Purpose of the study: The primary aim of this investigation was to determine whether caregiver confidence in their care recipients’ functional capabilities predicts changes in the performance of activities of daily living (ADL) among elderly home care recipients. A secondary aim was to explore how caregiver confidence and care recipient functional self-efficacy jointly influence changes in ADL performance over time. Design and Methods: The sample included 5,138 elderly recipients of home and community-based long-term care in Michigan. ADL performance was assessed multiple times over a 2-year period. Caregiver confidence was measured at baseline with a single item. Multilevel modeling was used to estimate the effect of caregiver confidence on changes in ADL performance over time, controlling for baseline self-efficacy, ADL performance, and other factors that might confound the relationship. Based on caregiver confidence and elder self-efficacy, we created 4 groups of elder caregiver dyads to explore the combined effect of caregiver and elder confidence on change in ADL performance. Results: Elders whose caregivers were confident in their capacity for greater functional independence experienced greater improvement in ADL performance than those whose caregivers were not confident. Elders in dyads in which both members expressed confidence experienced more improvement in ADL performance than those in dyads in which either one or both members lacked confidence. Implications: Interventions to strengthen caregivers’ confidence in their care recipients’ functional capabilities may slow functional losses among home care elders. Additional research is needed to confirm these findings and identify the factors that influence caregiver confidence.

Key Words: Self-efficacy, Caregiving, Frail elders, Long-term care, Disability trajectory, Multilevel analysis
changes in the elders’ performance of activities of daily living (ADL) over time.

Though understudied, a small body of research suggests that the efficacy beliefs of close others may matter at least as much as those of the elders themselves. Taylor, Bandura, Ewart, Miller, and DeBusk (1985) examined the effect of efficacy beliefs on treadmill test performance in a sample of 30 men with a recent history of myocardial infarction. They found higher levels of “cardiac self-efficacy” and spousal confidence in the patient’s cardiac capabilities to be associated with better performance on a treadmill test at both 11 and 26 weeks post-infarction. In another study, Molloy and colleagues (2008) examined the impact of efficacy beliefs on the ability of stroke patients to regain walking abilities. Although no significant predictive effect of self-efficacy on recovery was observed, spousal confidence in the stroke patient’s ability to recover was significantly associated with recovery. Finally, in a sample of patients with congestive heart failure, Rohrbaugh and colleagues (2004) examined the effect of self-efficacy for illness management and spousal confidence in the patient’s abilities on survival over a four-year period. Among women, they found that patients whose spouses reported as much or more confidence as the patients themselves lived significantly longer than those who had spouses with less confidence. These findings are consistent with a much broader literature documenting the influence that characteristics of dyad members (e.g., perception, behaviors, health status) can have on one another’s health (see, e.g., Ayotte, Yang, & Jones, 2010; Fekete, Stephens, Druley, & Greene, 2006; Martire et al., 2006; Pruchno, Wilson-Genderson, & Cartwright, 2009; Wilson-Genderson, Pruchno, & Cartwright, 2009).

In the context of home care, there are reasons to believe that caregiver confidence would have an effect on the care recipient’s functional performance. Caregivers who believe, for instance, that their care recipients are capable of performing a particular task may be less inclined to offer assistance with that task and more motivated to make necessary changes to the physical environment to facilitate the elder’s independent performance of that task (e.g., install grab bars in the shower), both of which should help to minimize dependency. Second, it is also possible, as has been considered by others in different contexts (see Molloy et al., 2008 and Rohrbaugh et al., 2004), that caregiver expressions of confidence in the care recipient’s functional performance operate indirectly by influencing the elder’s self-efficacy beliefs. This is consistent with Bandura’s (1986) assertion that the verbal persuasiveness of others can influence self-efficacy beliefs. Caregivers who are confident in their care recipients’ functional capacity may be more likely to offer words of encouragement as their elders attempt to perform tasks independently.

In this investigation, our primary objective was to examine (a) whether caregivers’ confidence in their elderly care recipients’ functional capabilities predicts changes in the elders’ performance of ADLs over time and (b) whether the effect, if any, persists after controlling for the elder’s efficacy beliefs about their functional capacity. A secondary objective was to explore how caregiver confidence and elder self-efficacy jointly influence changes in ADL performance among home care elders over time.

