Theoretical approaches to elder abuse: a systematic review of empirical evidence

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Abstract

Purpose: The study of theoretical models explaining elder abuse has been one of the main gaps in the literature of the field. The extent of support of each theory is not clear. In this study, we conducted a systematic review to examine research supporting or opposing six theories of elder abuse: caregiver stress theory, social exchange theory, social learning theory, bidirectional theory, dyadic discord theory and the psychopathology of the caregiver.

Methodology: We conducted a systematic review of the literature. Seven databases were searched six times using different keywords about each theory.

Findings: We found 26,229 references and then organised and analysed these references using pre-established criteria. Eighty-nine papers were selected, which contained 117 results of interest; these papers were summarised and assessed for conceptual, methodological and evidence quality. The results showed evidence in favour of all the explored theories, except for social learning theory, whose results indicate multiple interpretations of the theory. We finish this paper by proposing that each of these theories might explain different facets of elder abuse and that more research is necessary to understand how the predictions of these different theories interact.

Originality/value: This paper presents an extensive review of the literature on theoretical explanations of elder abuse. Our findings can be of value for selecting theories for prevention programmes or providing a summary of the evidence for researchers and practitioners interested in the theoretical explanation of elder abuse.

Keywords: elder abuse; theoretical approaches; older adults; mistreatment

Theoretical approaches to elder abuse: a systematic review of the empirical evidence

Since the issue of elder abuse first came to the attention of the scientific community in 1975 (Baker, 1975; Burston, 1975), many social and scientific views have been articulated, thus shaping the field as we know it today. The prevalence, risk factors and assessment strategies of elder abuse have been studied across a vast number of countries. Awareness of this problem grew and, fortunately, continued to grow as governmental and non-governmental organisations dedicated themselves to this issue. More importantly, some international organisations have focused their attention on elder abuse. The World Health Organization made a valuable contribution with the Declaration of Toronto (WHO, 2002) by defining elder abuse as a single or repeated action (or absence of an appropriate action) that results in harm or distress and occurs in a relationship where there is an expectation of trust. Prevalence studies estimate that 15.7% of older adults have experienced mistreatment (Yon *et al.,* 2017). Elder abuse has serious consequences for older adults' physical and mental health and is responsible for part of the hospitalisation, institutionalisation and mortality rates among older adults (Yunus *et al.,* 2019). The considerable prevalence and its nefarious consequences may be one reason why organisations such as the United Nations included elder abuse in the international political agenda in The Madrid International Plan of Action on Ageing (UN, 2002).

The field of elder abuse has now reached a tipping point. An increasing number of recent suggestions from experts focus on protecting older adults by developing intervention and prevention strategies for elder abuse (Stahl, 2015). However, some of these interventions are somewhat ineffective and sometimes even counterproductive (Daly, 2011). One explanation for this outcome is that interventions have insufficient theoretical foundations or simply lack them altogether (Jackson and Hafemeister, 2016). Theory's role is of major

importance in this context because the theory explains the causes and consequences of a phenomenon. In this way, theory influences researchers' choices and contributes to the development of professional practices and policy initiatives (Roberto and Teaster, 2017), therefore giving a fundamental basis for choosing intervention or prevention strategies.

Traditionally, theories used to explain elder abuse have been adapted from other fields, such as child abuse or intimate partner violence (Roberto and Teaster, 2017), although some exceptions exist. Some of these theories are controversial, while others are understudied. We lack a clear picture of what support each theory gathers. Hence, we conducted this systematic review to systematically analyse research that can empirically support theories of elder abuse, thus providing a synthesis of evidence in favour of or against each theory. Hopefully, this review will summarise the evidence to guide researchers who want to proceed with theory testing and to lay some foundations to guide an informed selection of theoretical frameworks on which to base intervention and prevention strategies.

Many different theories have been used to explain elder abuse. In five different works (Burnight and Mosqueda, 2005; Mathew and Nair, 2017; Momtaz *et al.*, 2013; Pillemer and Wolf, 1986; Wilber and McNeilly, 2001), we counted a total of 13 theories: caregiver stress theory; social learning theory; bidirectional theory; psychopathology of the caregiver; social exchange theory; dyadic discord theory; power and control/feminist approach; ecological model; sociocultural model; political-economic theory; role accumulation theory; stratification theory; symbolic interactionism. This list of theories was the starting point for the current review. Political-economic theory is very rarely cited and can be considered a specific case of social exchange theory. Role accumulation theory and stratification theory are also rarely cited and are both specific cases of caregiver stress theory.

When addressing theoretical approaches, it is fundamental to differentiate between theories and models. A theory shapes empirical fact with logic and reasoning into an

explanatory framework, allowing predictions based on the formulation of a hypothesis for testing. A model, however, is a representation of a phenomenon (often distorted) to enhance conceptual understanding (Burnight and Mosqueda, 2005). The main difference between model and theory is that theories focus on establishing causal prediction, while models focus on framing descriptions of phenomenons. Models are helpful in case analysis but have low power establishing predictions or hypothesis development. The ecological model is a good example; it is a powerful tool to categorise risk factors and organise cases (check Schiamberg *et al*., 2011 for an application of the ecological model). However, it has limitations in providing a processual explanation for how abuse happens. For these reasons, models will not be included in this review, excluding the ecological model, sociocultural model and symbolic interactionism theory. The power and control/feminist approach will also not be included in this review. A meta-analysis by Yon *et al.* (2017) showed no gender differences in overall elder abuse, indicating that the mechanics behind elder abuse might be more complicated than just gender roles and expectations, which supports previous findings in the field of intimate partner violence (Archer, 2000). Additionally, dyadic discord theory emerged as a response to these perspectives, offering an expanded explanation of violence, accounting for these data. In summary, we focus on theories that propose a causal mechanism for the prediction of elder abuse and, in this sense, have important repercussions for practical purposes, such as risk assessment and prevention.

We will focus on six theories in this systematic review: caregiver stress theory, social exchange theory, social learning theory, bidirectional theory, dyadic discord theory, and the psychopathology of the caregiver. These theories have been pointed out as the best bets to explain elder abuse theoretically (Burnight and Mosqueda, 2005; Mathew and Nair, 2017; Momtaz *et al.*, 2013; Wilber and McNeilly, 2001), but they are not mutually exclusive.

Sometimes, their predictions are entangled, proving it difficult to support only one theory. We will briefly describe each one and their main predictions.

Caregiver Stress Theory

Caregiver stress theory, sometimes addressed as situational stress theory, posits that elder abuse occurs when a stressed/overburdened caregiver unleashes his/her frustrations on the care recipient (Pillemer and Wolf, 1986; Bergeron, 2001). The central premise of this theory is that caregiving is a stressful situation. Sometimes it can be. Stress emerges either from personal factors – such as inadequate coping skills, multiple roles in the family, health problems, lack of caregiving skills; care-recipient factors—such as high levels of dependency, poor health, decreased mental capabilities; or environmental factors—economic difficulties, lack of support from society-level agencies, and social isolation. These factors combined can make the caregiver feel overburdened and frustrated, unleashing it on the care recipient (Mathew and Nair, 2017). This theory has been controversial for several reasons, but mainly because it can be used as a strategy to blame the victim for the abuse, thus reducing the perpetrator's accountability (see Brandl and Raymond, 2012, for a detailed discussion). However, this theory provides a clear hypothesis. Caregiver stress theory predicts that a stressful or burdened caregiver is at greater risk of committing abuse than a caregiver with less burden. Therefore, good evidence for this theory would be a straightforward relationship between stress and abuse, or, on a more experimental note, the disappearance of abuse after diminishing the caregiver's stress on previously abusive relationships.

