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Factors related to abuse of older persons by relatives with psychiatric disorders

Travis Labrum

School of Social Policy and Practice, University of Pennsylvania, 3701 Locust Walk, Philadelphia, PA 19104, USA

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ABSTRACT

Introduction: Across developed nations, elder abusers have been found to disproportionately have indicators of psychiatric disorders (PD); however, elder abuse by persons with PD has received almost no research attention. The present analysis examines the association of perpetrator, victim, and interaction factors with the occurrence of physical, financial, and psychological abuse of older persons, committed by relatives with PD.

Methods: Data are from a U.S. community recruited survey of 243 persons 55 years of age and older who report having an adult relative with PD. Multivariate logistic regression was performed examining the association of proposed factors with the occurrence of physical, financial, and psychological abuse.

Results: In the past 6 months, 15%, 20%, and 42% of respondents reported experiencing physical, financial, and psychological abuse by relatives with PD, respectively. All forms of abuse co-occur at statistically significant levels. There is variation among factors associated with physical, financial, and psychological abuse; however, all types are associated with greater use of limit-setting practices and either regular attendance of mental health treatment or use of medications.

Conclusions: Efforts to prevent abuse of older persons may benefit from linking suspected/substantiated elder abusers with PD to mental health treatment. Older persons engaging in high levels of limit-setting practices towards relatives with PD may benefit from being offered support and guidance regarding how to set limits in ways less likely to escalate conflict.

1. Introduction

With the global 60 year and older population rapidly growing and estimated to reach 1.2 billion persons by 2025 (World Health Organization, 2002), elder abuse is increasingly being recognized as an international problem in immediate need of effective prevention and treatment policies and interventions. It has long been known that persons with psychiatric disorders (PD) compose a sizable minority of all persons who commit elder abuse (Anetzberger, 2012; Lachs & Pillemer, 2004). As early as 1985 it was found that more than three-fourths of elder abusers were described by the victims as having "mental or emotional problems" (Pillemer, 1985). Four years later, Wolf and Pillemer (1989) found that among three related samples, 38% of elder abusers had a history of mental illness. Similarly, in 1989 Pillemer and Finkelhor reported that 35% of elder abusers had "emotional problems" and 20% had a history of being psychiatrically hospitalized—compared to a mere 3% of the comparison group. Continuing from the 1990′s to the present, research has consistently found that psychiatric symptoms and/or disorders are associated with elder abuse (Coyne, Reichman, & Berbig, 1993; Greenberg, McKibben, & Raymond, 1990; Homer & Gilleard, 1990; Korbin, Anetzberger, Thomasson, & Austin, 1991; Paveza et al., 1992; Quayhagen et al., 1997; Reay & Browne, 2001; Williams & Shaffer, 2001). Of the more recent research, two studies examining cases of substantiated elder abuse reported to Aging Services found that 14% (Thomson et al., 2011) and 25% (Jackson & Hafemesiter, 2011a) of abusers have a mental illness. Similarly, using a probability sample of community-residing older adults in the U.S., the National Elder Mistreatment Study found that 19% to 28% of elder abusers have indicators of mental illness, with rates varying by the type of mistreatment examined (Acierno et al., 2010). While most research conducted in this area has been performed in the U.S., available evidence indicates that elder abuse committed by persons with PD is a considerable problem across western nations (Clancy, McDaid, O'Neill, & O'Brien, 2011; Lowenstein, Eisikovits, Band-Winterstein, & Enosh, 2009; Pérez-Rojo, Izal, Montorio, & Penhale, 2009; Podnieks, 1993; Pot, Van Dyck, Jonker, & Deeg, 1996; Reis & Nahmiash, 1998). A strong explanation as to why persons with PD are at an increased risk of perpetrating elder abuse appears to be the high level of dependency they often have on family members

E-mail address: tlabrum@sp2.upenn.edu (T. Labrum).

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(Greenberg et al., 1990; Korbin et al., 1991; Pillemer, 2005)—many of whom are elderly parents (National Alliance for Caregiving, 2016). Relatives often play an even larger role in providing care to persons with PD in eastern countries (Kageyama et al., 2015). Consequently, elder abuse by this population is surely at least as common in eastern countries as in the western world.

Given its magnitude and global pervasiveness, the lack of research beyond description regarding elder abuse by persons with PD is startling. Indeed, I am unaware of a single study that has sought to examine factors associated with elder abuse committed specifically by persons with PD. Given the unique mental, interpersonal, and environmental experiences persons with PD often have, there are surely significant differences among factors associated with elder abuse when considering abusers with and without PD. As such, it is imperative that we gain an understanding of factors associated with elder abuse by persons with PD. Such an understanding would inform our ability to develop tailored instruments, services, and policies to enable the identification and prevention of elder abuse committed by this population.

The objective of the present study is, with the use of a community recruited U.S. sample, to examine to what extent hypothesized perpetrator, victim, and interaction factors are associated with physical, financial, and psychological abuse committed against persons 55 years of age and older in the past 6 months by a relative with PD.