**Methods**

**Data Source and Sample**

Data for this study came from participants of two publicly funded home and community-based long-term care programs in the State of Michigan: Medicaid Waiver and Care Management. The purpose of these two programs was to provide supportive home and community-based services to adults who were eligible for nursing home level care, with the aim of preventing institutionalization. Whereas those aged 60 years and older were eligible for the Care Management program, the Waiver program served those aged 18 years and older who were Medicaid eligible. A range of services were available to program participants, including personal emergency response system, home delivered meals, chores service, private duty nursing, counseling, environmental modification, transportation, and adult day care. Although Medicaid covered the cost of most services for Waiver participants, participants of the Care Management program had to share the cost of some services. For care planning purposes, participants of both programs were interviewed by case managers (nurses or social workers) at program entry (baseline) and about every three months thereafter. Assessment was conducted using a standardized instrument (Minimum Data Set for Home Care [MDS-HC]) and was based on information from all sources including the participants, caregivers, and medical records. At every measurement occasion, the amount of time the elder received formal
services (including home health aides, visiting nurses, homemaking services, meals, volunteer services, day care, and visits from a social worker) and caregiving support (i.e., help provided by unpaid caregivers with personal and instrumental activities of daily living) was recorded on the MDS-HC. On average, the elders in the sample received about 9.4 hours of formal services and 39 hours of caregiving support per week across all measurement occasions.

For this investigation, we utilized assessment data collected over a two-year period from participants aged 65 years and older who (a) had enrolled in either the Waiver or Care Management program between October 1999 and September 2001 and (b) had an informal caregiver (N = 11,206). Because the formation of self-efficacy beliefs involves cognitive processes, we excluded those with evidence of cognitive impairment based on the Minimum Data Set-Cognitive Performance Scale (a score of 2 or higher, which represents mild or more severe cognitive impairment; Morris et al., 1994), leaving 6,474 cognitively intact elders in the sample. We further restricted the sample to those with at least two assessments during the two-year study period because we were interested in studying changes in ADL performance. Compared with those excluded due to having less than two assessments, those included in the analytic sample were younger, healthier, and were more likely to be White, female, and express confidence in their capacity for greater functional independence. Our final sample included 5,318 home care elders who had been assessed an average of 6.3 times during a two-year period. Of the 5,318 participants, 3,211 were Medicaid Waiver participants and 2,107 were Care Management participants. The former were younger and more likely to be women, non-White, and have a low level of education than the latter.

Dependent Variable

ADL performance was measured with eight items that assessed the extent to which the home care elder independently performed the following activities: transferring between surfaces, moving around the house, dressing, bathing, eating, using the toilet, mobility in bed, and personal hygiene. We reverse coded the original rating scale so that higher scores reflect greater independent functioning (0 = totally dependent, 1 = needs extensive assistance, 2 = needs limited assistance, 3 = needs supervision, and 4 = independent). A total ADL performance score was calculated by summing scores across all eight items (possible range = 0–32). We used ADL change scores as the outcome, calculated by subtracting ADL performance score at each measurement occasion from baseline (ADLt−ADLbl). Compared with baseline, the ADL change score indicates how much care recipient’s performance of ADLs improved or declined at each measurement occasion. We used ADL change scores as our dependent variable because we felt that it best addressed the question we sought to answer and it allowed us to control for baseline ADL performance without losing the first period of change (see Hedeker & Gibbons, 2006, pp. 69–74 for an example of using change scores as a dependent variable in multilevel models).

Independent Variables

The MDS-HC contained a single item—whether the “caregiver believes [the] client is capable of increased functional independence”—that captured caregiver’s belief about the elder’s functional capabilities. Another single item addressed elder self-efficacy—whether the “client believes he/she [is] capable of increased functional independence.” Of note, in the MDS-HC, the word “client” refers to the elder. Response categories for both items were dichotomous (i.e., yes and no). Their baseline measures were used in the analysis.

Covariates

To control for factors that have the potential to confound the association between caregiver confidence and changes in ADL performance, we controlled for three sets of covariates. These included the elder’s baseline ADL performance, health status, and sociodemographic characteristics.

ADL performance at baseline was indicated by the total ADL score at baseline. Baseline health status was captured with multiple indicators. Four dichotomous variables indicated whether or not the elder had each of four conditions that have the potential to increase disability—chronic obstructive pulmonary disease (COPD), arthritis, cancer, and depression. In addition, we controlled for medication use (indicated by the number of medications used), recent falls (a dichotomous variable capturing falls in the three months prior to the baseline assessment), and recent acute health events (a dichotomous variable coded yes if participants’ “treatments [were] changed in the last
30 days because of a new acute episode or condition,” and 0 otherwise).