Social Exchange Theory

Social exchange theory was developed by very different study areas (sociology, psychology and economics) and is usually analysed superficially. According to this theory, every social interaction is an exchange of material or nonmaterial resources between two

partners, where all involved partners will try to maximise profits and reduce costs. When all involved parties perceive a balance between profit and costs, there is a mutually satisfying balanced exchange (Blau, 1964). Elder abuse is not expected in balanced relationships but in unbalanced relationships. If one of the exchange partners has limited resources to trade and has increased needs, he/she will become "dependent" on his/her partner. In turn, this partner will gain more "power" over the relationship and manipulate the exchanges to maximise profit and cut losses. The manipulation of exchanges can take many forms: deny necessary exchanges (neglect); take monetary compensation by force (financial exploitation), or even inflict pain or distress (physical and emotional abuse) as a mechanism to vent emotions, to increase the power gap or to create a "balance" where both traders lose. Someone who lacks resources (material or nonmaterial) and has few exchange partners (no social support system to trade with) might become dependent on this "powerful" partner, perpetuating unfair trades (Fundinho and Ferreira-Alves, 2019). However, the term "resources" is too vague (Blau, 1964, lists some resources such as social acceptance or prestige), and it is easier to look for variables that increase the needs and make it more challenging to produce resources. Therefore, evidence for this theory might include a relationship between abuse and physical or cognitive impairments (that increase needs). Additionally, this theory relies on the availability of trade partners; therefore, variables such as network size or loneliness are also of interest.

Social Learning Theory

Social learning theory (Bandura, 1978) has been known by many names: intergenerational transmission of violence, transgenerational theory, and the cycle of violence theory. From the literature on child mistreatment, social learning theory proposes that violence is learned through observation and modelled into our behavioural repertoire. Social learning posits that someone who was a victim or was exposed to violence as a child is more

likely to learn that violent actions are valid strategies to deal with others, resulting in the use of violence in caregiving relationships, thus continuing the violence cycle (Pillemer and Wolf, 1986). The main prediction from this premise is that abusers are more likely to have experienced abuse in their childhood than non-abusers. However, the definitive evidence would have to come from longitudinal studies, following children who were victims or who witnessed abuse and to see if they become perpetrators when the time comes to assume the role of caregiver to their parents.

Bidirectional Theory

Bidirectional violence theory arises from the work of Steinmetz (1988), who first noticed that, in some cases, it is difficult to pinpoint a perpetrator and a victim since when abuse occurs, older adults and caregivers are mutually aggressive to one another. This theory states that people raised in environments where violence is used as an interaction strategy or in situations where a caregiver or care receiver feels highly stressed are prone to violent outbursts, to which they are responded with more violence (Steinmetz, 1988). Therefore, the main predictions are that, at some point, older adults and caregivers were both victims and perpetrators. Therefore, the evidence that might support this theory would be reports of mutual violence between caregivers and care receivers.

Dyadic Discord Theory

Dyadic discord theory was developed in the intimate partner violence literature. When the incidence of intimate partner violence began to be studied in larger, nationally representative samples across multiple sources (courts, shelters, police reports, and hospitals), a new understanding of violence emerged regarding gender, since these large-scale studies indicated that women were as violent as men (Archer, 2000). Dyadic discord builds on this finding and focuses on conflict and discordance in relationships (disregarding the gender variable). According to this theory, conflict and discord emerge in a relationship because of

contextual factors (history of family violence) and situational factors (e.g., low satisfaction with the relationship), and this discord might work as the onset for violence (Burnight and Mosqueda, 2005). Dyadic discord and bidirectional theory share a relational focus but differ in the depth of analysis. While bidirectional theory is concerned with mutual aggression between two people, dyadic discord considers the family environment and the elements that precede aggression, such as discord and dissatisfaction in a relationship. This theory predicts that highly conflictual relationships are prone to be associated with violence. Favourable evidence for this theory would be, for example, an association between family conflict and elder abuse.

Psychopathology of the Caregiver

The psychopathology of the caregiver states that elder abuse emerges because the person assuming the caregiving role is suffering some form of psychopathology that makes him/her unable to provide adequate care or even prone to violence (Fulmer *et al.,* 2004). Substance abuse and depression are the more common mental health issues linked to abuse (Chen and Dong, 2017) but are not the only mental health problems. This theory's prediction is straightforward – if the caregiver has a mental illness, the odds of committing elder abuse increase. Finding evidence for this theory can be tricky; it is not just a simple case of finding associations between mental illness and elder abuse. It is also necessary that mental illness is present before the caregiving relationship starts; otherwise, the causal link cannot be established. If the onset of the mental illness is after the beginning of the caregiving relationship, the mental illness might be a by-product of the relationship, therefore disproving this theory.

Methodology

Search Strategy

We searched databases (Web of Science, Psychinfo, Scopus, Science-Direct (Elsevier), PubMed, Sage and Ageinfo) for research-based articles written in the English language and published in scientific journals from 1975 to October 2018. We used a combination of the following keywords: *"elder abuse", "mistreatment older adults", "violence older adults", and "older adults abuse neglect"*, added to some theory-specific keywords. The theory-specific keywords were as follows: caregiver stress theory - *"caregiver stress", "caregiver burden", "stress", "coping"*; social exchange theory – *"social exchange", "dependency", "impairment", "deficits", "rewards"*; social learning theory – *"learning", "abused children", "abused spouse", "intergenerational"*; bidirectional theory – *"caregiver", "mutual violence", "violent care receiver"*; dyadic discord theory – *"relational conflict", "relational satisfaction", "disagreement";* psychopathology of the caregiver – *"caregiver mental health", "caregiver psychopathology"*.

Inclusion and Exclusion Criteria

From applying this search strategy, six massive databases of references, one for each theory, were gathered and managed using Mendeley, a reference manager software. Papers were excluded from these databases by analysing the titles and abstracts and applying the following criteria: a) not about elder abuse; b) not presenting empirical data (the reference list of literature reviews was combed for references that respected the previous criteria and were added to the database). Both quantitative and qualitative studies were accepted. Next, two researchers of elder abuse, experts on the theoretical explanations of abuse, analysed the databases and proceeded to a full-text appreciation to apply the last criteria: c) the paper includes a result that might provide evidence in favour or against the theory. In qualitative studies, results of interest would be themes that describe affirmatively or contradict the hypothesis of each theory, as can be seen later. Disagreements were resolved by the two

researchers reaching a consensus. The number of articles resulting from each step can be found in Table 1.

[Please insert table 1 around here]

Data Extraction

Selected articles were analysed independently by the two researchers, summarised by mutual agreement and are organised in a table, which displays the sample size, measurement of elder abuse, variable(s) of interest for the theory, the measurement instrument and main results. The table is available in the supplementary material.

The two researchers assessed the extracted results in three areas: conceptual/theoretical quality, methodological quality, and evidence quality. To do so, the researchers used the standardised checklist presented in Table 2, created by the authors, specifically aimed to assess the theoretical focus of each paper objectively. The methodological quality questions were created based on previous systematic reviews in the field of elder abuse. One question, presented below as "Evidence", was used to classify the results as favourable or contradictory for each theory. A consensus between the researchers resolved disagreements.

[Please insert table 2 around here]

Results

A total of 89 studies were selected for final revision. Some studies included variables relevant for more than one theory; hence, they were included in all theories where their data were valuable, giving a total of 117 results to analyse.

Regarding the conceptual/theoretical quality assessment of the analysed articles, of the 89 studies, 62 (70%) defined how they understood mistreatment, but only 29 (33%) mentioned mistreatment in a theoretical framework. Regarding methodological quality, 51

(57%) studies used validated measures. Finally, 75 (84%) of the studies presented participant characteristics sufficient enough for replication.

