

Original Research Article

# The Role of Social Support in Elder Financial Exploitation Using a Community Sample

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## Abstract

**Background and Objective:** Social support is known to be an important protective factor against elder financial exploitation (FE), yet few empirical studies have examined the relationship between FE and distinct components of social support. Perceived social support, social network size, and interactions with close network members (positive and negative) were measured separately and tested as potential predictors of FE.

**Research Design and Methods:** Three hundred and ninety-five community-dwelling adults aged 60 and older were recruited to complete a 90-minute survey and interview. We used OLS regression to examine the role of social support in FE. Other risk factors associated with FE including dependency, poor physical health, depression, cognition, and demographic characteristics were included as potential predictors.

**Results:** Negative interactions with close network members predicted FE, and remained predictive when all other variables and social support factors were included in the model. Other social support factors were not unique predictors of FE.

**Discussion and Implications:** Negative social interactions with close network members are important to assess and consider in FE prevention and intervention programs; relationships between social interactions and other risk factors warrant further attention.

**Translational Significance:** The results suggest that when intervening with financial exploitation cases, Adult Protective Services (APS) and aging agencies should attend closely to mitigating any negative interactions between clients and their close network members.

**Keywords:** Financial elder abuse, Polyvictimization, Positive or negative interactions with close network members, Social network, Social support

Elder financial exploitation (FE), also called financial elder abuse, refers to “the illegal or improper use of an elder’s funds, property, or assets,” particularly in ways that are not in the older adult’s best interest (Hall, Karch, & Crosby, 2016). FE takes many forms, but perpetrators are seen

in a position of trust and thus include family members, relatives, and caregivers who take older adults’ money without their consent (DeLiema, 2017). Theories of FE provide guidelines for investigating key risk and protective factors (Kemp & Mosqueda, 2005; Pinsker, McFarland,

& Pachana, 2010; Rabiner, O’Keeffe, & Brown, 2004a; Wilber & Reynold, 1996), with related literature highlighting the important roles of interpersonal interactions (Baltes & Baltes, 1990; Carstensen, Fung, & Charles, 2003). Not surprisingly, social support has been identified as one of the strongest protective factors against all types of elder abuse (e.g., Johannesen & LoGiudice, 2013; Pillemer, Burnes, Riffin, & Lachs, 2016; Roberto, 2016). Even though most FE theories included social support as a protective factor, only Beach, Schulz, and Sneed (2016) focused on social support as a key factor of investigation, and found lower perceived social support and larger social network concurrently predicted FE. However, the aspects of social support that are most relevant to FE, the relationship between older adults and their loved ones, have not been thoroughly investigated. This study utilized data collected from a community sample to examine the association between FE and various aspects of social support, including perceived social support, social network size, positive and negative interactions with close network members.

## Conceptual Frameworks

Theory development has been a topic of discussion in elder mistreatment research, but only a few researchers have proposed frameworks to guide FE data collection and assessment. Wilber and Reynold (1996) suggested a framework for recognizing FE where characteristics of the older adults’ susceptibility were listed as the first set of identifying criteria. Susceptibility includes cognitive, dependency, physical, and socioemotional vulnerabilities. Rabiner and her colleagues (2004a) encouraged practitioners and scholars to apply ecological frameworks to FE research topics and to explore the interrelationship among layers of context. Kemp and Mosqueda (2005) expanded the identification of FE into eight elements that focus on the interaction between the older adult and perpetrator. Isolation of older adults has been one of the key elements, which further emphasized the role of socioemotional vulnerability. Pinsker, McFarland, and Pachana (2010) also proposed a clinical FE framework that focused on older adults’ vulnerability and competence. Among their six competency areas, motivation/personality traits and social skills are directly related to social support.

The FE theories described above focused on older adults’ vulnerabilities as risk factors, including lower levels of physical, cognitive, and socioemotional functioning. Although the physical and cognitive vulnerabilities have been the main risk factors investigated in previous FE studies (see following sections for a brief review), socioemotional vulnerabilities received relatively less attention in empirical studies. Socioemotional vulnerabilities highlighted the importance of social support to cope with age-related life changes such as bereavement and devalued social status. Old age may take its toll on physical or cognitive functions; however, socioemotional functioning does

not automatically wane when people enter old age (Baltes & Baltes, 1990; Carstensen et al., 2003). Therefore, social support could potentially be an essential strength for older adults to decrease the risk of FE. Conversely, the presence of socioemotional vulnerabilities could be detrimental and escalate older adults’ FE risk.