2. Proposed factors

Elder abuse research has most commonly relied on the caregiver stress model, which presumes that elder abuse is the result of stress placed on family members for caring for a frail functionally dependent elder (Jackson & Hafemeister, 2013). However, such a model has been criticized by many elder abuse researchers as providing limited utility in explaining the occurrence of elder abuse (Jackson & Hafemeister, 2013; Pillemer, 2005). The caregiver stress model surely does not well explain elder abuse committed by persons with PD, as persons with PD are more likely to be the recipients than the providers of family caregiving (Awad & Voruganti, 2008). Given that the caregiver stress model likely does not well explain elder abuse by persons with PD and that little scholarship has been conducted regarding this specific phenomenon, identifying factors likely related to elder abuse by persons with PD requires examining proximal literatures. Studies evaluating the proportion of elder abusers who have indicators of PD have largely failed to collect information regarding the psychiatric diagnoses of perpetrators. However, given the characteristics of elder abusers who have indicators of PD, it has been argued that the majority of such abusers likely have major PD (Labrum & Solomon, 2015a)—schizophrenia related, bipolar, or major depressive disorders. By integrating the literatures regarding community and family violence by persons with major PD and elder abuse in general, factors likely associated with elder abuse by persons with major PD have been proposed (Labrum & Solomon, 2015a). As aforementioned, the objective of this study is to examine to what extent proposed perpetrator, victim, and interaction factors are associated with elder abuse by persons with PD (adequate data is not available to examine ecological factors). Perpetrator factors proposed to be associated with elder abuse include age (Heru, Stuart, Rainey, Eyre, & Recupero, 2006; Monahan et al., 2001; Vaddadi, Gilleard, & Fryer, 2002), gender (National Center on Elder Abuse, 1998; Witt, Van Dorn, & Fazel, 2013), employment status (Jackson & Hafemeister, 2011a; Swanson et al., 2006), income (Swan & Lavitt, 1988; Witt et al., 2013), diagnosis (Corrigan & Watson, 2005), use of drugs and alcohol (Acierno et al., 2010; Greenberg et al., 1990; Van Dorn, Volavka, & Johnson, 2011), onset of illness (Swanson et al., 2002), history of psychiatric hospitalization (Fleischman, Werbeloff, Yoffe, Davidson, & Weiser, 2014; Swan & Lavitt, 1988), use of psychiatric medications (Greenberg et al., 1990; Swanson, Swartz et al., 2008), attendance of mental health treatment (Estroff, Swanson, Lachicotte, Swartz, & Bolduc, 1998; Monahan et al., 2001), and arrest history (Monahan et al., 2001). Victim factors proposed to be associated with abuse include age (Bristowe & Collins, 1988; Buchwald et al., 2000; Vaddadi et al., 2002), income (Acierno et al., 2010; Lachs, Williams, O'Brien, Hurst, &, Horwitz, 1996; Swan & Lavitt, 1988), presence of a mental health condition (Compton, Flanagan, & Gregg, 1997; Jackson & Hafemeister, 2011a) and family relationship type (Estroff et al., 1998). Interaction factors include financial assistance and caregiving with activities of daily living provided to relatives with PD by older persons (Estroff et al., 1998; Pillemer & Finkelhor, 1989; Pillemer, 1985, 1986), caregiving with activities of daily living provided to older persons by relatives with PD (Quayhagen et al., 1997; Wolf & Pillemer, 1989), co-residence (Lachs & Pillemer, 2004; Swanson et al., 2006), in-person contact (Elbogen, Swanson, Swartz, & Van Dorn, 2005), use of limit-setting practices towards relatives with PD by older persons (Labrum & Solomon, 2015a), and representative payeeship (Elbogen et al., 2005) and unofficial money management (Kageyama et al., 2016) provided by older persons to relatives with PD.

3. Methods

This is a secondary analysis of an online survey completed by community-residing adults in the U.S., between July 2014 and February 2015. Of the 573 respondents who completed the survey, 243 were at least 55 years of age. This subsample of 243 respondents at least 55 years of age who report having an adult relative with PD is the sample employed in the present analysis. These 243 respondents provided information regarding themselves, their relative with PD, and their interactions with each other, including if and how often their relative with PD had committed physical, financial, and psychological abuse towards them in the past 6 months. Approval from the university Institutional Review Board was obtained.

3.1. Sampling

Unfortunately, it is not financially feasible to obtain a representative sample of older adults with a relative with PD. Studies of family members of persons with PD commonly recruit participants either from family education/advocacy programs such as the National Alliance on Mental Illness (NAMI) or through relatives with PD who are actively receiving mental health treatment. However, both such strategies are not without limitations. Samples recruited from NAMI chapters disproportionately consist of women and Non-Hispanic Caucasians (Katz, Medoff, Fang, & Dixon, 2015; National Alliance for Caregiving, 2016), while samples recruited through treatment centers have little clinical diversity with all relatives with PD currently attending treatment. It was attempted to obtain a diverse sample by recruiting participants from a plethora of non-profit organizations across the U.S. Hundreds of organizations pertaining to disability rights, low cost medical care, food and housing assistance, or mental health education/advocacy organizations were solicited to circulate an advertisement for the study through online methods, including member email listservs, social media posts, inclusion in e-newsletters, and website postings. Advertisement also occurred at an in-person event for a U.S. state chapter of NAMI and at the 2014 NAMI U.S. National Conference. Advertisements described the purpose of the study as exploring the interactions people have with adult relatives with mental illness. Despite efforts to recruit participants from a myriad of

organizations, from observing the inflow of participation vis-à-vis recruitment efforts, it is thought that the majority of respondents were recruited from NAMI.