Caregiver stress theory

Thirty-two studies were analysed regarding evidence for the caregiver stress theory. Of these, 25 presented caregiver stress or burden as positively associated with mistreatment, therefore favouring the caregiver stress hypothesis. Four studies showed contradictory evidence by finding an association between caregiver burden and some forms of mistreatment, but not others, for example, finding an association between burden and neglect but not physical or psychological mistreatment (Gainey and Payne, 2006; Orfila *et al.*, 2018). Three studies did not support the caregiver stress hypothesis. Cooper *et al.* (2010) did not find any relationship between caregiver burden, dysfunctional coping and mistreatment. The other two negative results are interesting to analyse since they were intervention studies. One intervention programme could diminish mistreatment but not stress (Hsieh *et al.*, 2009), and another could diminish stress but not mistreatment (Reay and Browne, 2002). These results suggest the influence of other variables on the stress-mistreatment relationship. In line with these findings, two studies suggested that stress might have a mediating role rather than be a direct predictor of mistreatment. For instance, with nurses' aides, caregiver burden acted as a mediator between work stressors and mistreatment, meaning that exposure to work stressors increases abuse indirectly by increasing the feeling of burden (Shinan-Altman and Cohen, 2009), while with the general population of caregivers, caregiver burden was a mediator for social support and resilience (Serra *et al.*, 2018). These mediation results are fascinating because they show that one of the main predictors of caregiver stress theory (caregiver burden) is not the direct cause of abuse but rather one piece of other causal relationships.

Of the total number of articles analysed, 20 focused solely on non-professional caregivers of older adults with some form of impairment (e.g., dementia and physical

disabilities). Of these, 16 studies presented positive evidence in favour of the caregiver stress hypothesis. Additionally, six studies focused on professional caregivers (e.g., nursing home employees), and of these, 3 presented favourable evidence towards caregiver stress theory. Of the remainder, three studies focused on victims or older adults signalled adult protective services, and three focused on community-dwelling older adults without disabilities. These characteristics of the sample are important to note. The functional status of older adult participants and the professional vs non-professional status of the caregivers may act as confounding variables.

Social Exchange theory

There is no direct way to test social exchange theory; thus, we have explored the evidence for this theory, searching for studies that assessed the resources, needs and factors affecting dependency. Most likely, for this reason, the number of articles collected was 35, higher than the other theories. The first interesting result is the narrow variety of personal resources studied in association with abuse. Physical function/dependency was present in 28 studies, cognitive function/impairment in 18 and social function variables, widespread from social support to isolation and loneliness, were present in 20 studies. Eight studies included other resources, mainly economic, such as income or working status.

Regarding the predictions of social exchange theory, 19 studies support the predictions, while 3 find evidence against them. Thirteen studies find contradictory evidence. In these cases, only one form of personal resource was associated with abuse (e.g., Sasaki *et al.*, 2007), or different resources were associated with different forms of abuse (e.g., Orfila *et al.*, 2018). As we were interested in mistreatment in all its forms, these studies were classified as contradictory evidence, but it might not be contradictory after all, considering that different needs warrant different resources; therefore, different needs might lead to different forms of mistreatment. Finally, a few studies pointed out mediating roles for some variables

of interest for social exchange. For example, in Conner *et al.* (2011), cognitive impairment does not directly predict susceptibility to abuse, but it is mediated by older adults' problematic behaviours. Kong and Jeon (2018) found no direct association between physical functionality and emotional mistreatment; however, self-esteem and family assistance mediated that relation. Social support also appears to affect mistreatment, mediated by caregiver burden (Serra *et al.*, 2018). These results suggest that we have limited knowledge of what resources are relevant to predict mistreatment and how they manifest themselves in behavioural terms, which is why finding these mediators is essential.

Social Learning theory

Ten studies were analysed for evidence for social learning theory. Of these studies, four presented results in favour of the cycle of violence hypothesis, where experiencing or witnessing violence earlier in life would be a predictor of committing violent acts later in life (Dong *et al.*, 2017; Korbin *et al.*, 2005; Reay and Browne, 2001; Yan and Tang, 2003). Of these, Yan and Tang (2003) did not study mistreatment directly but rather the proclivity to commit it, and they found that participants who experienced violence earlier in life were more likely to find mistreatment to older adults acceptable. One important note is that, except for this last study, the participants in previous studies were always caregivers. However, three studies pointed out that experiencing mistreatment at an earlier age would be a risk factor to experience it again later in life (Grunfeld *et al.*, 1996; McDonald and Thomas, 2013; Stöckl *et al.*, 2012). In these three studies, participants were older adults receiving care. Two of the remaining studies showed contradictory evidence (Jackson and Hafemeister, 2011; Kong and Easton, 2018), where previous violence can be a risk factor for some forms of mistreatment but not for others. Last, the participants in Wuest *et al.*'s (2010) qualitative study added that caregiving a previously abusive parent is an opportunity to make amends.

From the collected results, it seems that there is contradictory evidence for social learning theory. Two main patterns emerge, first, those who experience violence are more likely to commit violence, and second, those who have experienced violence are more likely to continue experiencing it. The second pattern is not entirely out of the theoretical principles proposed by social learning because when experiencing/witnessing violence at an earlier age, there is exposure to both aggressors and victims as role models. It would not be theoretically wrong to assume that one can learn how to be both abuser and victim.

Bidirectional theory

Eighteen studies were analysed for relevant results regarding bidirectional theory. Of these, only 3 showed no relationship between caregiver mistreatment and care-receiver aggressiveness or violence (Cooper *et al.,* 2010; Heydrich *et al.,* 2012; Phillips *et al.*, 2001). The remainder of the articles supported the hypothesis that violence is mutual, showing associations between aggressiveness and violence of the care receiver and mistreatment by a caregiver. Of these supporting studies, 2 (Özcan *et al*., 2017; Post *et al*., 2010) show that when looking into the forms of abuse, different forms of violence can be used in response to different types of mistreatment; for example, neglect of the caregiver is associated with physical abuse by the care receiver (Özcan *et al*., 2017).

Dyadic Discord theory

Of the seven studies whose data could support dyadic discord theory, four focused on relational conflict, finding a positive relationship between conflict and mistreatment (Cohen *et al.*, 2006; Pillemer and Finkelhor, 1989; Reay and Browne, 2001; Shugarman *et al.*, 2003). The three other studies focused on relationship quality, all with consistent data that the poorer the relational quality, the higher the risk of abuse (Compton *et al.*, 1997; Cooper *et al.*, 2010; Jackson and Hafemeister, 2011). Both results are consistent with the predictions of dyadic discord theory, and therefore, all the studies support this theory. Important to highlight are the

results of Jackson and Hafemeister (2011), who found inferior relational quality in victims of physical mistreatment compared to victims of financial mistreatment. These results suggest that different types of mistreatment may be related to different levels of relational quality.

Psychopathology of the Caregiver

Of the 15 analysed studies, one did not find differences in the history of mental health problems, depression or alcohol consumption between caregivers who mistreat and caregivers who do not (Cooney *et al.,* 2006). The remaining studies show a positive relationship between mental health, depression, anxiety, substance use, and mistreatment. However, two results seem of importance. First, two studies found that neglect had no relationship to mental health (Conrad *et al.*, 2016; Leung *et al*., 2017), while only one showed a relation between anxiety and neglect (Reay and Browne, 2001). These results suggest that neglect might be a form of abuse not directly explained by this theory. Second, two studies suggest that mental health plays a moderating or mediating role between other variables and mistreatment; namely, depression and anxiety moderate the relationship between anger and the risk of mistreatment (MacNeil *et al.*, 2010), and depression partially mediates the relationship between relational rewards and the risk of mistreatment (Williamson and Shaffer, 2001). These results suggest that the caregiver's mental health might not be the first piece of the puzzle but an important risk factor for mistreatment that should always be considered.