## Social Support as an FE Protective Factor

Existing FE models share numerous commonalities (Kemp & Mosqueda, 2005; Pinsker et al., 2010; Wilber & Reynold, 1996). In addition to the vulnerabilities that increase FE risk, almost all proposed models recognized the importance of including older adults’ social network when evaluating FE cases. Social isolation and lack of social support were identified in the past as potential red flags for FE, and theorists included these concepts as an important component in most FE models (e.g., Wilber & Reynold, 1996). However, as stated previously, only a handful of empirical studies directly investigated relationships between FE and social support. Even when social support was measured, each study differed on what the construct entails.

The few empirical studies on the impact of social support on FE generated mixed findings. Perceived social support was greater for those who reported FE perpetrated by family members, but perceived social support was no longer a significant factor after accounting for other risk factors, including ethnic minority status, the need for daily living assistance, and poor health (Amstadter et al., 2011). However, in another study using similar research methods, perceived social support was not correlated with FE perpetrated by family members, though it was negatively correlated with physical, emotional, sexual abuse, and neglect (Acierno, Hernandez-Tejada, Muzzy, & Steve, 2009). Perceived social support also did not predict FE in a recent study by Lichtenberg et al. (2013), nor did it differ between victim and nonvictims.

The few FE studies above found that perceived social support was related to FE when it was the sole predictor; the association disappeared when other risk factors were included. On the other hand, compared with victims of other types of elder abuse, FE victims had a smaller social support network, but were also less likely to experience severe feelings of social isolation (Choi & Mayer, 2000). Absence of a trusted person also failed to be a FE risk factor even though it has been found to be related to psychological abuse and neglect (Garre-Olmo et al., 2009). In the only study investigating the association between perceived social support, social network, and FE, Beach et al. (2016) found that older adults with a smaller social network and higher perceived social support were most resistant to FE.

Findings from the Beach et al. (2016) study were consistent with socioemotional selectivity theory (Carstensen et al., 2003). As people age, their social network tends to dwindle. Often this is the result of a conscious choice to spend time with loved ones rather than making new friends.

Getting closer to the end of life, which causes a change in time perception, shifts older adults' motivational goals to pursue emotionally meaningful ties, such as spending quality time with close network members such as family and friends. Considering older adults' preference in spending time with close network members, while the perpetrators of elder abuse including FE are often these family members or trusted others (Schafer & Koltai, 2015), it is surprising that none of the studies investigated the quality of older adults' interaction with their loved ones. Negative relationships with close network members can be a red flag for FE as it may indicate interpersonal difficulties that erode social support from important network members.

### Known Risk Factors in FE

Risk factors are defined as any stimuli positively related to the likelihood of either the onset of a problem or the maintenance in a problem state (Coie et al., 1993). In the FE literature, the most commonly investigated risk factors include dependency, reduced cognitive and physical abilities, as well as increased emotional vulnerability.

One of the widely discussed FE risk factors is functional dependency. Inability to perform activities of daily living, including self-care and medication management, increases the probability of FE (Acierno et al., 2010). Non-use of social services and requiring assistance with activities of daily living were predictive of FE when other risk factors were included. Similarly, using both the Instrumental Activities of Daily Living (IADL) Scale and the Activities of Daily Living (ADL) Scale, Beach, Schulz, Castle, and Rosen (2010) found that for adults aged 60 and older, losing at least one domain of IADL, such as housekeeping or shopping, was associated with greater incidence of FE. However, for FE reported in the past 6 months, difficulty with ADL, such as eating or bathing challenges, was reversely associated the FE incidence. The ADL finding conflicted with the authors' hypothesis, but since ADL declines make formal supports necessary, it was speculated that decreased ADL might result in additional support from a caregiver or family member, which may be protective as long as the caregiver or family member is not a perpetrator.

Poor physical health also uniquely correlates with FE. Poor health was related to FE perpetrated by family members in Acierno, Hernandez-Tejada, Muzzy, and Steve's study (2009) after taking into account assistance with ADL and other risk factors. It is important to note that health status was usually self-rated, and poor perceived health was related to higher FE risk (Laumann, Leitsch, & Waite, 2008). Just as the inability to perform activities of daily living damages independence, poor physical health increases FE risk because older adults need to rely on others if they are to remain living independently.

Reduced cognitive abilities can compromise older adults' decision-making, and financial capacity is one of the first decision-making domains that suffers. Impaired

cognitive functioning, as indicated by lower scores on the Mini-Mental State Examination, was associated with greater risk of FE (Garre-Olmo et al., 2009). Clinical work also reported that diagnosis of dementia is associated with greater risk of FE (Christiansen, 2008). Similarly, declines in executive functioning, calculation, and numeracy were found to increase risk for FE in some samples (Wood, Liu, Hanoch, & Estevez-Cores, 2015). Problems with reasoning and judgment may lead older adults to fall prey to FE because they do not fully understand the situation, or tend to make more financial errors and risky financial decision-making.