3.2. Procedure

Online advertisements for the study directly provided the web address from which prospective participants could obtain more information regarding the study and complete the survey if interested. In-person advertisements provided instructions for how prospective participants could have this web address emailed to them. Prior to participating, respondents indicated meeting eligibility criteria (being at least 18 years of age and having an adult relative who has been diagnosed with a mental illness) and consenting to participate. Based on the experience of pretesting participants, the survey was estimated to require approximately 15 min to complete. If desired, respondents provided their email address and were entered to win one of eight $50 electronic gift cards. Eighty four percent of all persons who began the survey successfully completed. No significant differences exist in the gender, age, or race among persons who completed the survey and persons who began but did not complete the survey. It is not possible to calculate the response rate of all eligible persons who viewed an advertisement for the study.

3.3. Instrument

It was decided to conduct an online survey as surveys are considered to induce less social desirability bias than interviews (Pew Research Center, 2015) and because online surveys enable recruiting participants from diverse organizations and geographical areas. Persons with PD actively use the internet (Duckworth, 2016), with internet-based studies increasingly being conducted with persons with PD (Kaplan, Salzer, Solomon, Brusilovskiy, & Cousounis, 2011; Kaplan, Solomon, Salzer, & Brusilovskiy, 2014; Prochaska et al., 2011). There is no evidence that relatives of persons with PD are less likely to use the internet than members of the general U.S. population—which overwhelmingly access the internet (File & Ryan, 2014). In addition, available studies suggest that information obtained from the self-report of persons with relatives with PD is comparable when obtained through online vs. paper surveys (Labrum & Solomon, 2015b).

The survey was created in agreement with common survey guidelines (Fowler, 1995). Due to the sensitive nature of survey questions, feedback was obtained from three administrators of mental health advocacy and consumer organizations in an attempt to ensure that survey questions were not perceived as biased against persons with PD—resulting in minor changes made to the survey. The final survey was pretested by two persons with a relative with PD who reported having no confusion or difficulty understanding or answering any of the questions. Data from pretest participants were not included in analyses.

3.4. Measures

3.4.1. Dependent variables

For all questions regarding physical, financial, and psychological abuse, respondents were asked if their relative with PD had committed a specific act towards them since first being diagnosed with a mental health condition. If s/he responded affirmatively, s/he was asked how many times the relative with PD committed the same act towards them in the past 6 months (Responses coded: 0 times = 0, 1 = 1, 2 to 4 = 2, 5 to 9 = 3, 10 to 19 = 4, 20 or more = 5). If s/he responded non-affirmatively, a response of 0 was imputed for the frequency of the act in the past 6 months. The wording of all questions used to measure physical, financial, and psychological abuse can be found elsewhere (Labrum, Solomon, & Bressi, 2015).

To measure physical abuse, seven questions were closely adapted from the MacArthur Community Violence Instrument (MCVI) (Monahan et al., 2001). The standard measure used in assessing violence by persons with PD (Desmarais et al., 2014; Elbogen, Van Dorn, Swanson, Swartz, & Monahan, 2006), the MCVI is based on the Conflict Tactics Scale (Straus & Gelles, 1990) and classifies acts of violence as “other aggressive acts” and “acts of violence”. For the purpose of this analysis, these two classifications were combined and respondents are considered to have experienced physical abuse if they reported that their relative with PD had in the past 6 months committed any assaultive act against them or had threatened them with a knife, gun, or any other lethal object. Unlike the MCVI, the present study does not assess the occurrence of sexual assault. Additionally, among respondents who reported being threatened with a knife, gun, or other lethal object, it is uncertain if the relative with PD had a weapon in their hand at the time of making the threat. These seven questions yielded a Cronbach’s alpha of 0.74.

Respondents are considered to be the victim of financial abuse by their relative with PD if they indicated a response of one or more to the following question: “In the past 6 months how many times has s/he [the relative with PD] misused or stolen any of your funds, property, or assets?” This question was created based on the definition of financial exploitation proposed by the National Center on Elder Abuse (n.d.) and that described in arguably the most rigorous study conducted to date regarding financial exploitation of elderly persons (Peterson et al., 2014). This question does not cover every facet of financial abuse such as being forced or misled into surrendering rights or having one’s identity stolen. As such, this measure may result in under identification of financial abuse. However, the magnitude of such under identification is likely small given that acts of stolen or misappropriated money and/or resources compose the vast majority of all cases of elder financial exploitation (Peterson et al., 2014), which is likely particularly true when exclusively considering abuse by family members (Jackson & Hafemeister, 2012).

