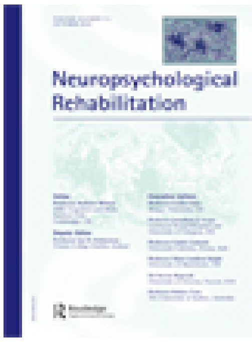

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Associations between self-generated strategy use and MET-Home performance in adults with stroke

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ABSTRACT

Self-generated strategy use has substantial potential for improving community living outcomes in adults with impaired executive function after stroke. However, little is known about how self-generated strategies support task performance in people with post-stroke executive function impairments living in the community. We explored strategy use among home-dwelling persons with stroke and neurologically-healthy control participants during the Multiple Errands Test-Home Version (MET-Home), a context-specific assessment with evidence of ecological validity designed to examine how post-stroke executive dysfunction manifests during task performance in the home environment. For persons with stroke, significant associations were identified between planning and tasks accurately completed on the MET-Home. Significant associations were also identified among the control participants for self-monitoring, multitasking, and "using the environment" strategies. These associations are related to enhanced MET-Home performance on sub-scores for levels of accuracy, passes, and total time. Rehabilitation interventions that focus on reinforcing self-generated strategy use may support community living outcomes in persons with post-stroke executive function impairments, but this area needs additional investigation.

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Stroke; Executive function; Rehabilitation; Community integration; Patient outcome assessment

Introduction

Everyday life is complex and can be particularly challenging for persons with impaired executive function. Executive functions are higher-order neurocognitive processes which make it possible to mentally work with ideas, flexibly adapt to new situations or circumstances; control one's behaviour, attention, and thoughts; maintain focus; and meet unique, complex, and unexpected

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challenges in everyday life (Diamond, 2013). Impaired executive function is disabling and a common consequence of stroke that contributes to difficulty with higher-level function and reintegrating to community living (Cahn-Weiner, Boyle, & Malloy, 2002; Crichton, Bray, McKevitt, Rudd, & Wolfe, 2016; Sun, Tan, & Yu, 2014).

Impaired executive function can impact non-routine and novel activities in the context of the home and community. Integrating external or internal cognitive strategies may be particularly useful for improving performance (Cicerone et al., 2011; Dawson, Gaya, et al., 2009; Haskins et al., 2012; Krasny-Pacini, Chevignard, & Evans, 2014; Skidmore et al., 2011). External strategies might include using electronic devices, visual or auditory cueing systems, or task-specific aids. Internal strategies are meant to improve conscious control over behaviours by cueing one's self to address a task or problem and may involve integrating a structured problem-solving or metacognitive technique (Haskins et al., 2012). Sometimes strategies might initially start externally and then transition to internal strategies (Haskins et al., 2012). Internal strategies are also combined with external cues (Manly, Hawkins, Evans, Woldt, & Robertson, 2002; Tornås, Løvstad, Solbakk, Schanke, & Stubberud, 2016). Toglia and colleagues (2012) discuss cognitive strategies as being "involved in all activities that require thinking, planning, and decision-making; using a cognitive strategy increases the probability of successful performance." Unfortunately, persons with impaired executive function may have difficulty selecting and applying strategies in everyday life (Haskins et al., 2012), particularly if they have reduced insight into cognitive consequences of their stroke (Lamberts, Fasotti, Boelen, & Spikman, 2017).

Strategy generation may be useful for improving functional performance of various tasks for persons with impaired executive function. Toglia and colleagues (2012) describe cognitive strategies as a "mental plan of action that helps a person to learn, problem solve, and perform and that the use of cognitive strategies can improve an individual's learning, problem solving, and task performance in terms of efficiency, speed, accuracy, and consistency". Furthermore, the researchers posit that all persons, with or without executive function impairments, use strategies to manage everyday task although they may be without awareness of using the said strategies. In an exploratory study by Bottari and colleagues (2014), adults with traumatic brain injury that strategically integrated a greater variety of self-generated strategies had better performance on an unstructured ecologically-valid shopping task. The generation effect is a phenomenon that suggests self-generated information has a greater likelihood of being remembered than information provided by simply reading it or it being produced by others (Bertsch, Pesta, Wiscott, & McDaniel, 2007; Chiaravalloti & DeLuca, 2002; Goverover, Chiaravalloti, & DeLuca, 2010) and may be particularly important for self-generated strategy use in persons with impaired executive function (Foster, Spence, & Toglia, 2018; Toglia, Goverover, Johnston, & Dain, 2011).