In addition, depression causes older adults to withdraw from familiar activities, and has been identified to be another risk factor (Beach et al., 2010). An examination of archival data with a nationally representative sample of older adults found that depression in 2002 was directly linked to FE reported between 2003 and 2008 (Lichtenberg, Stickney, & Paulson, 2013). Depressed older adults are less likely to seek help, and therefore, are more vulnerable to FE. The causal relationship can go the other way, too, whereby FE victimization leads to greater depressive symptoms. Although FE theories rarely mentioned depression as a distinct vulnerability, the construct itself has been associated with interpersonal interaction, such that social isolation has been related to depression (Antonucci, Futhrer, & Dartigues, 1997), and thus depression is likely to increase risk of FE.

### Current Study

The goal of the current study was to build on previous research to investigate the role of social support in increasing or buffering older adults' risk of being exploited financially. Even though FE theorists consistently stress the importance of including social support in empirical studies, so far only a relatively small number of studies have focused on social support as a protective factor, especially in combination with other risk factors. Although some studies indicated the theoretical importance of social support (Beach et al., 2010; Luo & Waite, 2011), empirical support is mixed (Acierno et al., 2009; Amstadter et al., 2011; Beach et al., 2016; Garre-Olmo et al., 2009; Lichtenberg et al., 2013). Additionally, the nature of the social interaction, that is positive or negative with close network members had not been examined. Social support can serve as a buffer against FE and decrease FE risk; nevertheless, negative interactions with close network members can be a risk factor for FE, especially when broader social support is not present in older adults' lives.

The current study investigated the relationship between FE and social support, including various aspects such as perceived social support, social network size, and positive/negative interactions with close network members. Additionally, risk factors frequently cited in the literature on older community-dwellers, including dependency, depression, physical

functioning, and cognitive functioning, were also included in the study as other potential predictors. Demographics were included as control variables. Because past FE studies did not investigate the effect of older adults' interactions with close network members 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. Because FE takes various forms, using only a few items likely leads to underreporting. The 79-item Older Adult Financial Exploitation Measure (OAFEM; Conrad, Iris, Ridings, Langley, & Wilber, 2010) was used to measure FE in this study, because it offers a much more in-depth evaluation as compared to typical measures used in most published research.

Based on previous studies, we hypothesized that social network size may not relate to FE, but perceived support and positive interaction with close network members would be associated with decreased FE risk, while negative interactions with close network members would be associated with increased FE risk. When risk factors were included, perceived social support may no longer be associated with FE, unless social network size was also included. It was unclear how positive and negative interactions with close network members related to FE in the presence of other known risk factors.

## Method

### Participants

Three hundred and ninety-five community-dwelling adults aged 60 and older were recruited from the Greater Los Angeles Area via an existing participant pool and with flyers distributed to senior centers and retirement communities. The existing participant pool contained contact information for about 100 older adults who participated in the first and second authors' previous studies from local senior centers. See Table 1 for a summary of demographic information.

### Measures

#### The Older Adult Financial Exploitation Measure (OAFEM)

The OAFEM contains 79 FE statements that capture six categories of FE (Conrad et al., 2010). Internal consistency reliability was high ( $\alpha = .96$ ). Participants reported whether each statement applied to them in the past 12 months. Following Conrad and his colleagues' approach to score the OAFEM, an event was recorded as "0" if it did not happen in the past 12 months, it was recorded as "1" if participants suspected its occurrence, and it was recorded as "2" if the event happened in the past 12 months. There was no designated cutoff score to define FE occurrence. Without an Adult Protective Services (APS) investigation, even a high score on the OAFEM did not indicate substantiation of FE.

**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)

**Table 1.** *Continued*

Variables	<i>M (SD); N (%)</i>
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)

The OAFEM score was the dependent variable for regression analyses.

### Social support

Perceived social support was measured by the Interpersonal Support Evaluation List (ISEL; Cohen, Memelstein, Kamarck, & Hoberman, 1985). Reliability was high ( $\alpha$  between .80 and .90 for four studies of 1,399 adults aged 20 to 90), and the overall mean score was 28.8. The 12-item short version was adopted to assess availability of three types of social support, including appraisal (talk with someone about problems), belonging (do things with someone), and tangible (materials or resources) support. Participants could select a number between 1 and 4 for each item, depending on how much they agreed with each item's statement. A higher score represents higher level of perceived social support.

