Overview: Final Summary

Title: Identification of Risk and Protective Factors for Elder Financial Exploitation

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Purpose: Financial exploitation of older adults (FE) is a highly significant social problem that, to date, has not received much attention from the field of psychology. Data sources tracking FE report that FE has been increasing with losses of approximately $2.9 billion dollars per year. Psychological risk factors are well established and psychological outcomes have recently been demonstrated. FE can occur at any stage of the lifespan and the literature regarding prevalence amongst older adults has been mixed in terms of supporting a theory that older adults are more "susceptible" to fraud. However, there has been literature with documentation that older adults are targeted disproportionately, and are less likely to report FE.

The purpose of this project was to develop a conceptual model that includes risk and protective factors for FE. In order to accomplish this goal, we collected data on individual difference variables with an emphasis on cognitive factors and data on contextual factors using an individually administered survey approach. The framework for this project was derived from known risk factors for FE, predicted protective factors for FE, and conceptual approaches from the child mistreatment literature on risk and resilience. The project took place over two waves of data collection, each of approximately 200 older adults.

The initial goals of this project were to collect a large enough sample to: (1) Examine control factors, risk factors, and protective factors for FE in a correlational approach as a first step, (2) To examine subtypes of risk and elder abuse subtypes based

on the Conrad Older Adult Financial Exploitation Measure (OAFEM), and (3) Examine more complex models that included interactions of risk and protective variables.

Project Participants:

Three hundred and ninety-five community-dwelling adults aged 60 years and above were recruited from the Greater Los Angeles (LA) Area via an existing participant pool, or with flyers distributed to senior centers and retirement communities in two waves. Participants' average age was 73.38 (*SD* = 7.91) with 15.26 years of education (*SD* = 3.18). Table 1 includes further demographic information.

Project Design:

Goal 1: Identifying Risk Factors and Protective Factors for FE

The first step of this project was to identify risk factors and potential protective factors in a community sample of 200 individuals. Variables of interest included cognitive variables (MMSE, executive functioning, memory), financial management skills (numeracy, calculation), protective factors (number of people in social networks, social participation, perceived social isolation, interpersonal support, positive and negative interaction with close others) and control variables (demographics, living arrangement, IADLS, depression, self-report health). The dependent measure was their score on Conrad et al.'s (2010) 79-item OAFEM. This measure served as the dependent measure for susceptibility to FE.

Bivariate linear correlation was used to examine the relationship between interested predictors and FE. Relatively younger adults were more likely to report FE in our sample (r = -.12, p = .02), so did males (r = .11, p = .02). Risk factors known from the literature were all significantly correlated with FE including depression (r = .22, p

< .001), worse physical health (r = -.17, p = .001), and IADL needs (r = -.16, p = .001) were associated with FE. However, while overall cognition (MMSE) was not correlated with FE, both immediate recall (r = -.12, p = .02) and delayed recall were significantly related (r = -.11, p = .03). Numeracy, or literacy for numbers, was a unique predictor after known risk factors were accounted for and is described further under Goal 3. As for the protective social factors, perceived social support (r = -.12, p = .02), isolation (r = .20, p < .001), and negative interactions with close others (r = .12, p = .02) were correlated with FE, indicating the potential to target older adults' social network in building intervention and prevention programs.

GOAL 2: Examine subtypes of FE types

For goal two we included the complete sample of 395 participants after data cleaning. The OAFEM contains 79 items of FE statements that capture six categories of FE (abuse of trust, financial entitlement, coercion, theft and scams, signs of possible abuse, and risk factors; Conrad, Iris, Ridings, Langley, & Wilber, 2010). Participants reported whether each statement occurred to them in the past 12 months. Positive endorsement received a score of two, suspicion of exploitation received a score of one, and negative endorsement received a score of zero. Responses could range from 0, indicating no exploitation, to 158 if all 79 items were endorsed. In our first paper, the mean OAFEM score was 7.26, which was too low a score to allow for more nuanced analysis of fraud subtypes.

In the complete sample of 395 individuals, the mean OAFEM score was 7.66. This low number of endorsements precluded further analysis by subtype. Descriptive

statistics revealed the most common endorsement was "entitlement" (M = 3.34) followed by "signs of possible abuse" (M = 2.63).

Future research on risk for different types of FE may need to include substantiated victims, such as Adult Protective Services' clients. In our mild, community based sample, we did not end up having enough power to explore these questions beyond the descriptive information above indicating entitlement was the most common subtype.

GOAL 3: Model Building and Interaction of Risk and Protective Variables

For the third goal of the project, we proposed building models that incorporated all of our variables to look at possible interactions of our variables. With a sample size of 395, power was too low when we include all proposed variables. Therefore, we decided to work on two separate papers—one focusing on all the neurocognitive variables as predictors, and the other focusing on all the social variables as predictors.