Although self-generated strategy use shows promise for improving functional performance in the context of the home and community, there remains a lack of evidence that has specifically studied this phenomenon. The Multiple Errands Test Home Version (MET-Home) is an ecologically valid assessment, developed by the authors, used to examine how executive function impairments manifest during daily task performance in the home environment. Specifically, this assessment was developed to include a system for tracking strategies observed during performance on each task which was based on a strategy list used in the Baycrest MET (Dawson, Anderson, et al., 2009). The aim of this study was to determine if self-generated strategy use was related to better performance on the Multiple Errands Test Home Version (MET-Home) in a sample of adults with post-stroke executive function impairments and matched controls.

Materials and methods

Design

The current article is a cross-sectional correlational study which was part of a larger validation study of the MET-Home (Burns, Dawson, et al., 2019). This article reports on the associations between self-generated strategy use and MET-Home performance sub-scores in adults with stroke and individually-matched controls. The study was approved by the Texas Woman's University Institutional Review Board and all participants provided written informed consent prior to participating in the study.

Participants

Twenty-three home-dwelling adults with stroke and twenty-three individually-matched and neurologically-healthy controls were recruited using (1) community-based recruitment procedures, and (2) recruitment from a rehabilitation centre in Dallas-Fort Worth, Texas, United States. Although a majority of participants with stroke were recruited from the rehabilitation centre, community-based recruitment was used for participants with stroke and neurologically healthy controls. Participants were individually matched for age (+/−3 years), sex, and highest level of education obtained (+/−3 years). Adults with stroke were classified as having mild to moderate stroke using the National Institute of Health Stroke Scale (NIHSS) scores <15 (Adams et al., 1999; Brott et al., 1989; Corso et al., 2014). Although participants were not recruited on the basis of having executive function impairments, the participants with stroke demonstrated executive function impairments based on objective and/or subjective assessments of executive function in the initial study. For a full description of inclusion and exclusion criteria, refer to details in the earlier study (Burns, Dawson, et al., 2019).

Measure

The MET-Home (Burns, Dawson, et al., 2019; Burns, Pickens, et al., 2018) is an assessment with evidence of ecological validity that examines how executive dysfunction manifests during everyday task performance in the context of the home environment. The MET-Home is a context-specific version of the MET (Shallice & Burgess, 1991), and it has evidence of initial reliability and validity in stroke (Burns, Dawson, et al., 2019). The assessment is comprised of a list of fourteen tasks that can be completed in the home which include items like calling a plumber to inquire about the cost of a service call, identifying the cost of ordering a 2-topping pizza for delivery, and locating items in various rooms of the home. The task list is constrained by a set of rules including not visiting a room more than once, not speaking to the evaluator, not rushing excessively, and remaining on the property. The assessment is scored using various sub-scores for whether each task was accurately completed, partially completed, or omitted; frequency of rule breaks; frequency of passes (passing by a task that could have been carried out but was not), and frequency of inefficiencies (tasks not being completed efficiently; e.g., stopping to take a phone call or give a pet a treat).

The MET-Home also includes a list for tallying observed strategies which was adapted from the MET Baycrest Version (Dawson, Anderson, et al., 2009). The list included specific expected strategies for planning, self-monitoring, and multitasking. The strategy list was further modified on the MET-Home to fit the home environment by adding an additional strategy sub-section to identify specific strategies for the category "using the environment".

Data collection

Data were collected during a single-in home visit where a series of assessments were administered. The lead author completed visits at a time selected by each participant. Each participant completed the MET-Home which was video-recorded for later analysis. For strategy use, two raters independently tallied strategies observed during MET-Home performance and reviewed participant forms to examine self-monitoring strategies that may have been written on the forms (e.g., checking off items as completed). For the current study, the raters compared observation of strategies (dichotomous yes or no) and if disagreement existed, they came to an agreement by referring to the video-recordings of MET-Home performance. For observed strategy frequencies, Rater 1 tallies were used for analysis.

Data analysis

Data was analysed using SPSS Version 24 and Microsoft Excel. Descriptive statistics were used to describe participant characteristics. Independent t-tests were computed to examine differences in observed strategy use between groups. Strategy and MET-Home sub-score data were visually inspected for normality with histograms which indicated that distributions were skewed. Spearman's rho Correlation Coefficient (r_s) was used to examine associations between observed strategy use and MET-Home sub-scores because of variation in data normality. Associations were computed between MET-Home sub-scores and the totalled strategy categories. Data were corrected for multiple comparisons using Benjamini-Hochberg procedure for controlling false discovery rate (Benjamini & Hochberg, 1995).