### Social network size

The Social Network Index (SNI; Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997) was adopted to measure social contacts. Participants answered 12 questions to detail their interpersonal interactions in the past 2 weeks. Number of people in their social network was the total number of people that participants had regular contact with.

### Positive and negative exchanges

Positive and negative exchanges with close network members were measured using the daily social exchanges items

(Rook, 2001), with 14 items of positive exchanges such as someone "told you to take care of yourself", and six items of negative exchanges such as someone "made you spend time with someone you do not enjoy" (see Supplementary Appendix A). Rook stated that the two scales were not significantly correlated ( $r = .12$ ) with a healthy older adult sample (age range 60–89), but both scales had decent reliability (positive social exchanges  $\alpha = .85$  and negative social exchanges  $\alpha = .81$ ). To focus participants' attention on exchanges that occurred with close network members such as friends and family, participants were first asked to respond to the social convey questionnaire (Cheng, Li, Leung, & Chan, 2011; Kahn & Antonucci, 1980). Four concentric circles were presented, with the middle circle labeled "I." Participants were instructed to list "the important people that it is difficult to imagine life without them" in the circle right next to "I." The two outer circles should include people who were not as important and/or close. The information in the outer circles was not used, but for participants to decide whom to place in the inner circle as opposed to the outer circles. According to Lang and Carstensen (1994), the people listed in the inner circle were close network members of participants. Then the daily social exchanges items were presented, with the instruction: "Think about the people you put in the inner circle, how often have you been engaging in the following situation with them?" Participants chose from 1 which represented "never" to 5 which represented "always".

### Known risk factors

The Instrumental Activities of Daily Living Scale (IADLS; Lawton & Brody, 1969) was used to measure daily functioning. Reliability was high for Lawton and Brody's sample of adults 60 and over ( $\alpha = .96$ ). Research assistants were trained to interview participants about their ability to perform daily activities independently. The IADL score was based on abilities in eight domains: telephone operation, shopping, food preparation, housekeeping, laundry, transportation, medication adherence, and financial management. Participants received one point for each task they said they were able to perform.

The 12-Item Short Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996) includes subjective health questions rated by participants themselves; the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used as an indicator of mental health, specifically on depressive symptoms. Internal consistency was high ( $\alpha$  between .84 and .90 for four samples of general population). Participants filled out both the SF-12 and the CES-D. The CES-D contains 20 questions regarding participants' feelings and behaviors for the past week. A score of 16 is considered the cutoff of risk for clinical depression, with higher scores representing higher risk for depression.

The Mini-Mental State Exam (MMSE; Folstein, Folstein, & McHugh, 1975) was administered in forms of a brief interview assessing participants' language and

memory. The mean score for older individuals with suspected dementia was 9.7, and for older individuals without dementia was 27.6 out of 30. This test, commonly used as a screening test for cognitive impairment and early dementia among older adults, was used to assess participants' overall cognitive ability.

### Demographics

The demographic questionnaire collected information on age, gender, race/ethnicity, education, marital status, income, and living situation. No identifying information such as name or social security number was asked.

### Procedure

Institutional Review Boards in Scripps College and the National Institute for Justice approved the study protocol before recruitment started. Participants completed the study individually at Scripps College or at local senior centers. Eligible older adults from senior centers and retirement communities contacted the project manager to schedule a 2-hour meeting session. During the meeting session, research assistants greeted participants and explained the informed consent prior to data collection. Both older adults and research assistants signed the informed consent after all questions and concerns were addressed.

Following the National Institute of Justice's human subject and privacy protection guidelines, eight participants who failed the required cognitive screening tools, Montreal Cognitive Assessment (MoCA) and the MacArthur Competence Assessment Tool (MAC-CAT), were excluded before any survey or tests were administered. They might not have understood the purpose, risks, and benefits of the study, and thus failed to understand the meaning of voluntary participation. They were thanked and compensated

for their time (\$10). For the 395 remaining participants, research assistants conducted interviews and assisted subjects to complete the battery of tests described above and additional neurocognitive measures for a related project (Wood et al., 2015). Time to complete the interview and survey battery varied from 70 to 150 minutes; all participants were thanked and compensated \$50 for their participation.

### Analysis

The OAFEM distribution was strongly positively skewed (ranging from 0 to 109, with skewness = 3.70 and kurtosis = 20.78), such that assumptions of normal distribution required of linear regression were not satisfied. Therefore, logarithmic transformation, which can be useful for positively skewed data (Tabachnick & Fidell, 2012) was applied. Because the log of zero is undefined, a small constant (one) was added to all OAFEM scores to adjust for subjects with a score of 0—those who did not experience any of the 79 events ( $n = 112$ ). The log-transformed OAFEM produced acceptable skewness and kurtosis values (skewness = .18, kurtosis = -.98) and the distribution was reasonably normal in shape. Subsequent analyses adopted the log-transformation OAFEM as the dependent variable. Number of People in Social Network was similarly transformed to improve the data distribution (skewness before and after was 2.78 versus -.04; kurtosis before and after was 11.28 versus -.12). The number of cases, mean, and standard deviation (*SD*) of each potential predictor, as well as correlations between predictors are listed in Table 2.

