Research and Consulting. Available at https://www.finrafoundation.org/files/non-traditional-costs-financial-fraud

Gale, W. G., Gelfond, H., Fichtner, J. J., & Harris, B. H. (2020). *The wealth of generations, with special attention to the millennials* (No. w27123). National Bureau of Economic Research.

Golladay, K. A. (2017). Reporting behaviors of identity theft victims: An empirical test of Black's theory of law. *Journal of Financial Crime, 24*(1) 101-117.

Golladay, K., & Holtfreter, K. (2017). The consequences of identity theft victimization: An examination of emotional and physical health outcomes. *Victims & Offenders*, *12*(5), 741-760.

Haendler, C., & Heimer, R. (2021). The Financial Restitution Gap in Consumer Finance: Insights from Complaints Filed with the CFPB. *Available at SSRN*. https://www.consumerfinancemonitor.com/wp-content/uploads/sites/14/2021/02/Financial-Restitution-Gap-in-Consumer-Finance-Boston-College-study-2021.pdf

Hall, J.E., Karch, D.L., & Crosby, A.E. (2016). *Elder abuse surveillance: Uniform definitions and recommended core data elements for use in elder abuse surveillance, version 1.0.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Halvorsen, J. L., & Møkkelgård, P. J. (2018). Financial literacy and other determinants of consumer complaint behavior: An empirical study utilizing the CFPB's complaint database (Master's thesis). Available at https://openaccess.nhh.no/nhh-xmlui/bitstream/handle/11250/2585500/masterthesis.PDF?sequence=1&isAllowed=y

Harrell, E., Langton, L., Berzofsky, M., Couzens, L., & Smiley-McDonald, H. (2014). *Household Poverty and Nonfatal Violent Victimization, 2008-2012*. Bureau of Justice Statistics. Available at: https://www.bjs.gov/content/pub/pdf/hpnvv0812.pdf.

Harrell, E. (2019). *Victims of Identity Theft, 2016.* Bureau of Justice Statistics. Available at https://www.bjs.gov/content/pub/pdf/vit16.pdf

Lacey, D., & Cuganesan, S. (2004). The role of organizations in identity theft response: The organization–individual victim dynamic. *Journal of Consumer Affairs*, *38*(2), 244-261.

Lachs, M. S., Williams, C. S., O'brien, S., Pillemer, K. A., & Charlson, M. E. (1998). The mortality of elder mistreatment. *JAMA*, *280*(5), 428-432.

Li, Y., Yazdanmehr, A., Wang, J., & Rao, H. R. (2019). Responding to identity theft: A victimization perspective. *Decision Support Systems*, *121*, 13-24.

Litwin, H., & Shiovitz-Ezra, S. (2011). Social network type and subjective well-being in a national sample of older Americans. *The Gerontologist*, *51*(3), 379-388.

Morganosky, M. A., & Buckley, H. M. (1987). Complaint behavior: Analysis by demographics, lifestyle, and consumer values. *ACR North American Advances, 14,* 223-226.

Nicholson, J., Coventry, L., & Briggs, P. (2019). If it's important it will be a headline. Cybersecurity information seeking in older adults. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-11).

Office of the Inspector General. (2020). *Top management and performance challenges facing the U.S. Department of Labor.* Available at https://www.oig.dol.gov/public/DOL%202020%20Top%20Management%20and%20Performance%20Challenges.pdf

Randa, R., & Reyns, B. W. (2020). The physical and emotional toll of identity theft victimization: A situational and demographic analysis of the National Crime Victimization Survey. *Deviant Behavior*, *41*(10), 1290-1304.

Reynolds, D. (2020). The differential effects of identity theft victimization: How demographics predict suffering out-of-pocket losses. *Security Journal*, 1-18. https://doi.org/10.1057/s41284-020-00258-y

Reyns, B. W., & Randa, R. (2017). Victim reporting behaviors following identity theft victimization: Results from the national crime victimization survey. *Crime & Delinquency*, *63*(7), 814-838.

Roberts, L. D., Indermaur, D., & Spiranovic, C. (2013). Fear of cyber-identity theft and related fraudulent activity. *Psychiatry, Psychology and Law*, *20*(3), 315-328.

Sharp, T., Shreve-Neiger, A., Fremouw, W., Kane, J., and Hutton, S. (2003). Exploring the psychological and somatic impact of identity theft. *Journal of Forensic Sciences, 49*(1), 1-6. https://doi.org/10.1520/JFS2003178

United States Department of Justice. Office of Justice Programs. Bureau of Justice Statistics. (2016). National Crime Victimization Survey: Identity Theft Supplement Codebook, 2016. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 07-12-2021. https://doi.org/10.3886/ICPSR36829.v2

United States Department of Justice. Office of Justice Programs. Bureau of Justice Statistics. (2018). National Crime Victimization Survey: Identity Theft Supplement Codebook, 2018. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 04-05-2021. https://doi.org/10.3886/ICPSR37923.v1

van de Weijer, S. G., Leukfeldt, R., & Bernasco, W. (2019). Determinants of reporting cybercrime: A comparison between identity theft, consumer fraud, and hacking. *European Journal of Criminology*, *16*(4), 486-508.

Wu, Y., Sun, I. Y., & Triplett, R. A. (2009). Race, class or neighborhood context: which matters more in measuring satisfaction with police?. *Justice quarterly*, *26*(1), 125-156.