Results

Sample

Forty-six participants provided written informed consent and were enrolled in the study. Participants were relatively young with a mean age of 56.7 (+/−10.6) years in adults with stroke and 56.3 (+/−9.9) years in the control group. Greater than 50% of the participants were male, non-Hispanic white, and lived in single family homes in the southwestern United States. For a full description of study participants refer to the earlier study (Burns, Dawson, et al., 2019).

Comparison of strategy use

Adults with stroke and matched controls both used a range of strategies during the MET-Home. As anticipated, planning and multitasking strategies were used less frequently than self-monitoring and "using the environment" for all participants likely due to the nature of how the strategy is implemented. For example, reading the task list for greater than five seconds can only be tallied once while self-monitoring by using self-talk can be used continuously and may be associated with each task. Control participants demonstrated use of multitasking and "using the environment" strategy categories significantly more frequently than the participants with stroke (Table 1).

Table 2 shows sub-strategies used within each category. Self-monitoring and "using the environment" strategy categories were used most frequently by both

Table 1. Differences in strategy use category between adults with stroke and control participants ($N = 46$).

Strategy Category	Stroke mean (SD) [range]	Controls mean (SD) [range]	*P*-Value
Planning	.70 (0.76) [0–3]	1.00 (0.43) [0–2]	.103
Self-Monitoring	12.39 (7.63) [0–27]	11.96 (6.16) [0–21]	.833
Multitasking	0.17 (0.49) [0–2]	0.74 (0.86) [0–3]	.009*
Using Environment	3.73 (1.88) [1–8]	5.74 (2.54) [1–12]	.004*

Note: SD refers to standard deviation. Range involves frequency of observed strategy category.
*Significant after applying Benjamini-Hochberg procedure.

Table 2. Specific strategies observed among adults with stroke and control participants ($N = 46$).

Strategy Category	Strategy	Stroke ($n = 23$) n (%) [range]	Control ($n = 23$) n (%) [range]	P-value*
Planning	Created plan with provided paper prior to starting MET-Home	2 (8.7) [0–1]	2 (8.7) [0–1]	1.00
	Read the task list and rule list for greater than 5 s prior to the start of the test	13 (56.5) [0–1]	21 (91.3) [0–1]	.006*
	Configured route prior to starting the test	1 (4.3) [0–1]	0 (0.0) [0–0]	.323
Self-Monitoring	Talked self through the steps	14 (60.9) [0–14]	15 (65.2) [0–14]	.188
	Checked the time with a watch or a clock	3 (13.0) [0–1]	4 (17.3) [0–2]	.506
	Marked tasks on list as completed	17 (73.9) [0–14]	19 (82.6) [0–14]	.373
	Made notes or reminders	1 (4.3) [0–2]	0 (0.0) [0–0]	.323
Multitasking	Completed more than one task at a time	2 (8.7) [0–1]	10 (43.5) [0–2]	.005*
	Completed more than two tasks at a time	0 (0.0) [0–0]	2 (8.6) [0–2]	.179
	Completed more than three tasks at a time	0 (0.0) [0–0]	1 (4.3) [0–1]	.328
Using Environment	Asked examiner questions prior to beginning	18 (78.3) [0–3]	18 (78.3) [0–7]	.096
	Asked others in the home for assistance	3 (13.0) [0–3]	4 (17.4) [0–2]	.820
	Asked others outside of the home for assistance	1 (4.3) [0–1]	1 (4.3) [0–1]	1.00
	Used technology	20 (87.0) [0–5]	23 (100.0) [1–5]	.008*
	Created short-cuts	1 (4.3) [0–1]	2 (8.7) [0–1]	.561
	Used visual cues	0 (0.0) [0–0]	0 (0.0) [0–0]	1.00
	Reduced distractions (e.g., TV noise)	0 (0.0) [0–0]	3 (13.0) [0–1]	.076

Note: Range represents the minimum and maximum frequency of times strategies were used for each participant. *Significant after applying Benjamini-Hochberg procedure. Range involves frequency of observed strategy category.

groups. Although the number of participants that used the different strategies was similar, control participants employed three strategies significantly more frequently than the adults with stroke: (1) planning by reading the task list for greater than 5 s prior to beginning the assessment, (2) multitasking by completing more than one task at a time, and (3) using technology.

Relations between strategy use and MET-Home sub-scores

Both adults with stroke and the matched control participants used self-generated strategies. For the adults with stroke, moderate associations between strategy categories and sub-scores were discovered when implementing planning and self-monitoring strategies but not for multitasking or "using the environment" strategy. However, after correcting for false discovery rate, only the planning strategy category and accuracy sub-score were significantly associated (Table 3). Planning was positively associated with the MET-Home accurately completed sub-score indicating that employing planning strategies was related to higher accuracy scores.