After examining bivariate and correlational relationships among the measures, OLS regression analyses were employed to examine the impact of potential predictors on FE, with special attention given to the effects of perceived

**Table 2.** Mean, Standard Deviation of each Predictor, and Correlations Between Predictors

Variable name	N	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Age	386	73.33 (7.90)													
2. Gender	386	0.27 (0.45)	-.00												
3. Ethnicity	377	0.73 (0.44)	.19 <sup>c</sup>	.08											
4. Marital Status	382	0.35 (0.48)	-.04	.23 <sup>c</sup>	.00										
5. Education Years	379	15.24 (3.18)	.02	.10	.21 <sup>c</sup>	.18 <sup>c</sup>									
6. Dependency	384	7.78 (0.72)	-.20 <sup>c</sup>	-.10 <sup>a</sup>	-.12 <sup>a</sup>	-.10 <sup>a</sup>	-.06								
7. Physical Health	370	47.72 (8.43)	-.15 <sup>b</sup>	.02	.03	.03	.10	.30 <sup>c</sup>							
8. Depression	383	9.73 (8.30)	-.13 <sup>b</sup>	.02	-.09	-.12 <sup>a</sup>	-.19 <sup>c</sup>	-.08	-.31 <sup>c</sup>						
9. Cognition	385	28.25 (1.95)	-.23 <sup>c</sup>	-.13 <sup>a</sup>	-.13 <sup>a</sup>	.09	.22 <sup>c</sup>	.15 <sup>b</sup>	.09	-.16 <sup>b</sup>					
10. Social Support	380	27.15 (6.58)	.04	-.08	.11	.13 <sup>a</sup>	.15 <sup>b</sup>	.08	.19 <sup>c</sup>	-.46 <sup>c</sup>	.12 <sup>a</sup>				
11. # SN	231	1.46 (0.44)	.17 <sup>a</sup>	-.07	.20 <sup>b</sup>	.20 <sup>b</sup>	.24 <sup>c</sup>	.11	.06	-.24 <sup>c</sup>	-.01	.32 <sup>c</sup>			
12. Negative	379	1.71 (0.59)	-.16 <sup>b</sup>	-.03	.01	.12 <sup>a</sup>	-.01	.04	-.11 <sup>a</sup>	.18 <sup>c</sup>	.07	-.12 <sup>a</sup>	.07		
13. Positive	380	3.51 (0.82)	.02	-.17 <sup>c</sup>	-.05	.15 <sup>b</sup>	.08	-.08	.02	-.19 <sup>c</sup>	.07	.33 <sup>c</sup>	.09	.08	
14. OAFEM	386	0.65 (0.51)	-.11 <sup>a</sup>	.22 <sup>c</sup>	-.04	.04	.09	-.08	-.17 <sup>c</sup>	.30 <sup>c</sup>	-.02	-.16 <sup>b</sup>	.05	.15 <sup>b</sup>	-.01

Note: <sup>a</sup>  $p < .05$ ; <sup>b</sup>  $p < .01$ ; <sup>c</sup>  $p < .001$ . Valid N (listwise) = 210. # SN = log (Number of People in Social Network +1); Negative = Negative Social Exchanges with Close Network Members; Positive = Positive Social Exchanges with Close Network Members; OAFEM = log (Older Adult Financial Exploitation Measure +1). 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.

social support, social network size, negative and positive exchanges with close network members. Daily functioning, physical health, depression, and cognition were risk factors investigated in previous FE studies; demographic variables, including age, gender, ethnicity, marital status, and education years served as control variables. The regression models were designed to discover unique effects of social support, social network size, negative and positive exchanges with close network members in the presence of other validated risk factors. FE, as measured by the Older Adult Financial Exploitation Measure, was predicted to be higher for older adults possessing higher risk and lower protection. Measures of effect size including Pearson *r* correlation, *R*<sup>2</sup>,  $\Delta R^2$ , unstandardized and standardized coefficients, and Cohen's *f*<sup>2</sup> were calculated. Cohen's *f*<sup>2</sup> was calculated for each model using the formula:  $f^2 = R^2 / (1 - R^2)$ . Conventionally, a small *f*<sup>2</sup> effect size is .02, a medium effect size is .15, and a large effect size is .35.