Sociodemographic characteristics included age (in years), race (White vs. non-White), gender, and education (high school or more vs. below high school) of the elder as well as whether or not the elder coresided with his or her caregiver.

Data Analysis

Our primary analysis involved estimation of a two-level model in which observations on each individual across measurement occasions were viewed as nested within the person. We sought to test whether the baseline assessment of caregiver confidence affected changes in ADL performance above and beyond an elder’s self-efficacy beliefs.

We first estimated a model to represent how ADL performance changed over time. We then examined the effect of caregiver confidence on changes in ADL performance by adding caregiver confidence as a predictor of the intercept and time slope. To examine whether caregiver confidence had any significant effect on changes in ADL performance after controlling for the self-efficacy beliefs of the elders, we then added self-efficacy to predict the intercept and time slope. Finally, we added the three sets of covariates as well as duration of program participation to the model to control for heterogeneity in these factors across study participants. The equation for this two-level model is as follows:

\[ Y_{it} = \beta_{00} + \beta_{01} (\text{Caregiver confidence}) + \beta_{02}(\text{Self-efficacy}) + \beta_{03}(\text{Baseline ADL performance}) + \sum_{q=3}^{q} \beta_{10}(\text{Time}_{it}) + \beta_{20}(\text{Time}_{it}^2) + \beta_{11}(\text{Caregiver Confidence} \times \text{Time}_{it}) + \beta_{12}(\text{Self-efficacy} \times \text{Time}_{it}) + \beta_{21}(\text{Caregiver Confidence} \times \text{Time}_{it}^2) + e_{it} + r_{0i} + r_{1i}(\text{Time}_{it}) \]

\[ Y_{it}, \text{which refers to the ADL change score of individual } i \text{ at time } t, \text{ was regressed on baseline measures of caregiver confidence, self-efficacy, ADL performance, and a range of covariates } (X_{it}) \text{ as well as time (measured in quarters after baseline). A quadratic change model was used (see Results section), with time centered at the fourth quarter to reduce multicollinearity. We also specified that the effects of time on ADL change score varied by caregiver confidence and self-efficacy of individual } i. \text{ The terms } e_{it}, r_{0i}, \text{ and } r_{1i}(\text{Time}_{it}) \text{ reflect random errors for individual } i \text{ for the outcome at time } t, \text{ the intercept, and the linear time slope, respectively. It should be noted that caregiver confidence was quite stable over time, with about 94% (n = 4,982) of caregivers experiencing no change in confidence during the study period. Among the 6% (n = 336) who did experience a change in confidence, the vast majority (n = 283) went from being confident to not confident. The stability of caregiver confidence justified modeling it as a time-fixed predictor.} \]

To explore how caregiver confidence and self-efficacy work together to influence changes in ADL performance, we used the baseline response of caregiver confidence and self-efficacy to form four efficacy belief groups: (a) both the elder and caregiver believed that the elder was capable of greater functional independence; (b) the elder was confident in his or her capabilities, but the caregiver was not; (c) the caregiver was confident in the elder’s capabilities, but the elder was not; and (d) neither the elder nor the caregiver believed that the elder was capable of greater functional independence. We regressed ADL change scores on efficacy belief group, their product terms with time, and all covariates. The results provide an indication of how elders belonging to dyads with varying efficacy belief patterns differed with respect to changes in ADL performance.

Using HLM 6.08 (Raudenbush, Bryk, & Congdon, 2009), we analyzed a total of 32,664 records from 5,138 study participants. The amount of missing data varied across measures, with the highest percentage of missing data for ADL performance (11.9%). To avoid losing those with missing items, we undertook multiple imputation using the NORM program (Schafer, 1999). Combined results from five imputed data sets are reported.

We note that the analytic sample included study participants with differing lengths of program participation due to variety of reasons (e.g., death, nursing home placement, refusal of service, relocation, becoming ineligible). To control for this variation, we included a variable that captured duration of program participation (measured in months) in the model. Additionally, we repeated all analyses excluding study participants with less than 24 months of data (n = 3,804). Results were substantively similar, suggesting that attrition did not seriously bias the results reported herein. In post hoc analyses, we also tested the potential confounding effects of program type (by including a dichotomous variable: medicaid waiver vs. care management as a covariate in Model 4, Table 3) and caregiving support (by adding the amount of caregiving support received as a
time-varying covariate to Model 4 in Table 3) and formal services (by adding the amount of formal services received as a time-varying covariate to Model 4 in Table 3). The inclusion of these variables did not have any substantive effect on findings. Results are not shown.