In our first paper published in the *Journal of Gerontology: Psychological Sciences* titled, "Importance of numeracy as risk factors for financial elder exploitation in a community sample," we used a OLS regression analysis approach to examine primarily the cognitive variables related to FE risk (Wood, Liu, Hanoch, & Estevez-Cores, 2015). This initial paper included the first wave of 200 participants. On average, participants' OAFEM score was 7.26, while the median was 4.00. Our sample contained more females (70.1%), Caucasians (83.6%), and participants who were married or lived with a partner (60.2%). Empirically, no score has been identified as a cut-off point for elder FE substantiation on the OAFEM. With the possible range of 0 to 158, the mean of 7.26 indicated few elder FE cases were at severe levels. One can conceptualize the OAFEM on a continuum with risk for fraud and mild symptoms at the low end and substantiated

severe cases at the high end. Our sample of community dwelling individuals with a mean score of 7.26 clearly represent the mild end with many individuals (64 out of 200 participants endorsing "no" for all 79 items).

High numeracy was found to be a significant predictor of decreased risk after controlling for other demographic variables. Less numerate participants reported risk of experiencing FE significantly more frequently. Importantly, numeracy remained a significant predictor in the presence of other risk factors, including dependency, physical and mental health, as well as overall cognition. Our findings, thus, are aligned with other researchers' (e.g., Hung, Parker, & Yoong, 2009; Reyna, Nelson, Han, & Dieckmann, 2009) argument that numeracy acts as an independent factor in the medical and financial domain. Interestingly, executive functioning was not related to FE in this sample. Executive functioning has been reported as a critical domain in other studies of FE and we expected that to be the case here as well (Wood et al., 2014). Executive functioning can include a wide range of assessment tools that may tap reasoning, impulse control, flexibility, and planning. In this relatively high functioning sample, it may be that the tasks we chose were not sensitive enough to provide discrimination and/or did not tap into the right executive process as executive functioning can encompass many control processes.

In summary, we examined cognitive risk factors in the presence of demographic and other well-known predictors in the first paper. In this sample, we replicated previous findings regarding risk (self reported physical and mental health, depression) and added numeracy as another important variable to consider. Numeracy can be protective if high; but serves as a risk factor if low.

In our second empirical manuscript, we further developed this theme with an emphasis on the impact of social network size, perceived social support, and positive/negative interaction with loved ones on FE. Additionally, risk factors frequently cited in the literature among community-dwelling samples, including demographics, dependency, depression, physical functioning, and cognitive functioning were also included in the study as control variables. Since past FE studies did not investigate the effect of older adults' "close others" on their FE experience, and rarely incorporated all risk factors in a single study, a comprehensive investigation of the relative strength of risk factors has been lacking. It was hypothesized that, social network size may not relate to FE because bivariate correlations were not significant, but perceived social support and positive/negative interaction with close others would be associated with FE incidence, even in the presence of other known risk factors.

Five hierarchical linear regression models were built to examine which social factors were predictive of FE. Model 1 was the baseline model including demographic variables (age, gender, ethnicity, marital status) and known risk factors (dependency, physical health, depression, cognition). Demographic variables were entered first, then known risk factors were entered in the second step. Demographic variables explained a significant proportion of variance in the OAFEM, $R^2 = .06$, $F(4, 353) = 5.44$, $p < .001$, and known risk factors explained the variances above and beyond demographics, $\Delta R^2 = .08$, $F(4, 349) = 8.21$, $p < .001$. In the final model, gender (being a male, b = .23, SE = .06), worse physical health (b = -.01, SE < .01), and depression (b = .01, SE < .01) predicted FE in the presence of other variables (see Table 2, Model 1) similar to previous research.

Next, social factors were added to build separate models in testing their effects in explaining FE above and beyond demographics and known risk factors. Model 2 added subjective measures in the third step, including perceived social support and loneliness. Demographics and known risk factors continued to explain FE variances, but perceived social support and loneliness did not add much (see Table 2, Model 2).

Model 3 added objective measures of social factors in the third step, including the three SNI indices and social participation. The sample size was smaller, because a lot of participants did not complete the SNI. Demographics continued to explain FE variances, $R^2 = .06$, $F(4, 214) = 3.37$, $p = .011$, so did known risk factors above and beyond demographics, $\Delta R^2 = .08$, $F(4, 210) = 4.57$, $p = .001$. However, objective measures of social factors did not contribute above and beyond known risk factors (see Table 2, Model 3).