### Results

Participants' average age was 73.3 (*SD* = 7.9), with the range from 60 to 97 years. About 70% of participants were female. The majority of participants were white (70%), 11% were Hispanic/Latino, and 7% were African American. This sample was highly educated with 15.2 years of education (*SD* = 3.2) on average.

The most frequently endorsed OAFEM incidents were experienced by 20% of the respondents (e.g., family members fighting over your money, turning over title

of your home; see Supplementary Appendix B). Bivariate correlations revealed that the OAFEM was higher for younger participants [ $r(385) = -.11, p = .027$ ] and males [ $r(385) = .22, p < .001$ ]. In addition to the demographic variables, worse physical health [ $r(370) = -.17, p = .001$ ], depression [ $r(382) = .30, p < .001$ ], lower level of social support [ $r(379) = -.16, p = .002$ ], and negative exchanges with close network members [ $r(378) = .15, p = .003$ ] were also correlated with the OAFEM.

Four 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, education years) and known risk factors (dependency, physical health, depression, cognition). Demographic variables were entered first, and then known risk factors were entered in the second step. Demographic variables explained a significant proportion of variance in the OAFEM,  $R^2 = .071, F(5, 330) = 5.04, p < .001$ , and known risk factors explained an additional 9% of the variance above and beyond demographics,  $\Delta R^2 = .090, F(4, 326) = 8.76, p < .001$ . In the final Model 1, depression ( $p < .001$ ), gender (being a male,  $p < .001$ ), more education years ( $p = .007$ ), and worse physical health ( $p = .036$ ) predicted FE in the presence of all other variables in the model (see Table 3, Model 1).

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 social support in the third step. Demographics and known risk factors continued to explain 16.1% of FE variance on

**Table 3.** Linear Regression Predicting the Older Adult Financial Exploitation Measure (OAFEM) with Demographic Predictors, Known Risk Factors of FE, and Social Support Factors (n=336)

Variables	Model 1: B (β)	Model 2: B (β)	Model 3: B (β)	Model 4: B (β)
Age	-.006 (-.094)	-.006 (-.094)	-.005 (-.075)	-.005 (-.075)
Gender	.231 (.207)***	.231 (.207)***	.259 (.232)***	.258 (.231)***
Ethnicity	-.019 (-.017)	-.019 (-.017)	-.024 (-.021)	-.021 (-.018)
Marital status	.001 (.001)	.000 (.000)	-.034 (-.033)	-.033 (-.031)
Education years	.023 (.146)**	.023 (.146)**	.023 (.145)**	.023 (.145)**
Dependency	-.007 (-.010)	-.007 (-.010)	-.006 (-.009)	-.005 (-.007)
Physical health	-.007 (-.121)*	-.007 (-.121)*	-.006 (-.108)	-.006 (-.108)
Depression	.014 (.237)***	.014 (.238)***	.014 (.233)***	.014 (.224)***
Cognition	-.007 (-.027)	-.007 (-.027)	-.008 (-.031)	-.008 (-.031)
Social support		.000 (.002)		-.002 (-.022)
Negative			.091 (.107)*	.090 (.106)*
Positive			.054 (.087)	.057 (.093)
Constant	1.133	1.130	.704	.735
<i>R</i> <sup>2</sup>	.161	.161	.180	.180
<i>f</i> <sup>2</sup>	.192	.192	.220	.220
<i>F</i> -test	6.953***	6.238***	6.467***	5.923***

Note: \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ . "Number of People in Social Network" is not included in the table due to missing data, but results were similar when the variable is included; Negative = Negative Social Exchanges with Close Network Members; Positive = Positive Social Exchanges with Close Network Members. 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.  $f^2 = R^2 / (1 - R^2)$ . Older Adult Financial Exploitation Measure is the dependent variable.

the first two steps. Social support was not significant and added nothing to the model ( $\Delta R^2 = .000$ ,  $F(1, 325) = .001$ ,  $p = .976$ ). When controlling for all variables in Model 2, depression ( $p < .001$ ), being male ( $p < .001$ ), more education years ( $p = .007$ ), and worse physical health ( $p = .036$ ) each contributed uniquely to predicting FE, while social support ( $p = .976$ ) was not a significant predictor (see Table 3, Model 2).

Model 3 tested participants' social exchanges with close network members, including both positive and negative exchanges, above and beyond demographics and known risk factors. Similar to Model 2, demographics and known risk factors together explained 16.1% of FE variance on the first two steps. Importantly, participants' social exchanges with close network members contributed an additional 1.9% ( $\Delta R^2 = .019$ ,  $F(2, 324) = 3.75$ ,  $p = .024$ ). Controlling for all other predictors, depression ( $p < .001$ ), being male ( $p < .001$ ), and more education years ( $p = .007$ ) continued to contribute uniquely in predicting FE; negative exchanges with close network members was also a significant predictor of FE ( $p = .045$ , see Table 3, Model 3).