Self-generated strategies used by the control participants were associated with significantly better performance on some of the MET-Home sub-scores after correction for false discovery rate (Table 4). Self-monitoring was negatively associated with tasks partially completed and positively associated with tasks accurately completed and total time. These relationships suggest that employing a self-generated self-monitoring strategy is related to having better accuracy on MET-Home tasks and using a greater amount of time for completing the MET-

Table 3. Correlations between frequency of strategy use and MET-Home sub-scores in adults with stroke ($n = 23$).

MET-Home Sub-score	Planning	Self-monitoring	Multitasking	Using environment
Accurately Completed	.589**$^{\delta}$	.414*	.241	.201
Partially Completed	−.432*	−.410	−.134	−.221
Omitted	−.451*	−.235	−.242	−.054
Rule Break Frequency	.106	−.241	−.392	.196
Passes	.184	.082	−.206	−.113
Inefficiencies	.226	−.159	−.400	−.182
Total time	.101	−.375	−.304	−.215

*$p < .05$; **$p < .01$; $^{\delta}$significant after applying Benjamini-Hochberg procedure.

Home. Multitasking was negatively associated with tasks partially completed and passes suggesting that employing this strategy is associated with fewer partially completed tasks and less passes. Lastly, "using the environment" was positively associated with tasks accurately completed and negatively associated with tasks partially completed indicating that using the environment strategies are related to better accuracy on the MET-Home.

Discussion

This is the first study to systematically examine strategy use in relation to performance on the Multiple Errands Test. Our findings reveal that performance on MET-Home sub-scores for tasks accurately completed was better among those individuals with stroke using planning strategies but not significantly associated with the use of self-monitoring, multitasking, or "using the environment" strategies after correction for multiple comparisons. Among the controls, performance on some MET-Home sub-scores was higher when self-monitoring, multitasking, and "using the environment" strategies were employed but no significant associations were discovered for employing planning strategies.

Planning was significantly associated with the accuracy sub-score on the MET-Home among participants with stroke. The most frequently used planning strategy for the MET-Home was reading the task list for greater than five seconds prior to starting the test which was used by greater than 50% of the participants with stroke. Planning is an important preparatory action for everyday tasks such as planning a trip to the grocery store which could involve writing down

Table 4. Correlations between frequency of strategy use and MET-Home sub-scores in control participants ($n = 23$).

MET-Home Sub-score	Planning	Self-monitoring	Multitasking	Using environment
Accurately Completed	.231	.443*$^{\delta}$	.380	.513*$^{\delta}$
Partially Completed	−.251	−.595**$^{\delta}$	−.513*$^{\delta}$	−.610**$^{\delta}$
Omitted	.000	.102	.061	.015
Rule Break Frequency	−.208	.024	−.270	−.192
Passes	.101	−.156	−.467*$^{\delta}$	−.280
Inefficiencies	.354	.031	.092	.032
Total time	−.063	.409$^{\delta}$	.019	−.191

*$p < .05$; **$p < .01$; $^{\delta}$significant after applying Benjamini-Hochberg procedure.

directions to the store or making a list of needed items. Preparation and planning comprise an essential phase in goal-directed behaviour for developing a course of action. Specifically, planning is defined as the ability to organize behaviour for a specific goal through a series of steps (Luria, 1978). It is influenced by past experiences, problem-solving, and personal beliefs about control and capabilities (Cicerone et al., 2011; Duncan, Emslie, Williams, Johnson, & Freer, 1996; Hunt, Turner, Polatajko, Bottari, & Dawson, 2013). Planning is an important step in metacognitive and problem-solving interventions used among adults with impaired executive functions where relative strategies can be selected (Dawson, Gaya, et al., 2009; Krasny-Pacini et al., 2014; Skidmore et al., 2011; Stamenova & Levine, 2018) and in this study proved to be beneficial when employed during the MET-Home for persons with stroke only. Surprisingly, although planning pertains to all people with and without stroke, we found no significant association between integrating a planning strategy and subscores among control participants. It is possible that in this current study, neurologically-healthy participants did not differ in terms of planning ability on the MET-Home. Although the control participants were significantly more likely to use the planning strategy of reading a task list for greater than five seconds, the initial psychometric study shows no significant difference between participants with stroke and control participants on MET-Home total planning time. Additionally, in normal aging adults, formulation and execution of complex plans can be problematic during novel tasks which involve planning using real-world stimuli (Sanders & Schmitter-Edgecombe, 2012). Further research around this question is necessary.