Upon completing a systematic review of the elder abuse literature, it was recently concluded that “To date, there is no single gold standard test to ascertain abuse . . . ” (Sooryanarayana et al., 2013, p.316). Relatedly, there is much variation in the measurement of psychological abuse among elder abuse studies (Sooryanarayana, Choo, & Hairi, 2013) as well as those pertaining to intimate partner abuse (Winstok & Sowan-Basheer, 2015). Commonalities among psychological abuse measures are that abuse is considered to consist of acts of yelling, criticism, destruction of property, and threats of minor violence (Thompson, Basile, Hertz, & Sitterle, 2006). As such, psychological abuse was measured with the sum of four questions assessing each of these commonalities. Three of these questions are extremely similar to those used to assess verbal aggression/abuse in previous elder abuse studies (Comijs, Pot, Smit, Bouter, & Jonker, 1998; Compton et al., 1997; Pillemer & Finkelhor, 1988). It was decided to label these four questions as measuring psychological abuse as opposed to verbal aggression due to the inclusion of destruction of property, which does not rely on verbal tactics. In agreement with previous elder abuse research regarding psychological/verbal abuse (Biggs, Manthorpe, Tinker, Doyle, & Erens, 2009; Comijs et al., 1998; Compton et al., 1997; Naughton et al., 2011; Pillemer & Finkelhor, 1988) adjusted for the present study’s briefer duration of inquiry (i.e. past 6 months vs. 1 year), respondents with a summed score of five or more in the past 6 months were considered to have experienced psychological abuse. These questions yielded a Cronbach’s alpha of 0.81.

3.4.2. Independent variables

Level of caregiving with activities of daily living provided by respondents to their relative with PD in the past 6 months was measured with seven questions adapted from the Objective Activities of Daily Living Caregiving Scale (Tessler & Gamache, 1993). Total scores can range from 0 to 21, with higher scores indicating higher level of caregiving. In the present analysis, these questions yielded a Cronbach's alpha of 0.83. Frequency of caregiving with activities of daily living provided by relatives with PD towards respondents in the past 6 months was measured with a single question (In the past 6 months about how often did your FMMI [family member with a mental illness] help you with meal preparation, shopping, or other household chores?), with response options of not at all, less than once a month, once a month, once a week, and more than once a week. Financial assistance provided by respondents towards relatives with PD was measured with the sum of two questions, with a Cronbach's alpha of 0.78 (In the past 6 months about how often did you personally pay for or give your FMMI [family member with a mental illness] money for . . . 1) basic living necessities such as food, transportation, or rent? 2) non-necessities such as spending money, personal items, or cigarettes?). Total scores can range from 0 to 8 with higher scores indicating more frequent financial assistance. In an effort to prevent, terminate, or otherwise modify behaviors persons with PD engage in, family members often set limits with relatives with PD (Cook, 1988; Tessler & Gamache, 2000). The use of limit-setting practices by respondents towards relatives with PD was measured with the Family Limit-Setting Scale (FLSS), which has many indicators of construct validity (Labrum, Walk, & Solomon, 2016). Total scores on the FLSS range from 0 to 40 with higher scores indicating greater levels of limit-setting practices. In the present analysis, this scale yielded a Cronbach's alpha of 0.87. Remaining independent variables were measured with the use of single straight forward questions.

3.5. Analysis

Pearson's chi-square tests were performed to evaluate the co-occurrence of physical, financial, and psychological abuse. Regarding the association of proposed factors with abuse, to enable more accessible interpretation of results continuous independent variables were dichotomized at or near the median and categorical independent variables were dichotomized where producing the most conceptual value. Models were estimated by using logistic regression with three separate dichotomous dependent variables: 1) physical abuse vs. no physical abuse, 2) financial abuse vs. no financial abuse, and 3) psychological abuse vs. no psychological abuse. For each form of abuse, bivariate associations with independent variables were first estimated. Multivariate models were then estimated by conducting forward stepwise logistic regression where independent variables were permitted to enter the model based on an alpha level of 0.05. Forward stepwise regression models protect against the risk of near extreme multicollinearity. All analyses were performed with the use of Stata 14.

4. Results

4.1. Sample characteristics

The mean ± *SD* age of respondents was 62 ± 6.18 (range 55–88). The vast majority of respondents were female (89%, $n = 217$), Non-Hispanic Caucasian (94%, $n = 228$), and were either the parent (77%, $n = 187$) or spouse/romantic partner (11%, $n = 27$) of their relative with PD. Most were married (72%, $n = 174$) and either employed full time (36%, $n = 87$) or retired (35%, $n = 85$). The median annual income of respondents and their spouse/romantic partner (if applicable) was $60,000 to $79,999. Fifty eight percent ($n = 141$) of respondents had resided with their relative with PD in the past 6 months and most (76%, $n = 184$) do not have a diagnosis of a mental health condition themselves. Of the 86% ($n = 209$) of respondents who provided their zip code, they resided in 30 states in the U.S.