The last model further examined the effects of negative exchanges with close network members as a unique risk factor by including all social factors in addition to demographics and known risk factors. Excluding exchanges with close network members, the other 11 variables explained 16.1% of FE variance, while an additional 1.9% of the variance in FE was explained by negative and positive exchanges with close network members above and beyond all other variables entered previously,  $\Delta R^2 = .019$ ,  $F(2, 323) = 3.81$ ,  $p = .023$ . Depression ( $p = .001$ ), being male ( $p < .001$ ), and negative exchanges with close network members ( $p = .049$ ) remained as unique predictors of FE in the final model, controlling for other variables (see Table 3, Model 4).

Social network size was excluded from final tables because of its smaller sample size ( $n = 231$ ); however, demographic information did not differ between participants who completed the SNI versus those who did not complete the SNI, and when social network size was included in the models, it was not a significant predictor. During the study, the SNI was administered right after demographics. With the first SNI question being marital status, which was one of the demographic questions, some participants thought they had already responded to the SNI and moved on to the next questionnaire. The fact that the SNI had questions on parents and in-laws (or parents' parents) led other participants to skip the section, because most older adults did not have living parents and grandparents. Research assistants checked all questionnaires before participants left the study for missing data, and invited participants to complete skipped items and/or questionnaires. Unfortunately, most participants declined if SNI was skipped. Following the National Institute of Justice's human subject and privacy protection guidelines, research assistants were not able to further request participants to complete the skipped items and/or questionnaires.

## Discussion

The purpose of this study was to identify socioemotional variables that contributed to the prediction of FE risk beyond demographic and known risk factors. Overall, we found that negative interactions with close network members were a key social risk factor, one that has not been identified previously. Negative interactions with close network members and lower perceived social support significantly predicted greater FE risk, while social network size and positive interactions with close network members were not associated with FE risk. Among the known risk factors, only depression was consistently a unique predictor of FE risk in various models.

Except for a previous study with the same group of community-dwelling participants (Wood et al., 2015), no other study had applied the OAFEM to community samples without APS investigation. Scores on the OAFEM in other studies with an APS sample were much higher, either because many items were endorsed by a small proportion of older adults, or the percentage of older adults endorsing specific items was larger (Beach et al., 2017; Conrad, Iris, & Liu, 2017; Conrad, Liu, & Iris, 2016; Phelan, Fealy, & Downes, 2017). Our community-dwelling participants were most likely a pre-FE sample that was most suitable for prevention and intervention programs, though we also could not exclude the possibility that some cases would be FE substantiated if APS was involved.

FE theories have guided researchers to investigate four domains of victim vulnerability in FE, including dependency, physical, cognitive, and socioemotional vulnerabilities (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. The emergence of negative interactions with close network members as a unique predictor of FE risk suggests that older adults' socioemotional vulnerability is a domain that merits the attention of future researchers as well as those engaged in prevention and intervention. Because older adults value the pursuit of emotional goals over other priorities in life (Carstensen et al., 2003), quality of interpersonal interactions with family and friends can be especially critical in FE cases. In light of data informing us that perpetrators are most likely to be family members or trusted others (Schafer & Koltai, 2015), negative interactions can be a warning sign and may be witnessed in doctor's offices, grocery stores, restaurants, and other public places. In situations where close network members are not perpetrators, negative interactions 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.

Moreover, negative interactions with close network members could potentially indicate other types of ongoing abuse, especially emotional/psychological abuse. The



Centers for Disease Control and Prevention defined elder emotional/psychological abuse as the infliction of anguish, mental pain, or distress through verbal or nonverbal acts (Hall et al., 2016). Among the six items measuring negative interactions, three inquired if participants were upset, argued with close others, and felt angry or got their feelings hurt. Though these items do not represent the full extent of mental suffering defined as elder emotional/psychological abuse, it is possible that elder emotional/psychological abuse also took place in addition to FE. We note that the presence of negative interactions correlated significantly with our measure of FE. In fact, APS caseworkers identified polyvictimization as highly prevalent, occurring in about one in four of their cases (Acierno et al., 2010), and APS with a statewide system such as Illinois reported FE cases were often also associated with emotional/psychological abuse (<https://www.illinois.gov/aging/ProtectionAdvocacy/Pages/APS-Statistics.aspx>).