**Results**

**Sample Characteristics**

Table 1 shows the characteristics of the sample at baseline. Mean age was 78.2 years, with the majority of elders being White (83.5%) and female (75.2%). Less than half (46.0%) had a high school or higher education. Mean ADL performance score at baseline was 25.4 ($SD = 6.3$, range $= 0–32$). About a quarter (24.8%) of the elders had COPD, 14.8% had cancer, 79.1% had arthritis, and 31.3% had a depression diagnosis. On average, participants took 7.5 different medicines ($SD = 2.2$, range $= 0–9$). About a quarter (24.6%) had acute health events in the month prior to baseline, and more than half (51.4%) had at least one fall in the three months prior to baseline. About 37.0% of elders lived with their caregivers.

Table 1 also shows the sample characteristics by caregiver confidence. Compared with elders whose caregivers had no confidence, those whose caregivers had confidence were more likely to be White and coreside with their caregivers. The latter group was also more likely to have depression, experienced recent acute health events, experienced a recent fall, and have lower levels of ADL performance at baseline. They were less likely, however, to have COPD.

**Correlation Between Caregiver Confidence and Self-efficacy**

The distribution and correlation of caregiver confidence and self-efficacy are shown in Table 2. Only a minority of elders (8.8%; $n = 470$) had caregivers who were confident in their functional capability; a larger proportion of elders (26.5%; $n = 1,408$) reported confidence in their capabilities for greater functional independence. As expected, caregiver confidence and self-efficacy were significantly associated ($\chi^2 = 771$ with $1 df$, $p < .001$). Among elders whose caregivers expressed confidence, 80.4% of the elders were also confident in their own functional capability. Among elders whose caregivers had no confidence, however, only 21.2% believed that they were capable of increased functional independence. In total, over 70% (71.8%; $n = 3,818$) of the sample belonged to elder caregiver dyads in which neither the elder nor caregiver expressed confidence; about one fifth (19.4%; $n = 1,030$) were members of dyads in which the elder was confident in his or her capabilities, but the caregiver was not; 7.1% ($n = 378$) of the sample comprised dyads in which both members expressed confidence; and less than 2% (1.7%; $n = 92$) of the sample belonged to dyads in which only the caregiver was confident.

**Effects of Caregiver Confidence on Changes in ADL Performance**

We used multilevel modeling to estimate the effect of caregiver confidence on changes in ADL performance (Table 3). We first determined the
shape of changes in ADL performance over time by comparing a linear change with a means-only model ($\Delta \chi^2 = 13, 193$ with 3 df, $p < .001$) and then a quadratic change model with a linear model ($\Delta \chi^2 = 246$ with 1 df, $p < .001$). Results indicated that a quadratic change model fit the data better (Model 1, Table 3). Next, we added Caregiver Confidence, Caregiver Confidence × Time, and Caregiver Confidence × Time$^2$ to the model. This improved the fit of the model to the data ($\Delta \chi^2 = 100$ with 3 df, $p < .001$; Model 2, Table 3). The coefficients suggest that elders whose caregivers expressed confidence in their functional capacity experienced greater improvement in ADL performance one year following baseline than those whose caregivers did not express confidence ($\beta = 1.618, SE = 0.324, p < .001$). Moreover, the effect of caregiver confidence varied by time, with differences between the two groups initially increasing with time and then gradually lessening (Caregiver Confidence × Time: $\beta = 0.175, SE = 0.062, p < .01$; Caregiver Confidence × Time$^2$: $\beta = -0.046, SE = 0.014, p < .01$).

To determine if the effect of caregiver confidence on changes in ADL performance was independent of the elder’s self-efficacy beliefs, we added Self-efficacy, Self-efficacy × Time, and Self-efficacy × Time$^2$ to Model 2. Because Self-efficacy × Time$^2$ was not statistically significant and did not improve the fit of the model, it was dropped. As shown in Model 3 in Table 3, the effect of caregiver confi-
dence on changes in ADL performance at one year was reduced after controlling for self-efficacy but remained statistically significant ($\beta = 1.116$, $SE = 0.332$, $p < .001$). Although the linear time slope at 12 months for caregiver confidence was not statistically significant, the Caregiver Confidence × Time$^2$ term was significant. Likelihood ratio tests support the inclusion of Caregiver Confidence × Time and Caregiver Confidence × Time$^2$ terms in the model. These analyses suggest that the effect of caregiver confidence on change in ADL performance varied by time even after controlling for the effect of self-efficacy.