Discussion

This systematic review analysed 89 research papers searching for empirical support for six theories used to explain elder abuse. Except for social learning theory, which had mixed results, all other theories were supported by empirical findings. These findings require some discussion to draw practice, research and theoretical implications.

Can all the theories be correct?

The more striking result we found is that five of the six explored theories had more evidence in favour than against their theoretical predictions (the sixth is social learning theory, which had mixed results). These findings suggest that not one but rather all of these theories have a role in explaining abuse.

To understand these findings is important to consider how these theories came to explain abuse against elderly individuals. Different authors adapted theoretical formulations from other fields to explain elder abuse (Roberto and Teaster, 2017). The result is a series of (apparently independent) theories that focus on different facets of the phenomenon of elder abuse. For instance, we have caregiver stress theory and the psychopathology of the caregiver, focused on the caregiver's role, and bidirectional theory and dyadic discord theory focused on explaining interpersonal violence. However, while these four theories are centred on specific interpersonal behaviour processes, social learning theory and social exchange theory are more general theories that can explain behaviours other than abuse. These theories can be used as frameworks to analyse, compare, and evaluate all of the other theories and, therefore, may be considered metatheories.

When we find evidence supporting the more focused theories (the caregiver stress theory, bidirectional theory, dyadic discord theory and psychopathology of the caregiver), we may be getting information about processes involved in elder abuse. Understanding abuse as a whole would require the integration of these theories into a bigger picture, that is, the use of a metatheory. Several of the analysed studies hinted that each theory explains only part of the phenomenon. The hints were evident in studies that used mediation analysis. For example, stress (Shinan-Altman and Cohen, 2009; Serra *et al*., 2018), violent behaviour of the care receiver (Conner *et al*., 2011) and the psychopathology of the caregiver (MacNeil *et al*., 2010; Williamson and Shaffer., 2001) were found to have mediating roles, meaning that their causal effect on abuse is actually due to other variables. Thus, it is plausible that, despite all

the favourable evidence, these more specific theories can miss other essential factors to understand abuse and that theories such as social exchange theory or social learning theory can be helpful. However, social exchange theory has two main problems: first, it is not clear what personal resources have a role in putting at risk or protecting against elder abuse, and more research is needed to find new resources instead of focusing on general measures of ability, be it physical, cognitive or social; and second, the theory needs further development, namely, in establishing a more concrete hypothesis regarding elder abuse. Social learning theory presents other limitations that we will explore further.

The case of social learning theory

Of all of the analysed studies, only 10 presented findings relevant to the test of social learning theory. The small number of studies is understandable; methodologically speaking, testing social learning theory predictions would be best accomplished by longitudinal studies, so testing the social learning hypothesis for elder abuse would require lengthy and expensive studies. In the absence of longitudinal studies, we analysed the findings from cross-sectional studies.

Two major findings emerged from the analysed papers. The first is congruent with the hypothesis extracted from social learning theory; people who witnessed or experienced abuse earlier in life are more likely to become abusive caregivers (Dong *et al.,* 2017; Korbin *et al.*, 2005; Reay and Browne, 2001; Yan and Tang, 2003). The participants in these studies were adults caring for older adults. However, when studying past experiences of violence with samples of older adults, the results indicate that older adults who have experienced violence previously in life are more likely to experience elder abuse than those who have not experienced violence (Grunfeld *et al.*, 1996; McDonald and Thomas, 2013; Stöckl *et al.*, 2012). According to social learning theory, behaviour is learned and included in our behavioural repertoire by modelling exposure to other behaviour patterns (Bandura, 1978),

which means that people exposed to violence in childhood would learn and adopt violent behaviours and use them when they became caregivers. This prediction is congruent with the results of some of the studies analysed. However, it is not clear what happens to explain the second set of findings, where older adults with a history of abuse in earlier life are more likely to experience elder abuse. An important hint for what may be happening is provided by McDonald and Thomas (2013), who found that older adults who were victims in childhood, young adulthood and adulthood were more likely to experience elder abuse. Therefore, on the one hand, experiencing abuse earlier in life increases both the risk of becoming an abusive caregiver and an abused older adult. It is not clear how social learning theory can explain both of these results. Too many questions are left unanswered. What exact behaviours are learned in childhood when witnessing violence? What determines who learns how to be violent and who continues to be a victim? More studies are necessary to clarify the predictions of social learning theory, especially longitudinal studies.

One abuse or multiple abuses?

Our main research question focused on how much support each theory had in explaining elder abuse in general and not specific types of abuse. Likewise, all the theories included in this paper explain the emergence of elder abuse but consider abuse in general, not the specific types of abuse. There is an unspoken assumption here that the mechanism underlying the emergence of abuse is always the same, despite the form of abuse. However, this assumption is not supported by the results found in several of the analysed studies, for example, regarding caregiver stress theory. The results of Orfila *et al.* (2018) show a significant association between caregiver burden and neglect but not between this burden and physical/psychological abuse. Likewise, regarding caregiver psychopathology, the results of Leung *et al.* (2017) show that poor mental health in the caregiver is associated with an increased risk of psychological and physical mistreatment but not with neglect. The disparity

between results across the multiple forms of abuse suggests that some theories might be better at explaining certain forms of abuse than others. However, given the general formulation of each theory, only aiming at abuse in general and not considering the differences between each form of abuse forced us to classify results such as the abovementioned "contradictory evidence"; they support the theory in some cases but not in all. Of course, if the theories considered that their predictions could be applied to some forms of abuse, but not all, then this evidence would not be contradictory at all. The idea that the theoretical explanation of abuse should not consider it a monolithic phenomenon but consider the different forms of abuse that have been suggested in the literature (e.g., Jackson and Hafemeister, 2016) has not yet been fully explored. Therefore, it would be of great importance to understand what theories are better suited to explain any particular form of abuse.

Is theory no longer worth studying (mentioning)?

As part of the conceptual and methodological quality assessment, we searched how many of the studies included in this review referred to a guiding theoretical framework. The results were an indication of how little the field of elder abuse is concerned with theoretical development. The lack of interest in theoretical advancement indicates that elder abuse is a domain not worried about understanding the phenomena that underpin it. Theories are systematic ways of understanding and interpreting phenomena essential for practice, prevention, policy-making, and, of course, research. Therefore, further theoretical exploration is imperative, in contrast with the overreliance on caregiver stress theory (Jackson and Hafemeister, 2013).

Close to this subject is the diversity (or lack thereof) of variables explored in the various studies. Many different variables of interest were expected in the studies that fit as evidence for social exchange theory, considering the multiplicity of resources and forms of

power/dependence. However, we found a considerable focus on physical function or physical dependency. The message this finding communicates is that we keep studying the same variables, over and over. Perhaps a new and inventive look at the theoretical approaches used to explain abuse can give researchers ideas to innovate and pursue new variables and new avenues of research.

Conclusion

In this systematic review, we summarised evidence in favour of or against six theories used to explain elder abuse. Overall, the research findings support caregiver stress theory, social exchange theory, bidirectional theory, dyadic discord theory and psychopathology of the caregiver. Social learning theory was one of the least explored theories and presented contradictory evidence, suggesting that more research is necessary to contextualise its use. Theories such as caregiver stress theory focused on specific processes within care relationships seem to be entwined with other process-specific theories. Finding new mediators for stress, psychopathology, and relational conflict is an important step to fortify or amplify these theoretical frameworks' predictive power and better understand how these theories relate to each other. A metatheory to help organise and compare the multiple specific inputs of a theory also provides an interesting research avenue. This effort could lead to an inclusive framework that considers all the key elements of these theories to shed light on how these theories interact. That approach could be the development we need to provide better predictions about elder abuse, which are necessary to provide trustworthy foundations for prevention programmes.