The mean ± *SD* age of the relative with PD was 38.33 ± 14.41 (range 18–87). Sixty four percent ($n = 156$) were men and 91% ($n = 222$) were Non-Hispanic Caucasian. Unlike respondents, most relatives with PD had never been married (81%, $n = 198$), were either disabled (44%, $n = 106$) or unemployed (19%, $n = 47$), and had an annual income less than $10,000 (59%, $n = 144$). Primary diagnoses were bipolar (42%, $n = 101$), schizophrenia/schizoaffective (38%, $n = 91$), major depression (9%, $n = 23$), anxiety related (7%, $n = 17$), other (3%, $n = 8$), and unknown (1%, $n = 3$). Most relatives with PD were reported to have regularly attended mental health treatment (70%, $n = 170$) and to have regularly taken prescribed mental health medications (79%, $n = 193$) in the past 6 months. Thirty seven percent ($n = 90$) were reported to have been hospitalized for a mental reason in the past year.

4.2. Rates of abuse

Fifteen percent ($n = 36$), 19% ($n = 47$), and 41% ($n = 99$) of respondents reported that their relative with PD had committed physical, financial, and psychological abuse against them in the past 6 months, respectively. Sixteen (6.6%) respondents reported that one type of physically abusive act was committed against them once in the past 6 months, with 20 (8.2%) respondents reporting that either multiple types of physically abusive acts were committed against them or that a specific act was committed multiple times. Ten (4.1%) respondents were financially abuse once, 23 (9.5%) were abused between two and four times, and 14 (5.8%) were abused 5 or more times. Of respondents considered to be psychologically abused the median summed score for psychological abuse is eight ($M = 8.77$, $SD = 3.44$).

4.3. Co-occurrence of abuse

There was statistically significant co-occurrence across all types of abuse. Forty seven percent ($n = 17$) of respondents who experienced physical abuse by their relative with PD in the past 6 months also experienced financial abuse, $\chi 2\ (1, N = 243) = 21.06$, $p < 0.001$, and 81% ($n = 29$) experienced psychological abuse, $\chi^2\ (1, N = 243) = 27.75$, $p = 0.001$. Of respondents who experienced financial abuse, 36% ($n = 17$) also experienced physical abuse, $\chi^2\ (1, N = 243) = 21.06$, $p < 0.001$, and 83% ($n = 39$) experienced psychological abuse, $\chi^2\ (1, N = 243) = 43.06$, $p < 0.001$. Of respondents who experienced psychological abuse, 29% ($n = 29$) experienced physical abuse, $\chi^2\ (1, N = 243) = 27.75$, $p < 0.001$, and 39% ($n = 39$) experienced financial abuse $\chi^2\ (1, N = 243) = 43.06$, $p < 0.001$.

4.4. Correlates of physical abuse

Bivariate and adjusted odds ratios (OR) for physical abuse vs. no physical abuse are presented in Table 1. Adjusted OR show that physical abuse was significantly less likely when the relative with PD had regularly attended mental health treatment in the past 6 months. Inversely, physical abuse was significantly more likely when respondents co-resided with relatives with PD and when respondents engaged in greater levels of limit-setting practices towards relatives with PD.

4.5. Correlates of financial abuse

Table 2 presents bivariate and adjusted OR for financial abuse vs. no financial abuse. Adjusted OR indicate that financial abuse was significantly less likely when relatives with PD were reported

Table 1
Factors associated with physical abuse of older persons committed by relatives with psychiatric disorders in the past 6 months ($N = 243$).

Perpetrator factors	Bivariate association OR (95% CI)	Adjusted association OR (95% CI)
Younger age (≤36)	1.80 (0.85–3.79)	
Male gender	1.81 (0.81–4.06)	
Not employed full time	1.18 (0.43–3.24)	
Lower annual income (<$10,000)	0.36 (0.16–0.84)*	
Diagnosis schizophrenia related or bipolar disorder	0.76 (0.33–1.75)	
Use of illegal drugs past 6 mo.	3.45 (1.64–7.25)***	
Regular use of alcohol past 6 mo.	1.63 (0.79–3.37)	
Earlier onset of illness (<20 years of age)	0.76 (0.37–1.58)	
Psychiatric hospitalization past year	2.45 (1.19–5.01)*	
Regular use of MH medications past 6 mo.	0.45 (0.21–0.98)*	
Regular attendance of MH treatment past 6 mo.	0.27 (0.13–0.57)***	0.38 (0.17–0.83)*
Arrested as an adult	1.63 (0.80–3.31)	
Victim factors		
Younger age (≤61)	2.25 (1.05–4.81)*	
Lower annual income (<$80,000)	1.05 (0.51–2.17)	
Diagnosed with a mental health condition	1.46 (0.67–3.18)	
Being a parent of relative with PD	0.74 (0.33–1.65)	
Interaction factors		
Frequent financial assistance towards relative with PD (≥4)	1.82 (0.89–3.73)	
Greater caregiving towards relative with PD (≥11)	2.54 (1.22–5.29)*	
Greater caregiving towards respondent (≥once a month)	1.10 (0.54–2.25)	
Co-residence	3.51 (1.47–8.38)**	3.16 (1.25–7.96)*
In-person contact more than once a week	3.52 (1.31–9.44)*	
Greater limit-setting towards relative with PD (≥7)	11.03 (3.76–32.34)***	8.13 (2.70–24.41)***
Representative payee for relative with PD	1.78 (0.81–3.91)	
Unofficial money manager for relative with PD	1.12 (0.50–2.47)	