Unlike negative interactions with close network members, positive interaction did not predict FE risk, either by itself or in combination with other variables. It is possible that because older adults' motivational priority is to maximize positive emotions during the time spent with close network members, most people tend to recall some positive exchanges with family or friends even when negative exchanges also take place (Charles, Mather, & Carstensen, 2003). Additionally, in contrast to findings from Beach and his colleagues (2016), social network size was not a significant predictor in our study. Sample differences could contribute to the different results, as Beach and his colleagues' sample was identified through random digit dialing in Pennsylvania, and our sample included subjects recruited from senior centers and retirement communities in Southern California, who are likely to be more physically and socially active. Indeed, the average size of social networks was larger in our sample (mean = 46.3 and mean = 27), compared with Beach and colleague's (mean = 18.6).

Less perceived social support was associated with greater FE risk, though it was not a significant unique predictor in the regression models. The negative correlation between social support and depression suggests substantial overlapping variance in explaining FE risk, which might be why social support was not a significant predictor in models that included depression. Post-hoc model exploration confirmed that social support would have been a marginally significant predictor if depression was not included in the final model. In sum, depression was a strong predictor of FE risk in all models, suggesting that when establishing FE prevention and intervention programs, incorporating ways to enhance mental health might be an effective approach to reduce FE risk.

Overall, the inclusion of both positive and negative social factors expanded the scope of FE research to encompass not only victim vulnerabilities, but also allowed investigation of microprocesses as suggested by ecological

systems theory (Rabiner et al., 2004b). Negative interactions with close network members are a unique indicator of FE risk that goes beyond well-established risk factors. Although the approach of the current study focused on older adults' perspective of the interaction quality, future research should expand the scope to include family members or caregivers' perspective if applicable. When designing prevention and intervention programs for FE clients, it is essential to consider carefully the social interactions that carry most weight in older adults' lives. Burnes (2016) advocated for a client-centered solution with cognitively intact community-living older adults. As individual FE cases can be highly different from one to another, assessing negative exchanges with close network members might not be easy, but this information could be an effective tool in the effort to detect and decrease FE.

### Limitations

We used a convenient sample of community-dwelling older adults that did not include cognitively impaired older adults, or isolated older adults confined at home or nursing facilities. Our sample was highly educated, with over half attaining an Associate's college degree or higher, and the majority scored 29 or 30 on the Mini-Mental State Exam. Only 6% scored 24 or lower. The most cognitively and physically vulnerable older adults were underrepresented in our study, because they were not involved in the community and unlikely to volunteer. Because flyers were posted in senior centers and other locations in the community, most of our participants were involved in senior center activities or community events.

Additionally, because of missing data on the SNI, our sample size was smaller than desirable when social network size was included in models. As described in the results section, the SNI questions on parents and grandparents might have contributed to the loss of data for this older sample. Because social network size was not a significant contributor in the models and the sample size was smaller, we excluded the variable from the final analyses. Nevertheless, the unique contribution of negative interactions with close network members was observed in models with and without the social network variables, highlighting the importance of this newly identified FE predictor.

It is important to keep in mind that all victim vulnerabilities in this study together explained less than 20% of the variance in FE risk. Although negative interactions with close network members were found to be associated with FE risk, above and beyond demographics, known risk factors, and social support, the addition was very little to the final model (2%). Future research should consider including FE risk factors beyond victim vulnerabilities, such as perpetrator characteristics (Conrad et al., 2016; Liu, Conrad, Beach, Iris, & Schiamburg, 2017), although it would be challenging to collect such information, especially with a community sample.

Finally, because the research design was cross-sectional, it is not possible to infer causal pathways between risk factors and FE. Without a longitudinal design, we cannot conclude whether negative interactions with close network members led to FE risk, or whether it was the product of FE risk. Additional research is needed to provide a better understanding of this relationship and how this knowledge can be used most effectively.

## Conclusion

Losing financial assets to exploitation is harmful for people at any age, but older adults are at a stage of life where recouping financial losses may be especially difficult. Additionally, FE takes a toll on older adults' physical and psychological health, and increases risk for institutionalization, hospitalization, and mortality. Because FE is the result of complex interactions between the older adult and individuals in his/her life, no single risk factor explains why some older adults are more susceptible. The current study included a comprehensive array of risk and protective factors in the same analyses to provide a comprehensive view of relationships among potential FE predictors. A key finding was that negative interactions with close network members contributed above and beyond known risk factors in predicting FE risk, illustrating the importance of including this social factor in research studies as well as intervention and prevention programs.

## Supplementary Materials

Supplementary data is available at *Innovation in Aging* online.

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## Conflict of Interest

None reported.

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