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Table 1- *Number of citations retained during paper selection process*

	Caregiver Stress Theory	Social Exchange Theory	Bidirectional Theory	Social Learning Theory	Dyadic Discord Theory	Psychopathology of the caregiver
Total number	2908	6045	2932	4833	5854	3657
Application of criterion a)	1614	3350	1701	2128	1272	1299
Application of criterion b)	217	376	351	161	47	118
Application of criterion c)	32	35	18	10	7	15

Table 2 – *Checklist for assessment of conceptual/theoretical, methodological, and evidence quality of the selected articles*

Conceptual/Theoretical Quality (0=No; nc=Not clear; 1=Yes):
(1) Was the adopted definition of abuse specified?
(2) Is a theoretical framework mentioned?
Methodological Quality (0=No; nc=Not clear; 1=Yes):
(1) Were the measures used validated for the assessed population?
(2) Were participant characteristics identified?
Evidence (-1 = evidence against; 0 = contradictory evidence; +1 = evidence in favour):
(1) Some results support/disprove the theory?

Table - *Synthesis of the articles selected for review of data supporting or against each theory*

Citation	Sample	Measure of Elder Mistreatment (EM)	Variable(s) of interest	Measure	Main Results
Caregiver Stress Theory					
Aşti and Erdem (2006)	40 Older adults (60+) with dementia; 40 Caregivers (CG)	Scale of Risk of Elder Abuse in the Home (REAH)	CG stress	Stress Assessment Score of the Caregiver (SASC)-included in REAH	Descriptive data show a moderate level of CG stress and a moderate risk of EM
Chokkanathan (2014)	897 older adults (61+)	Conflict Tactics Scale (CTS)	CG burden	1 item: how many persons do your CG cares for	CG burden was significantly associated with EM
Cohen (2008)	667 older adults (70+) and their CGs	Compiled from previous tools; Expanded Indicators for Abuse questionnaire (E-IOA).	CG burden	Objective and subjective caregiving burden (set of items adapted from E-IOA)	CGs of Neglected older adults reported higher subjective (but not objective) burden CGs than non-neglected older adults.
Cooper, Blanchard, *et al.* (2010)	131 CGs of older adults with dementia	Modified Conflict Tactics Scale (MCTS)	CG burden; CG coping	The Brief Coping Orientations to Problems Experienced (Brief COPE); Zarit Burden Interview (ZBI)	EM was not correlated with CG burden or coping strategies.
Cooper *et al.*(2008)	86 older adults with Alzheimer's Disease and their CG	MCTS	CG burden	ZBI	EM correlated with higher burden and was a predictor of CG burden
Cooper, Selwood, *et*	220 CG of older adults with	MCTS	CG burden	ZBI; Brief COPE	EM was correlated with higher CG burden and dysfunctional coping.

al.(2010)	dementia				EM was predicted by spending more hours caring, and higher burden: Coping was not a predictor of EM.
Coyne *et al.* (1993)	342 CGs of older adults with dementia	Compiled from literature	CG burden	ZBI	CGs who reported EM, when compared to the ones who reported no EM, had higher burden.
Gainey and Payne (2006)	751 older adults signaled to Adult Protective Services (APS)	Assessment by APS professionals	CG burden	Interview (APS professionals)	CG burden was higher in neglect cases than in non-neglect. The reverse was found in financial exploitation cases; CG burden was not associated with physical abuse or self-neglect.
Goergen (2001)	80 CG at nursing homes	Compiled from literature	Work stress and burnout	Compiled from literature	EM is associated with higher levels of CG stress and burden.
Hsieh *et al.*(2009)	Intervention study with 100 CGs (50 controls; 50 experimental)	Caregiver Psychological Elder Abuse Behavior Scale (CPEAB)	CG stress	Work Stressors Inventory (WSI)	Intervention diminished psychological EM but not CG stress
Kim *et al.* (2018)	467 pairs of older adults with dementia and their CGs.	MCTS	CG burden	ZBI - Short Form	Risk of EM was predicted by care burden, even after controlling for multiple covariates.
Kurrle *et al.*(1997)	5246 Assessments of Older adults	Identification by Aged Care Assessment Teams	Dependency of the older person/ CG stress	Assessed by Aged Care Assessment Teams	25% of the victims of EM also reported dependency of the older person and CG stress
Lee (2008)	1,000 CGs of older adults with disabilities	6 items from a previous epidemiological study	CG burden	Family Strain Scale (FSS)	Controlling for covariates, CG burden was a predictor of higher risk of EM.
Lee (2009)	279 CGs of older adults	Selected items from the Elder	CG burden	ZBI	Higher CG burden directly predicted impulses to commit EM.

	with physical or cognitive impairments	Assessment Instrument and Potentially Harmful Behavior (PHB) tool			
Lee and Kolomer (2005)	481 primary family CGs of older adults with dementia	6 items from a previous study	CG burden	FSS	Controlling for covariates, higher CG burden was a predictor of EM
Neuberg *et al.*(2017)	171 nurses	Compiled from literature	CG Burnout Syndrome	Maslach Burnout Inventory (MBI) for Human Services Survey	Different abusive behaviors are associated with different forms of burnout
Orfila *et al.* (2018)	829 CGs and their care recipients	Caregiver Abuse Screen (CASE)	CG burden	ZBI - Short Form	CG burden is positively associated with higher risk of EM total and with neglect, but not associated with physical/psychological EM.
Ozcan *et al.* (2017)	186 older adults (65+); 136 CGs	Compiled from literature	CG burden	ZBI	CGs who perceived heavier burden were more likely to perpetrate EM.
Pérez-Rojo *et al.* (2009)	45 CGs of older adults with dementia	CASE	Interpersonal burden; CG stress	ZBI; Revised memory and behavior problems checklist (MBCL-B)	CG at high risk of EM showed higher stress related to dependence, aggressive and provocative behaviors by care-recipient and higher interpersonal burden. Burden was one of the best predictors for the risk of EM.
Pillemer and Finkelhor (1989)	46 older adults identified as victims; 212 controls	CTS; Older Americans Resources and Services (OARS)	CG stress	Number of days in the preceding year that illness prevented the usual activities; OARS score; dependence on a relative	Differences in EM were found in all the three measures of CG stress.

Reay and Browne (2001)	19 CGs (9 physically abusive; 10 neglecters)	Sampling plus CTS	CG stress/strain	Machin's Strain Scale (SS)	No significant differences on strain between physically abusive CGs those that committed neglect.
Reay and Browne (2002)	19 CGs	Sampling plus CTS	CG stress/strain	SS	An intervention was applied that significantly reduced CG strain. No differences were found in EM between baseline and follow-up.
Sasaki *et al.* (2007)	412 pairs of older adults and CGs	Checklist of potentially harmful behaviors from previous studies	CG burden	ZBI	Burden differed from CGs who displayed EM and those that did not; CG burden was not a predictor of EM.
Serra *et al.* (2018)	326 CGs	CASE	CG perceived burden	ZBI – short form	A higher burden is a direct predictor of EM. Plus, burden mediates a protective relationship between resilience, social support and EM.
Shinan-Altman and Cohen (2009)	208 nurses	The attitudes to elder abuse questionnaire (Compiled from literature)	CG burnout; Work stressors	MBI; The work stressors questionnaire	Burnout was a predictor of attitudes condoning EM. Work overload was a predictor only when mediated by burden.
Toda *et al.* (2018)	133 older adults with dementia and their CGs	Potentially harmful behavior using a modification of the CTS	CG Burden	ZBI	Higher CG burden was a predictor of PHB
Touza and Prado (2017)	200 older adults and their CGs	Social services assessment	CG burden	Social services assessment	Perceived burden was a predictor of abuse.
Wang (2005)	114 CGs	CPEAB	CG burden	Caregiver's Burden Scale (CBS)	There is a significant positive relationship between the EM and burden
Wang *et al.* (2006)	92 CGs	CPEAB	CG burden	CBS	Psychological EM was positively associated and was a predictor of CG