Abbreviations: OR, odds ratio; CI, confidence interval; mo., months; MH, mental health; PD, psychiatric disorders.
* $p \leq 0.05$.
** $p \leq 0.01$.
*** $p \leq 0.001$.

to have regularly attended mental health treatment in the past 6 months. Inversely, financial abuse was significantly more likely when relatives with PD were reported to have used illegal drugs in the past 6 months. Financial abuse was also significantly more likely when respondents served as representative payees for relatives with PD and when they engaged in greater levels of limit-setting practices towards relatives with PD.

4.6. Correlates of psychological abuse

Bivariate and adjusted (OR) for psychological abuse vs. no psychological abuse are presented in Table 3. Adjusted OR indicate that psychological abuse was significantly less likely when relatives with PD were reported to have regularly taken mental health medications in the past 6 months and when respondents were the parent of their relative with PD. Inversely, psychological abuse was significantly more likely when respondents and relatives with PD co-resided and when respondents provided more frequent financial assistance or engaged in greater levels of limit-setting practices towards relatives with PD.

5. Discussion

The rates of physical, financial, and psychological abuse by persons with PD against older relatives found in the present study—15%, 19%, and 41%, respectively—are startling. A limitation with the present analysis is that the sample obtained cannot be argued to be representative of older persons with a relative with PD as convenience sampling was used and as the sample has extremely little diversity regarding race and gender. However, given the enormous discrepancy between the rates of abuse found in the present analysis and national estimates that just 1.6%, 5.2%, and 4.6% of older Americans experienced physical, financial, and emotional abuse in the past year (Acierno et al., 2010), abuse of older persons by relatives with PD is likely much more common than acknowledged. As a result of how common abuse of older persons by this population appears to be, it is imperative that more research be conducted in this area, enabling the development of policies and practices to prevent this highly detrimental social problem. Given that deleterious outcomes of elder abuse (Dong, Chen, Chang, & Simon, 2013; Jackson & Hafemeister, 2011b; Lachs, Williams, O'Brien, & Pillemer, 2002) likely compound when multiple types of abuse occur, the need to prevent abuse of older persons by relatives with PD only becomes more apparent in light of the finding that older persons who experience one type of abuse by relatives with PD are significantly more likely to experience other types of abuse.

This is the first study I am aware of that has examined factors associated with physical, financial, and psychological abuse against older persons specifically by relatives with PD. While differences were found among factors associated with each type of abuse, there was much overlap—a finding that is similar to other elder abuse studies (Acierno et al., 2010; Jackson & Hafemeister, 2011a). After controlling for all other statistically significant variables included in the model, all types of abuse were found to be significantly associated with the relative with PD being reported to either have regularly attended mental health treatment or to have taken prescribed mental health medications in the past 6 months.

Table 2
Factors associated with financial abuse of older persons committed by relatives with psychiatric disorders in the past 6 months ($N = 243$).

Perpetrator factors	Bivariate association OR (95% CI)	Adjusted association OR (95% CI)
Younger age (≤36)	1.28 (0.67–2.44)	
Male gender	1.40 (0.70–2.79)	
Not employed full time	2.26 (0.76–6.70)	
Lower annual income (<$10,000)	0.32 (0.15–0.69)*	
Diagnosis schizophrenia related or bipolar disorder	1.65 (0.69–3.95)	
Use of illegal drugs past 6 mo.	5.55 (2.79–11.06)***	3.33 (1.53–7.27)**
Regular use of alcohol past 6 mo.	3.07 (1.59–5.90)***	
Earlier onset of illness (<20 years of age)	0.91 (0.48–1.73)	
Psychiatric hospitalization past year	2.05 (1.08–3.91)*	
Regular use of MH medications past 6 mo.	0.53 (0.26–1.09)	
Regular attendance of MH treatment past 6 mo.	0.25 (0.13–0.49)***	0.47 (0.20–0.92)*
Arrested as an adult	2.87 (1.47–5.59)**	
Victim factors		
Younger age (≤61)	1.94 (0.99–3.77)	
Lower annual income (<$80,000)	0.87 (0.46–1.67)	
Diagnosed with a mental health condition	0.81 (0.37–1.75)	
Being a parent of relative with PD	1.33 (0.60–2.96)	
Interaction factors		
Frequent financial assistance towards relative with PD (≥4)	2.81 (1.44–5.47)**	
Greater caregiving towards relative with PD (≥11)	2.14 (1.12–4.09)*	
Greater caregiving towards respondent (≥once a month)	0.90 (0.47–1.73)	
Co-residence	1.70 (0.87–3.34)	
In-person contact more than once a week	2.83 (1.25–6.39)*	
Greater limit-setting towards relative with PD (≥7)	5.99 (2.75–13.08)***	3.76 (1.63–8.65)**
Representative payee for relative with PD	2.61 (1.30–5.24)**	2.76 (1.22–6.21)*
Unofficial money manager for relative with PD	1.12 (0.55–2.28)	