Self-efficacy also had significant effects on the change in ADL performance over time. At one-year follow-up, elders who believed that they were capable of greater functional independence at baseline experienced greater improvement in ADL performance than those who did not (Model 3, Table 3). As evidenced by the Self-efficacy × Time term ($\beta = 0.171$, $SE = 0.035$, $p < .001$), the effect of self-efficacy increased over time.

Both caregiver confidence and self-efficacy could be a function of the elders’ baseline levels of ADL performance, health status, and sociodemographic characteristics. These covariates as well as the duration of program participation were added in Model 4 (Table 3). Estimates from this model suggest that one year after baseline, elders whose caregivers had confidence in their functional capability were more likely to have experienced improvement in their ADL performance than those whose caregivers did not have such confidence ($\beta = 0.987$, $SE = 0.328$, $p < .01$). The effect of caregiver confidence, which is illustrated in Figure 1, varied by time.

Among the covariates, we observed several significant associations with changes in ADL performance. Elders with higher levels of ADL performance at baseline had more decline in ADL performance in the 2-year period, as did those who had cancer and coresided with their caregivers at baseline. In contrast, elders who had an acute health event prior to the baseline, were White, and those who stayed in the Waiver or Care Management program longer experienced more improvement in ADL performance than their respective counterparts.

**Combined Effects of Caregiver Confidence and Self-efficacy on Changes in ADL Performance**

To examine the combined effects of self-efficacy and caregiver confidence, we estimated differences in ADL performance change for the four belief dyads. More specifically, we estimated a model including Efficacy Belief Group, Belief Group × Time, Belief Group × Time$^2$, and all covariates as predictors of ADL change scores. We found significant differences among the belief groups in ADL performance change. Compared with elders in dyads in which both the elder and the caregiver were confident, those belonging to dyads in which only the elder was confident experienced more decline in ADL performance ($\beta = -1.199$, $SE = 0.388$, $p < .01$) one year after baseline, as did elders who were members of dyads in which only the caregiver was confident ($\beta = -1.750$, $SE = 0.703$, $p < .05$) and those belonging to dyads in which neither member was confident ($\beta = -1.973$, $SE = 0.364$, $p < .001$). Likelihood ratio tests support the inclusion of the product terms of belief group with time and time$^2$ in the model (compared with a model without the product terms: $\Delta \chi^2 = 100$ with 6 df, $p < .001$). Figure 2 depicts the change in ADL performance for the four belief dyads. As shown, older adults who were part of dyads in which both members were confident in the elder’s capacity for greater functional independence had the most positive change in ADL performance, followed by those belonging to dyads in which only the elder had confidence. Elders in dyads in which (a) only the caregiver was confident and (b) neither member was confident showed similar trajectories of changes in ADL performance. It thus appears that when the elders had no confidence in their capacity for greater functional independence, confidence of the caregiver did not make too much difference in the elders’ changes in ADL performance. In contrast, when the elders believed in their capability of functional improvement, caregiver confidence appears to...
have enhanced the positive changes in ADL performance.

Discussion

Our analysis shows that elders with caregivers who believed in their capability of greater functional independence experienced greater improvement in ADL performance than those with caregivers who did not have such confidence. This was true even after controlling for the elder’s self-efficacy beliefs and other factors that have the potential to confound observed associations. Such findings support the small body of research about the positive effect of caregiver confidence on recovery and mortality among patients with chronic illness (Molloy et al., 2008; Rohrbaugh et al., 2004; Taylor et al., 1985). Our analysis suggests that the effect of caregiver confidence on changes in ADL performance was only partly explained by its correlation with self-efficacy. Moreover, in our exploratory analysis of efficacy belief groups, we found that elders belonging to dyads in which both members were confident experienced greater improvement in ADL performance than those belonging to dyads in which only the elder was confident. This again suggests that the influence of caregiver confidence on changes in ADL performance is not solely via the self-efficacy beliefs of the elders. We think that other potential mechanisms may include the ability of caregivers to shape the environment in which the elders live as well as the interaction patterns of the caregivers (Baltes & Wahl, 1996; Corcoran, 2011).