					burden
Wang *et al.* (2009)	183 CGs	CPEAB	CG stress	WSI	Work stress was a significant predictor of psychological EM
Yan (2014)	149 CGs	CTS-Revised	CG burnout	MBI	CG burnout was a predictor of both physical and psychological EM
Yan and Kwok (2011)	122 CGs of older adults with dementia	CTS-Revised	CG burden	ZBI	CG burden was a significant predictor of verbal EM but not of physical EM.
Social Exchange Theory					
Abdel Rahman and El Gaafary (2012)	1106 older adults	Questionnaire to elicit elder abuse, Actual abuse and risk of abuse tool	Older adult's working status, pension and functional status	Sociodemographic data and Katz Index	EM significantly higher in non-working older adults, with insufficient pension and lower functional status; Insufficient pension and functional status were predictors of EM.
Acierno *et al.* (2010)	5777 older adults	Compiled from literature (phone interview)	Older adult's working status; Social support; Income; Need for Activity of Daily Living (ADL) assistance	Compiled from literature (phone interview)	Unemployment was a significant predictor of emotional EM but not of neglect; Low social support was a predictor of emotional, physical, sexual and neglect; Low Income was a predictor of emotional and neglect; but was not for physical and sexual EM; Need for ADL assistance was a predictor of emotional and financial EM; but was not for sexual EM and neglect.
Beach *et al.*(2016)	903 older adults	Compiled from a previous study	ADL and Instrumental Activities of Daily Living (IADL) disability; Social network size;	6 items for ADL; 6 items for IADL; Social Network Index; Asset and Health Dynamics Among the Oldest Old;	IADL disability was associated with financial exploitation, ADL was not; Cognitive status and social network size were not associated financial exploitation; lower perceived social support was associated with higher risk for financial exploitation

			Cognitive Function; Perceived social support	Interpersonal Support Evaluation List	
Beach *et al.* (2005)	265 CG/older adult dyads	Adapted form of CTS	Cognitive status and ADL/IADL needs and availability of help by CG	Neurobehavioral Cognitive Status Examination; OARS	Older adult's cognitive status does not predict EM but CG's does; Older adults' ADL/IADL needs are predictors of EM but the availability of help is not.
Burnes *et al.* (2015)	4156 older adults	CTS	Functional capacity (ADL/IADL)	OARS	Lower functionality associated with higher emotional and physical EM, but not with neglect
Conner *et al.* (2011)	1002 persons responsible for an older adult in long-term care; 769 older adults (65+) in long-term care	Compiled from literature	Cognitive impairment; Physical impairment	Compiled from literature	Physical impairment has a direct effect on vulnerability to EM; Cognitive impairment has no direct effect on EM but has an indirect effect via physical impairment and behavioural problems.
Cooper *et al.* (2006)	3881 older adults receiving health or social services	Minimum Dataset for Homecare Assessment (MDS-HC)	ADL and IADL impairments; Vision and hearing impairments; Cognitive function; Social functioning	Subscales of the MDS-HC	Suspected EM had higher rates of physical and cognitive impairment; on social functioning, suspected EM were more frequently not at ease to interact with others and report familial conflict; no differences were found regarding loneliness
Dong (2017)	3158 older adults (60+)	Vulnerability to Abuse Screening Scale (VASS)	Self-reported Physical function and observed Physical	Katz Index; Rosow– Breslau index of mobility; Short Physical Performance	Adjusting for cofounders, greater self-reported ADL impairment is associated with lower EM. Greater observed physical function, with exception of the chair test, was

			function	Battery;	associated with lower EM
Dong and Simon (2010)	412 older adults (60+)	VASS	ADL; IADL	Katz Index; IADL measure compiled from literature	ADL was associated with an increased EM, but the effect disappeared after controlling for other variables (income, social support, etc.); IADL was not associated with EM
Dong *et al.* (2012a)	8932 older adults (65+) -	Social services agencies reports (data match)	Physical Function	Physical performance tests; Katz Index; Index of mobility of Rosow and Breslau; Index of basic physical activities of Nagi;	Lower levels of physical function were associated with higher risk of abuse for every measure of physical function
Dong *et al.* (2012b)	143 older adults (65+) with reported EM	Social services agencies reports (data match)	Physical Function	Physical performance tests; Katz Index; Rosow and Breslau Index; Nagi Index;	Lower levels of physical function were associated with higher risk of abuse for every measure of physical function
Dong *et al.* (2014)	6159 older adults (65+)	Social services agencies reports (data match)	Cognitive status; Episodic memory; perceptual speed and attention	The Mini-Mental State Examination (MMSE); East Boston Memory Test; Symbol Digit Modalities Test	Lower levels of cognitive performance in all indicators measured were associated with higher risk of EM
El-Khawaga et al. (2018)	272 older adults (60+) from clinics and health-care centers	Compiled from literature	Income	Demographic Data	Income was not associated with EM
Garre-Olmo *et*	676 older adults	American Medical	Cognitive	MMSE; World	Not having access to a trusted person

al. (2009)	(75+)	Association (AMA) Screen for Various Types of Abuse or Neglect	function; Functionality; Social isolation	Health Organization Disability Assessment Schedule II (WHODAS- II); interview 1 item: access to a trusted person?	was a predictor of psychophysical and financial EM. Low cognitive function was a predictor only for financial EM. Functionality was not a significant predictor.
Godkin *et al.* (1989)	59 identified victims; 49 controls (all users of Elder Home Care Services)	Assessment by specialists in a Home care agency	Cognitive functioning; IADL; Social isolation	Case Assessment Form (own measure)	All indicators of cognitive function were significant lower in the EM group; All indicators of IADL were significant lower in the EM group; EM group had significant fewer social networks.
Heydrich *et al.* (2012)	203 older adults	Measure compiled for a large study (MIDUS II)	Social isolation;	MIDUS II	Social isolation of the older adult was a strong predictor of physical EM
Kong and Jeon (2018)	9691 older adults	Compiled from literature	Functionality; Social Support	2 items (frequency of contact with friends/neighbors; frequency of participation in social activities)	Social support had no effect on emotional EM; Functionality only had effect on emotional EM when mediated by other variables (family cohesion, self-esteem and receiving help from family)
Lachs *et al.* (1997)	2812 older adults (65+)	Confirmed by Connecticut's Ombudsman on Aging	Physical function; Cognitive disability; Social Ties	Rosow and Breslau Index; Nagi Index; Mental Status Questionnaire (MSQ);	EM group was more likely to have lower functionality, cognitive status and fewer social ties;
Lee (2008)	1,000 CGs of older adults with disabilities	Compiled from a previous study	Physical functionality; Cognitive status; Social Support	Katz index; Korean Elder's Cognitive Ability Scale; number of secondary	Lower physical function and cognitive status were predictors of an increase in EM; Increased social support was a predictor of increased risk of EM.