Abbreviations: OR, odds ratio; CI, confidence interval; mo., months; MH, mental health; PD, psychiatric disorders.

Table 3
Factors associated with psychological abuse of older persons committed by relatives with psychiatric disorders in the past 6 months ($N = 243$).

Perpetrator factors	Bivariate association OR (95% CI)	Adjusted association OR (95% CI)
Younger age (≤36)	1.50 (0.89–2.51)	
Male gender	1.11 (0.65–1.90)	
Not employed full time	1.60 (0.76–3.34)	
Lower annual income (<$10,000)	0.59 (0.35–1.00)	
Diagnosis schizophrenia related or bipolar disorder	0.65 (0.35–1.21)	
Use of illegal drugs past 6 mo.	2.77 (1.50–5.14)***	
Regular use of alcohol past 6 mo.	1.89 (1.09–3.27)*	
Earlier onset of illness (<20 years of age)	0.93 (0.56–1.56)	
Psychiatric hospitalization past year	1.97 (1.16–3.35)*	
Regular use of MH medications past 6 mo.	0.30 (0.16–0.57)***	0.21 (0.09–0.49)***
Regular attendance of MH treatment past 6 mo.	0.29 (0.16–0.51)***	
Arrested as an adult	1.24 (0.74–2.08)	
Victim factors		
Younger age (≤61)	2.07(1.22–3.49)**	
Lower annual income (<$80,000)	0.84 (0.50–1.41)	
Diagnosed with a mental health condition	1.31 (0.73–2.37)	
Being a parent of relative with PD	0.74 (0.40–1.35)	0.35 (0.15–0.78)*
Interaction factors		
Frequent financial assistance towards relative with PD (≥4)	2.80 (1.65–4.76)***	2.14 (1.09–4.24)*
Greater caregiving towards relative with PD (≥11)	3.31(1.94–5.65)***	
Greater caregiving towards respondent (≥once a month)	1.00 (0.60–1.68)	
Co-residence	2.3 (1.34–3.94)**	
In-person contact more than once a week	3.75 (2.02–6.96)***	4.19(1.90–9.22)***
Greater limit-setting towards relative with PD (≥7)	9.33(5.11–17.05)***	10.06 (5.02–20.12)***
Representative payee for relative with PD	1.62 (0.87–3.00)	
Unofficial money manager for relative with PD	1.13 (0.63–2.01)	

Abbreviations: OR, odds ratio; CI, confidence interval; mo., months; MH, mental health; PD, psychiatric disorders.

Similarly, after reviewing a small number of case records of elder abuse committed by persons with PD, Greenberg et al. (1990) reported that "episodes of abuse usually occurred when the adult child discontinued his or her medications" (p.82). Furthermore, medication compliance and treatment attendance are known to be negatively associated with acts of general violence by persons with PD (Swan & Lavitt, 1998; Swartz et al., 1998; Witt et al., 2013). While more research is needed, it appears very likely that treatment-related factors affect the risk of elder abuse by persons with PD.

The only other variable in the model found to be significantly associated with all types of abuse after controlling for significant covariates was the level of limit-setting practices used by respondents towards relatives with PD. In fact, level of limit-setting practices used towards relatives with PD was the variable most strongly correlated with all types of abuse. A limitation of the present study is that it involves a cross-sectional design, resulting in it being uncertain whether independent variables preceded acts of abuse. It is feasible that family members increase the use of limit-setting practices towards relatives with PD as a result of being abused, perhaps to prevent further abuse or other crises. However, it is extremely likely that the use of limit-setting practices introduces conflict into the relationships of persons with PD and their relatives, thereby increasing the risk of abuse. This is the first study I am aware of finding that limiting-setting practices are associated with elder abuse by persons with PD; however, in a qualitative study (Cook, 1988), the use of limit-setting practices has been noted to result in conflict in the familial relationships of persons with PD and two quantitative studies relying on the review of official records able to establish temporal ordering have found that limit-setting practices precede up to 50% of all acts of family violence by this population (Ahn et al., 2012; Straznickas, McNiel, & Binder, 1993). While the use of limit-setting practices and conflict may have a reciprocal relationship, there is building evidence that limit-setting practices contribute to conflict and increase risk of abuse. This evidence is in agreement with the proposition by many elder abuse researchers that abuse is often the result of relationship factors (Burnight & Mosqueda, 2011) and indicates one such relationship factor that likely plays a considerable role in elder abuse by persons with PD.