Model 4 tested participants' social exchanges with close others, including both positive and negative exchanges, above and beyond demographics and known risk factors. Both demographics and known risk factors explained significant FE variances when entered in step 1 and 2; most importantly, participants' social exchange contributed in explaining the variances above and beyond, $\Delta R^2 = .02$, $F(2, 340) = 3.38$, $p = .035$. Controlling for all predictors, gender (being a male, b = .26, SE = .06), depression (b = .01, SE < .01), and negative exchanges with close others (b = .10, SE = .05) predicted FE in the final model (see Table 2, Model 4).

The last model further examined the effects of negative exchanges with close others as a risk factor. The last hierarchical regression analysis included all social factors in addition to demographics and known risk factors. Demographic variables were entered

in the first step, known risk factors were entered in the second step, subjective social measures were entered in the third step, objective social measures were entered in the fourth step, and exchanges with close others was entered in the last step. Exchanges with close others explained FE variances above and beyond variables entered in previous steps, $\Delta R^2 = .04$, $F(2, 197) = 5.05$, $p = .007$. Worse physical health, depression, lower level of perceived social support, loneliness, and negative exchanges with close others were significantly associated with the OAFEM in bivariate correlation, but only gender (being male, b = .19, SE = .08) and negative exchanges with close others (b = .13, SE = .06) stayed as predictors of FE in the final model controlling for other variables (see Table 2, Model 5).

Overall, we found that negative interactions with close others was the only significant social factors that predicted FE. Perceived social support, network size, and positive interactions with close others were not were not associated with FE when known risk factors were included in the model. Additionally, among the risk factors, poor physical health and depression were related to FE in some models, but not the final model when all factors were included. Being a male was another predictor of FE in our sample.

FE theories guided researchers to investigate four domains of victim vulnerability in FE, including dependency, physical, cognitive, and socio-emotional vulnerabilities (Conrad et al., n.d.; Kemp & Mosqueda, 2005; Pinsker et al., 2010; Wilber & Reynold, 1996). Each domain of vulnerability was investigated in previous studies in combination with different risk factors, resulting in inconsistent or conflicting findings. Based on the theoretical models, we further reviewed and selected risk factors in the FE literature, and aimed to integrate all and identify the stronger predictors of FE risk in our second paper.

With the findings that negative interaction with loved ones being the strongest predictor of FE, older adults' socio-emotional vulnerability was the domain that merits the attention of prevention and intervention works, with the focus on those interpersonal relationships that matter most to older adults. Since older adults value the pursuit of emotional goals over other priorities in life according to Carstensen's socioemotional selectivity theory (Carstensen, Fung, & Charles, 2003), the quality of interpersonal interactions with beloved family and friends can be especially essential factors in FE cases. In light of the statistics informing us perpetrators are mostly likely to be family members or trusted others (Schafer & Koltai, 2015), negative interactions among family members can be a warning sign of vulnerability. In situations where loved ones are not perpetrators, negative interaction can operate in ways that either lowers older adult's perceived social support, or creates a vulnerable environment where perpetrators are more likely to target older adults as FE victims due to the lack of emotionally meaningful ties. A recent study that used experimental methods and demonstrated the personal experience of social exclusion can lead to risky financial decision-making (Duclos, Wan, & Jiang, 2013). Because certain types of FE, such as investment fraud, would not take place without risky financial decision-making, not feeling included with close others could be a risk factor.

In addition to the novel risk and protective factors identified in the two papers, examining across the papers, the risk factors selected from the literature played a role in predicting FE, too. Physical and mental health continued to predict FE in the final model in the first paper. Though not significant in the final model of our second paper, physical

health and depression were also significant predictors in the initial model, indicating the importance of including them in prevention and intervention program development.

Implication for Criminal Justice Policy:

FE is a serious and growing social problem. Our work finds evidence of mild risk even in high functioning community members. Overall, our preliminary findings indicated that community samples look very different from forensic center samples, and therefore models of vulnerability are also likely different. We see numeracy can behave as both a risk factor when it is low, or a protective factor when high.

It is essential to start thinking about the social interaction that carries weight in older adults' lives when we work to design prevention and intervention programs for FE clients. As FE cases can be highly specific from one to another, designing prevention or intervention around reducing negative exchanges with close others might not be as easy, but based on our data, it is certainly a more effectively way to reduce FE risk. It is important to mention that poor physical health and depression were also predictors of FE in some models; therefore, incorporating ways to enhance both physical and mental health might be a universal approach to reduce FE risk when a client-centered approach is not feasible. For instance, a meta-analysis on loneliness interventions (Masi, Chen, Hawkley, & Cacioppo, 2011) revealed that encouraging participants to challenge their own negative thought processes on perceived social isolation, which can happen to depressed individuals, was more effective than interventions seeking to enhance social support or increase opportunities for social contact. The same principles should be applied to establishing FE prevention and intervention programs.

We hope that this research will offer criminal justice policy-makers baseline information on how common different types of offenses are in a representative sample. Further, this data will allow legislators to better allocate criminal justice resources so that they more accurately target FE rates and different types of FE crimes in California as well as provide estimates of rates of FE more broadly.