				CGs	
Leung *et al.* (2017)	3435 older adults (60+) who applied for the long-term care	Compiled from literature	Physical functionality; Cognitive status; social support	MDS Cognitive Performance Scale (MDS-CPS);	Cognitive function, social support and ADL had no effect on EM; IADL need for help was associated with higher EM.
Litwin and Zoabi (2004)	120 older adults identified with EM; 120 controls	Assessment on a social welfare center	Dependency (ADL); Social Support; income	National Insurance Institute in Israel ADL scale; Norbeck Social Support Questionnaire (NSSQ);	Lower income, lower functionality and lower social support were predictors of EM
Luo and Waite (2011)	2744 older adults (57–85)	Compiled from previous screening tools	Social support; Physical impairment; Cognitive impairment	Own questions compiled from previous studies; Short Portable Mental Status Questionnaire (SPMSQ)	Physical and cognitive impairments had no effect; positive social support was associated with lower risk of EM
Naughton *et al.* (2012)	2021 older adults (65+)	Compiled from previous tools	Income; Social support	Oslo-3 Social Support Scale (OSS-3)	Lower income and lower social support associated with greater risk of EM
Orfila *et al.* (2018)	829 CGs and their care recipients	CASE	Dependency; Cognitive status;	Barthel index; SPMSQ;	Moderate dependency was associated with EM (more than severe or total dependency); Cognitive impairment was only associated with lower risk of neglect.
Pérez-Cárceles *et al.* (2009)	460 older adults (+65) in health centers	Compiled from international guidelines	Income; Functional disability;	Katz Index	Functional disability and lower income associated with higher risk of EM
Pérez-Rojo *et al.* (2009)	45 CGs of older adults with dementia	CASE	Functional status	Selection of items from MCBL-B	Functional status of older adult did not differ between abusive and non-abusive CG

Sasaki *et al.* (2007)	412 pairs of older adults and CGs	Checklist of potentially harmful behaviors from previous studies	Memory impairment; Dementia; Physical impairment; hearing or vision impairments	Short Memory Questionnaire; Severity of dementia and physical impairment assessed by criteria of the Ministry of Health and Welfare	Cognitive impairment, severity of dementia and vision impairments were not related to PHB; The higher the severity of physical impairment the more likely a PHB; Hearing impairments were more frequent in the PHB group.
Serra *et al.* (2018)	326 CGs	CASE	Cognitive status; Social Support	Neuropsychiatric Inventory (NPI); Duke-Unc Social Support Questionnaire	Cognitive impairment positively associated with EM score; Social support predicts EM (but is fully mediated by CG burden)
Shugarman *et al.* (2003)	701 older adults (60+) seeking home and community-based services	MDS-HC	Cognitive, physical and social functioning and support	MDS-CPS; interview	Physical function had no effect; Short-term memory problems were strongly associated with EM; All social functioning and support indicators were strongly associated with EM
Steinmetz (1990)	104 CGs	Interview	Dependency	Compiled from literature	Grooming/health, financial and mobility dependency were positively associated with EM
Tobiasz-Adamczyk *et al.* (2014)	518 older adults (65+)	Compiled from literature	Social support	Social Support List 12 – Interactions Scale	Participants with lower support were more likely to experience EM;
Vida *et al.* (2002)	126 older adults in a Geriatric Psychiatry division	Referrals from other services	Social isolation; Cognitive disorders; Delirium	Psychiatric assessment; MMSE; DSM-III-R psychiatric diagnosis	Being socially isolated was associated with EM; Having chronic cognitive disorders or delirium was not associated with EM
Vilar-Compte *et al.* (2017)	526 older women (65+) attending community centres	Geriatric Mistreatment Scale (GMS)	Perceived social support; functionality	OSS-3; Katz Index and Lawton index	Higher social support acts as a protective factor for EM; IADL impairment is a predictor of EM; ADL had no effect

Wang (2006)	195 older adults (60+) partially dependent	Psychological Elder Abuse Scale (PEAS)	Cognitive status; Functionality; Socioeconomic status	SPMSQ; Barthel's Index	Cognitive impairment, higher dependency and lower socioeconomic status were associated with increased psychological EM
Zhang *et al.* (2011)	414 family members of older adults (65+) living in a nursing home	Interview based on a previous study	ADL limitations; memory problems; Social Support	Interview based on a previous study	ADL limitations were predictors of neglect; memory problems and social support had no effect
Social Learning Theory					
Dong *et al.* (2017)	548 CGs	CASE	Childhood abuse	Hurt–Insult–Threaten–Scream (HITS)	After adjusting for covariates, Childhood abuse was a predictor of committing EM.
Grunfeld *et al.* (1996)	4 older women, victims of EM	Qualitative interview	History of family violence	Qualitative interview	Victims experiencing violence now had experienced violence in childhood
Jackson and Hafemeister (2011)	Database with 2142 cases of EM plus 71 older adults identified by APS	Cases identified by APS	History of family violence	Interviews with APS caseworkers and victims	Financial exploitation victims were not likely to have experienced childhood family violence; victims of physical abuse and neglect were more likely than expected to have experienced childhood family violence
Kong and Easton (2018)	5967 older adults	Abusive Behaviour Inventory	History of family violence	Compiled from other measures	Controlling for covariates, childhood emotional abuse and childhood sexual abuse were predictors of EM; Childhood physical abuse and neglect had no effect
Korbin *et al.* (2005)	23 adult children who committed EM	CTS	History of violence of the perpetrators of EM	CTS	One-fourth of perpetrators of EM were subjected to abuse as children
McDonald and Thomas (2013)	267 older adults (+55)	Compiled from previous measures	History of family violence	Compiled from previous measures	Having experienced abuse in all three life stages (childhood, young

					adulthood, and adulthood) was associated with a heightened risk of EM.
Reay and Browne (2001)	19 CGs identified abusers	Sampling plus CTS	History of maltreatment earlier in life	Adapted from previous studies	Abusive CGs were more likely to have been maltreated as children
Stöckl *et al.* (2012)	2809 older women (50+) in an intimate relationship	MCTS	History of family violence	Compiled from literature	Witnessing parental violence initiated by the father, physical punishment and sexual abuse in childhood were significantly associated with suffering EM.
Wuest *et al.* (2010)	16 women CGs to parents who had abused them as children	Qualitative Interview	Child maltreatment	Qualitative Interview	One of the themes from grounded analysis pointed for caregiving as an opportunity for reconciliation
Yan and Tang (2003)	464 participants (18-70)	Revised CTS	Intergenerational transmission of violence	Modified Revised CTS to measure proclivity to commit EM	Previous experiences of abuse were associated with proclivity to commit EM
Bidirectional theory					
Comijs *et al.* (1999)	217 EM victims and a matched control group	Identified in a previous study	Hostility	Buss-Durkee Hostility Inventory	Victims of physical EM were more likely to be directly aggressive while victims of financial EM were more likely to be indirectly aggressive than controls.
Compton *et al.* (1997)	38 carer/ dependent pairs	Gilleard's Problem Checklist plus interview	Problem behaviors	Gilleard's Problem Checklist	Problem behaviors were more frequent and more severe in the dependents of abusers
Conner *et al.* (2011)	1002 persons responsible for an older adult in long-term care; 769	Compiled from literature	Behavior problems	Person in care being abusive physically or verbally and actively resisting care (own	Behavior problems is a direct predictor of susceptibility of EM