Previous elder abuse (Pillemer & Finkelhor, 1989; Pillemer, 1985, 1986) and psychiatry (Estroff et al., 1998) research suggest that dependency of persons with PD on a relative (financially or in completing activities of daily living) is strongly associated with risk of abuse. In the present analysis, after controlling for other significant covariates (including limit-setting practices), caregiving was not statistically associated with any type of abuse and financial assistance was only associated with psychological abuse. However, bivariate associations indicated that caregiving and financial assistance were significantly associated with financial and psychological abuse, with caregiving additionally being associated with physical abuse. Family members providing more caregiving and financial assistance to their relatives with PD are able to engage in greater levels of limit-setting practices through contingently providing caregiving and financial assistance based on the behaviors of relatives with PD. As such, it is feasible that the use of limit-setting practices mediates the relationships of caregiving and financial assistance with physical, financial, and psychological abuse by persons with PD, a similar relationship has been found regarding family violence in general (Labrum & Solomon, 2016). Studies with larger samples should examine the extent to which limit-setting practices mediate the relationships of caregiving and financial assistance with risk of elder abuse.

After controlling for significant covariates, no victim factor was found to be significantly associated with any type of abuse. This finding is in agreement with other studies indicating that victim factors are not as strongly associated with acts of elder abuse as are perpetrator factors (Homer & Gilleard, 1990; Pillemer & Finkelhor, 1989). For the last three decades there has been controversy in the field regarding whether dependency of older persons on family members plays a role in the occurrence of elder abuse (Pillemer, 2005; Steinmetz, 2005). It is unintuitive to theorize that elder abuse by relatives with PD is the result of older persons being dependent on relatives with PD, as persons with PD are commonly the recipients—not providers—of caregiving. This is the first known study to examine whether caregiving with activities of daily living provided by relatives with PD towards older persons is associated with elder abuse, with such caregiving being found to not be significantly associated with any type of abuse, either in bivariate or multivariate models. More research is needed to confirm this finding; however, this result suggests that the caregiver stress model does not explain elder abuse committed by persons with PD.

Financial elder abuse by family members has been posited to be similar to other types of family conflict (Jackson & Hafemeister, 2012). In agreement, the results of the present analysis indicate that several factors significantly associated with financial abuse are also associated with physical and/or financial abuse. It is worth noting, however, that financial abuse was distinct from physical and psychological abuse by being significantly associated with illegal drug use among relatives with PD and with respondents officially managing their relative with PD's income as their representative payee. Serving as a representative payee for persons with PD is known to be associated with conflict (Elbogen et al., 2005); although, the precise mechanisms resulting in such conflict are unknown. It is highly feasible that persons with PD with an older relative serving as their representative payee resent how their payee budgets their income and, perhaps, perceive that their payee manages their income unfairly or unlawfully. If relatives with PD do indeed have such perceptions of their older relatives serving as their representative payees, it is likely that acts of financial abuse are perceived by relatives with PD as acts of retaliation. Finally, more research is needed but the finding that financial abuse by this population is associated with illegal drug use may indicate that such abuse may be more related to criminogenic factors than are physical or psychological elder abuse.

A limitation of the present analysis is the absence of community and societal factors investigated. Future research should examine such factors likely associated with elder abuse by persons with PD (Labrum & Solomon, 2015a). Separate analyses were performed in examining factors associated with physical, financial, and psychological abuse. While there are advantages to doing so, it should be underscored that the present analyses found considerable rates of co-occurrence across types of abuse, indicating that many older victims by persons with PD experience multiple forms of abuse.

6. Conclusion

Despite the high rate of abuse of older persons by relatives with PD, this phenomenon has received almost no research attention. It is imperative that more research be conducted in this area, including studies seeking to replicate findings of the present analysis. Identifying and intervening in cases of elder abuse is currently tasked to medical and Adult Protective Services (APS) employees (Dong, 2005; Imbody & Vandsburger, 2011; Lachs & Pillemer, 2004), with almost no efforts at prevention being made. If abuse is related to factors identified in this analysis, such factors could be used by APS, medical, and—importantly—mental health professionals to identify persons with PD and their older relatives at risk of being involved in abuse, with subsequent prevention and intervention services offered. Findings of the present analysis suggest that efforts to prevent abuse of older relatives may benefit

from engaging persons with PD in mental health treatment. As such, it may be beneficial for APS workers to link suspected/substantiated elder abusers with PD to mental health treatment and to provide brief interventions to increase motivation to receive such treatment (Chien, Mui, Cheung, & Gray, 2015). Interventions aimed at decreasing limit-setting practices or altering the means of such practices used by older relatives towards persons with PD may also help decrease conflict and prevent abuse. It may be beneficial for family education/support organizations and mental health professionals to provide support and guidance to older family members regarding how to best set limits with relatives with PD without escalating conflict. Such services could be offered to older persons with a relative with PD in general, with APS employees referring older persons at risk of abuse by this population to such services.

Conflict of interest statement

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