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Table 1
Demographic Information (N =395)

Variables		*M* (*SD*); N (%)	
Age		73.3	(7.9)
Gender	Male	106	(26.8)
	Female	280	(70.9)
	Missing	9	(2.3)
Ethnicity	White	275	(69.6)
	Hispanic/Latino	42	(10.6)
	African American	28	(7.1)
	Asian	16	(4.1)
	American Indian	4	(1.0)
	Mixed Ethnicity	7	(1.8)
	Other	5	(1.3)
	Missing	18	(4.6)
Education Levels	Less than high school	15	(3.8)
	High school/GED	44	(11.1)
	Vocational certification	7	(1.8)
	Some college	110	(27.8)
	Associate's degree	36	(9.1)
	Bachelor's degree	79	(20.0)
	Master's degree	71	(18.0)
	Doctoral degree	9	(2.3)
	Professional doctorate	13	(3.3)
	Missing	11	(2.8)
Speaking English at Home	Yes	359	(90.9)
	No	21	(5.3)
	Missing	15	(3.8)
Marital Status	Married	133	(33.7)
	Separated/Divorced	116	(29.4)
	Widowed	96	(24.3)
	Single	27	(6.8)
	Cohabiting	10	(2.5)
	Missing	13	(3.3)
Standard of Living	Below average	74	(18.7)
	Average	214	(54.2)
	Above average	95	(24.1)
	Missing	12	(3.0)
Income Level	Under $15,000	56	(14.2)
	$15,001-$30,000	103	(26.1)
	$30,001-$45,000	62	(15.7)
	$45,001-$60,000	47	(11.9)
	$60,001-$75,000	27	(6.8)
	$75,001-$100,000	34	(8.6)
	Over $100,000	32	(8.1)
	Missing	34	(8.6)

Number of People Depending on the Income	1 (alone)	188	(47.6)
	2	157	(39.7)
	3	14	(3.5)
	4	12	(3.0)
	5	3	(.8)
	6	1	(.3)
	Missing	20	(5.1)
Number of People Living together	1	172	(43.5)
	2	163	(41.3)
	3	14	(3.5)
	4	13	(3.3)
	5	4	(1.0)
	6	1	(.3)
	Missing	28	(7.1)
Mini-Mental State Examination	30	130	(32.9)
	29	87	(22.0)
	28	65	(16.5)
	27	44	(11.1)
	26	19	(4.8)
	25	16	(4.1)
	24	11	(2.8)
	23	5	(1.3)
	22	7	(1.8)
	20	1	(.3)
	Missing	10	(2.5)

Table 2

Linear Regression Predicting the OAFEM with Demographic Predictors, Known Risk Factors of FE, and Social Factors

	Model 1 (n = 358)		Model 2 (n = 352)		Model 3 (n = 219)		Model 4 (n = 351)		Model 5 (n = 214)	
Variables	β	*p*	β	*p*	β	*p*	β	*p*	β	*p*
Age	-.089	.109	-.071	.211	**-.183**	**.014**	-.061	.276	-.135	.067
Gender	**.203**	**<.001**	**.208**	**<.001**	**.175**	**.016**	**.230**	**<.001**	**.174**	**.017**
Ethnicity	-.011	.839	-.011	.837	.017	.807	-.009	.858	.035	.621
Marital Status	.027	.611	.030	.570	.003	.969	-.003	.951	-.023	.774
Dependency	-.032	.559	-.029	.734	-.036	.616	-.019	.730	.012	.868
Physical Health	**-.112**	**.048**	**-.121**	**.033**	-.098	.194	-.094	.098	-.084	.266
Depression	**.226**	**<.001**	**.177**	**.008**	**.255**	**.001**	**.204**	**.001**	.127	.149
Cognition	.028	.613	.009	.866	.028	.700	-.001	.991	-.025	.735
PSS			.072	.333					-.072	.461
Loneliness			.128	.106					.163	.126
ND					.072	.479			.038	.708
# SN					.096	.374			.073	.493
# EN					-.017	.878			-.006	.956
SP					.040	.597			.071	.376
Negative							**.116**	**.029**	**.150**	**.029**
Positive							.059	.270	.143	.055

Note. PSS = Perceived Social Support; ND = Network Diversity; # SN = Number of People in Social Network; # EN = Number of Embedded Network; SP = Social Participation; Negative = Negative Social Exchanges with Close Others; Positive = Positive Social Exchanges with Close Others; OAFEM = Older Adult Financial Exploitation Measure. Gender is coded as Male = 1, Female = 0. Ethnicity is coded as White = 1, Minority = 0. Marital status is coded as 1 = Married, 0 = Others.