	older adults (65+) in long-term care			survey)	
Cooney and Mortimer (1995)	67 CGs	Compiled from definitions of EM	Behavior problems	Open-ended questions	CGs who admitted to verbal EM were more likely to be verbally abused; CGs who admitted to physical EM were more likely to be physically abused
Cooper, Blanchard, *et al.* (2010)	131 CGs for older adults with dementia	MCTS	Abusive behaviors	Modified CTS to include abusive behavior towards CG	No association between EM and abuse towards CG
Cooper *et al.*(2008)	86 older adults with Alzheimer's Disease and their CGs	MCTS	Care-receiver irritability	NPI - irritability score	Clinically significant irritability of the care-receiver predicted EM
Goodridge *et al.* (1996)	126 nursing assistances in long term care facilities	Compiled from previous studies	Conflict between nursing assistants and care-receivers	Compiled from previous studies	Conflict was significantly related to higher aggressiveness towards staff
Heydrich *et al.* (2012)	203 older adults	Measure compiled for a large study (MIDUS II)	Behavior problems	MIDUS II	Older adult behavioral problems were not a statistically significant predictor of physical EM
Ogioni *et al.* (2007)	4630 older adults (65+) receiving home care	MDS-HC	Behavioral symptoms	MDS-HC	All behavior symptoms were positively associated with EM
Orfila *et al.* (2018)	829 CGs and their care recipients	CASE	CGs' perception of aggressive behavior in the care recipient	Compiled from literature	Aggressive behavior from the care recipient was a predictor of EM
Ozcan *et al.* (2017)	186 older adults (65+); 136 CGs	Compiled from literature	Abuse of CG by care-receiver	extension of the EM measure	Psychological and financial violence were mutual; financial abuse by the older adult was associated with most

					forms of violence from the CG; CG negligence was associated with physical violence by the older adult
Pérez-Rojo *et al.* (2009)	45 CGs of older adults with dementia	CASE	Provocative and aggressive behaviors	selection of items from MBCL-B	EM group reported higher frequency of provocative and aggressive behaviors
Phillips *et al.* (2001)	93 CGs (55+)	Negative Strategies subscale of the Caregiving Management Strategies Scale	Abuse towards the CG	CTS	EM was not related to abuse of CGs
Post *et al.* (2010)	816 older adults	Compiled from literature	Behavior problems	Compiled from literature	EM was significantly higher for those with behavior problems than for those without (except for material and physical)
Rabold and Goergen (2013)	503 professional CGs	Compiled from literature	Aggressive behavior of the older adult	Compiled from literature	Physical violence, verbal violence and sexual harassment from the older adult were predictors EM
Shugarman *et al.* (2003)	701 older adults (60+) seeking home and community-based services	MDS-HC	Behavioral Problems	Selected questions from MDS-HC	All measured behavioral problems were significantly higher in the EM group
VandeWeerd and Paveza (2006)	254 CGs	Verbal aggression subscale of CTS	Violence and verbal aggressiveness	CTS	CG's use of verbal aggressiveness was a predictor of older adult's use of verbal aggressiveness
Wiglesworth *et al.* (2010)	129 older adults with dementia and their CGs	Revised CTS and expert panel	Care-receiver aggressive behaviors	CTS	Older adults victims of EM were more likely to present violent behaviors
Dyadic Discord Theory					
Cohen *et al.* (2006)	108 older adults (65+) and their CG	Compiled from instruments used in	Behavior problems (CG	Selected items of E-IOA	A blaming behavioral pattern and behavioral problems by the older

		hospital settings	and elder)		adults were significant indicators of EM.
Compton *et al.* (1997)	38 carer/dependent pairs	Gilleard's Problem Checklist plus interview	Relationship quality.	Gilleard Pre-Morbid Relationship Rating Scale	EM perpetrator group had a significantly worse pre-morbid relationship with their dependents
Cooper, Selwood, *et al.*(2010)	220 CGs to older adults with dementia	MCTS	Relationship quality	4 item measure from previous studies	EM correlated with fewer rewards from past relationship.
Jackson and Hafemeister (2011)	Database with 2142 cases of EM plus 71 older adults identified by APS	Cases identified by APS	Relationship quality	Semi structured Interview	Financial EM victims were less likely than physical EM victims to rate the quality of their relationship with their abusers as poor.
Pillemer and Finkelhor (1989)	46 older adults identified as victims; 212 controls	CTS; OARS	Relational conflict	Own measure	EM group presented higher rates of relational conflict than the control
Reay and Browne (2001)	19 CGs identified as abusers	Sampling plus CTS	Relationship Conflict	Adapted from previous studies	Relationship conflict is significantly and positively associated with EM.
Shugarman *et al.* (2003)	701 older adults (60+) seeking home and community-based services	MDS-HC	Conflict or anger with family/friends	Selected items from MDS-HC	Expressing conflict with family/friends was positively associated with EM
Psychopathology of the Caregiver					
Bristowe and Collins (1989)	66 older adults and their CGs	Reports from home support services	CG Confusion, depression and alcohol consumption	Reports from home support services	Reported EM had higher % of CG confusion and alcohol consumption than appropriate care. No differences regarding depression.
Chokkanathan (2014)	902 older adults (61+)	CTS	Alcohol abuse	1 item from AUDIT scale	CG Alcohol use was a predictor for elevated the risk for EM.
Compton *et al.* (1997)	38 carer/dependent pairs	Gilleard's Problem Checklist plus	CG Anxiety; CG alcohol	General Health Questionnaire	CG Alcohol consumption was not associated with EM; Abusers were

		interview	consumption	(GHQ-28); Practitioners guidelines for low-risk drinking	more likely to have higher anxiety.
Conrad *et al.* (2016)	948 alleged victims; 323 alleged perpetrators	Elder Abuse Decision Support System (EADSS)	Substance Abuse	EADSS	Substance abuse by perpetrators was associated with financial, physical and emotional EM, but not neglect.
Cooney *et al.* (2006)	82 CGs of older adults with dementia	CTS	Mental health; Alcohol abuse.	Shortened Beck Depression Inventory (BDI); CAGE questionnaire of alcohol abuse	CGs in EM group did not differ in history of mental illness, alcohol consumption or depression.
Coyne *et al.* (1993)	342 CGs of older adults with dementia	Compiled from literature	CG depression	Zung Self-Rating Depression Scale	CGs in EM group had higher depression scores.
Homer and Gilleard (1990)	51 CGs and 43 of their care-receivers	Compiled from literature	alcohol consumption; mental health	GHQ-28; interview	CG with severe depression were more likely to commit physical and verbal EM; CG alcohol consumption was one of the main factors associated with EM.
Kurrle *et al.*(1997)	5246 Assessments of Older adults	Identification by Aged Care Assessment Teams	CG mental health	Assessment by Aged Care Assessment Teams	54% of abusive CGs were assessed as having dementia, psychiatric disorders, or abusing drugs and alcohol
Leung *et al.* (2017)	3435 older adults (60+) who applied for the long-term care	Compiled from literature	CG mental health	MDS-HC version 2	Poor CGs mental health associated with increased risk of psychological and physical EM but not neglect
MacNeil *et al.* (2010)	417 CGs	PHB compiled from CTS	CG depression; CG anxiety	Centre for Epidemiologic Studies Depression	Positive significative association between PHB and CGs anxiety and depression. Plus, both have a

				Scale (CES-D); Spielberger's State-Trait Anxiety Inventory (STAI)	moderation role on the relationship between anger and PHB
Pillemer (1985)	42 older adults with physical EM; 42 controls	CTS	CG mental health	Interview	EM group more likely to identify their CG as having mental problems
Pillemer and Finkelhor (1989)	46 older adults identified as victims; 212 controls	CTS; OARS	CG mental health; CG drug consumption	Interview	EM group more likely to identify a CG with emotional problems, psychiatric hospitalisation, alcohol and drug misuse.
Reay and Browne (2001)	19 CGs (9 physically abusive and 10 neglecters)	Sampling plus CTS	CG depression; CG anxiety; Alcohol consumption	BDI; Beck Anxiety Inventory;	Physical EM group had higher alcohol use and depression than neglect group, that had higher anxiety
Wiglesworth *et al.* (2010)	129 older adults with dementia and their CGs	Revised CTS and expert panel	CG anxiety and depression	CES-D; STAI	CG who perpetrated EM presented higher rates of depression and anxiety.
Williamson *et al.* (2001)	142 CGs	PHB measure adapted from previous studies	CG depression	CES-D	Depression is a direct predictor of PHB, but also mediates for other variables

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