Caregivers who are confident in their care recipients’ functional capacity may be more motivated than those who do not have confidence to create an environment that facilitates independent performance of ADLs. A daughter who believes, for instance, that her mother would be able to bathe independently if grab bars were installed in the shower may be more inclined to make the needed changes than a daughter who does not share this belief. This, in turn, may delay the onset of dependency in bathing. With respect to interaction patterns, Baltes and Wahl (1996) have shown that the social partners of older persons with care needs have a tendency to discourage the independent performance of behaviors by older adults (e.g., they might reprimand an older person for attempting to get out of bed independently) and encourage dependency. They suggest that this tendency is partly the result of stereotypes about the incompetence of older persons. In the home care setting, it may be that caregivers who are not confident in their care recipients’ functional capacity provide too much assistance to them, contributing to the elders’ functional decline. Others have suggested that caregiver confidence, at least in the case of spousal caregivers, may reflect the quality of the relationship (Rohrbaugh et al., 2004), with higher quality relationships conferring greater health protection. We, however, are unable to explore relationship quality in this analysis.

Consistent with prior research, our analysis shows that elderly persons who were confident in their capacity for greater functional independence were more likely to experience improvement in ADL performance than those without such confidence. Self-efficacy, which can be enhanced using such strategies as graded mastery (Bandura, 1986, 1997), has served as the basis for numerous interventions in chronic illness management (see review by Marks, Allegrante, & Lorig, 2005) and physical activity (e.g., Perkins, Multhaup, Perkins, & Barton, 2008) with promising results.

Together, our findings suggest that the most protective efficacy pattern is one in which both the caregiver and the elder express confidence in the
elder’s capabilities and that elders in dyads in which neither member have confidence are most vulnerable to functional decline. The majority of our sample belonged to the latter group, which is not surprising given our focus on frail elders. Our data also show, however, that a larger percentage of caregivers lacked confidence in the elders’ functional capabilities than did the elders themselves. This is consistent with Taylor and colleagues (1985) who found that the wives of men with a recent heart attack had less confidence in their abilities to withstand exertion than the men themselves. Although one could argue that caregiver confidence in the care recipients’ capabilities reflect an accurate assessment of the care recipient’s abilities, our results suggest that this is not always the case. If it were, ADL changes over time would have been similar for elders in both dyads where the caregiver lacked confidence, which is not what we observed.

In the study of Taylor and colleagues (1985), they found that wives who underwent the same treadmill testing as their husbands and were debriefed by a health care professional about the meaning of the treadmill test experienced significant increases in their level of confidence in their husband’s abilities. Thus, interventions that help caregivers accurately assess what their care recipients are capable of may help promote caregiver confidence and ultimately help to minimize the risk of functional losses. Given the observational nature of this study, however, we caution that our findings need to be replicated before programs to intervene on caregiver confidence are implemented. Moreover, it is important to note that these findings pertain only to ADLs, some of which are highly personal activities. It may be that both caregivers and elders prefer that these tasks be performed independently. In that context, efficacy beliefs may be especially critical. The dynamics may be quite different, however, for other functional tasks such as shopping and meal preparation.

Several methodological issues encountered in this investigation warrant discussion. First, our sample consisted of predominantly White older residents of Michigan who were receiving support from publicly funded, home and community-based long-term care programs. This may limit the extent to which our findings are representative of the wider home care population as well as frail elders who do not use formal home care services. Moreover, our analytic sample may be biased toward “healthy” and “confident” home care elders as we excluded eligible members who had less than two home care assessments. Those excluded were older, sicker, and more likely to lack self-efficacy. Second, our assessments of caregiver confidence and elder self-efficacy were based on single-item measures with dichotomous (yes/no) response options. The measures did not capture the strength of these beliefs. Given this, we undoubtedly combined individuals with both weakly and strongly held beliefs, which may have affected the observed associations between both caregiver confidence and elder self-efficacy and changes in ADL performance. In addition, a single-item measure has inherent weaknesses, for example, no assessment of internal consistency reliability is possible.

To conclude, our findings reinforce the significance of caregivers’ beliefs to the health of their care recipients. The findings also corroborate prior research regarding the positive effect of self-efficacy on functional health. Additional research with more precise measures of caregiver confidence and self-efficacy is needed to confirm these findings, to explore the factors that influence caregiver confidence, and to investigate the mechanisms by which caregivers’ beliefs influence older adults’ physical functioning over time.

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