Self-monitoring, "using the environment", and multitasking were not significantly associated with enhanced MET-Home performance in persons with stroke. It is noteworthy that these specific strategy categories were related to enhanced MET-Home performance in the control participants while planning was not. One possible reason for this discrepancy is that the participants with stroke did not employ strategies as effectively as the control participants. Although strategy use is typically viewed as supportive to performance, inefficient strategy use has also been documented in the literature across a range of diagnoses and disabilities and can be detrimental to performance (Toglia, Johnston, Goverover, & Dain, 2010). Our findings suggest that participants with stroke used self-monitoring as frequently as control participants but there was no beneficial association discovered in this study. Emerging intervention research suggests that skill-training in employing strategies to improve performance in this population may be particularly useful in those with executive function impairments like self-monitoring and multi-tasking (Dawson, Gaya, et al., 2009; Levine et al., 2011; Skidmore et al., 2015; Toglia et al., 2010, 2011).

Individuals with and without executive function impairments may use strategies to support occupational performance, or engagement in everyday tasks in context. Strategy use across self-monitoring, multitasking, and using the environment categories was associated with better MET-Home performance in the control participants. Additionally, self-monitoring was also related to greater total time in this group, which may suggest that, among controls, the integration of self-monitoring strategies may improve accuracy but take additional time. Interestingly, multitasking and "using the environment" were used significantly more frequently among the control group than the patient group, and both categories were related to enhanced performance among controls. One possible reason for this difference is that integrating multitasking and using the environment strategies may have been less effortful for the control participants. A specific example is in regards to multitasking. Multitasking is fundamental to everyday life but it can result in poorer task performance than if the task was performed alone (Bailer, Maria, & Tomitch, 2016; Just & Buchweitz, 2017; Pashler, 1994). Multitasking requires complex cognitive process which rely on efficient synchronization and utilization of neural resources (Bailer et al., 2016; Just & Buchweitz, 2017; Salvucci & Taatgen, 2011). It is possible that the participants with stroke in our study experienced greater capacity limitations than the control participants for multitasking and thus integrated this strategy less automatically and efficiently as it was not related to enhanced MET-Home performance. Working memory, a core element of executive function (Diamond, 2013), predicts multitasking performance (Bailer et al., 2016; Colom, Martínez-Molina, Shih, & Santacreu, 2010) and it is possible that the relationship between working memory and multitasking performance may explain this finding. We believe that although both groups experienced cognitive demands associated with the MET-Home, the participants with stroke may have experienced greater cognitive demands that required substantial effort. A study by Al-Yahya and colleagues (2016) examined dual-tasking after stroke and discovered that when compared to controls, persons with stroke have significantly increased prefrontal cortex activation and activation in the inferior temporal cortex and basal ganglia. They suggest that the control group did not perceive the dual tasking activity as cognitively demanding to stimulate further neural activation. Additionally, Hawkins and colleagues (2018) suggest that prefrontal cortex overactivation is associated with functional performance deficits in some motor skills among adults with stroke. It is possible that in our current study, persons with stroke had heightened use of executive control resources and approached the "ceiling of available resources" potentially leading to worse MET-Home performance (Hawkins et al., 2018). Alternatively, it is possible that persons with stroke may show increased neural activation but may still be able to perform the tasks as well as the neurologically healthy controls through the use of a compensatory mechanism. Additional research is needed to examine this phenomenon.

"Using the environment" is a strategy we initially hypothesized would enhance performance in the stroke and control group. Within the "using the environment" strategy category, technology use was the most frequently observed strategy used in both groups but used significantly more frequently in the control group. Everyday technology includes electronic, technical, and mechanical equipment that can be used to for everyday tasks (Fallahpour, Kottorp, Nygard, & Lund, 2014). In this current study, participants used technology which most frequently included smartphones and their associated features (e.g., web, voice command for Google Assistant or Siri, home automation apps), and also included tablets/iPads, alarm clocks, egg timers, landline telephones, and desktop computers. We speculate that difficulty with everyday technology use was partially related to the surprising finding that persons with stroke did not show better MET-Home performance with using the environment like control participants. Although even neurologically-healthy populations may have trouble with technology use, our previous findings suggest that the control participants, in general, were more efficient using technology and were better able to problem solve errors with technology use than the participants with stroke in this sample (Burns, Pickens, et al., 2018). Since participants in this study frequently and naturalistically incorporated technology as a self-generated strategy, it is necessary that future studies focus on the specific technology needs of persons with executive function impairments and design technologies that meet the wants and needs of this population.

Identifying opportunities for strategy use during everyday tasks may provide practitioners with important information for integrating strategy training into practice. Recognizing self-generated strategies that are successful, or perhaps not successful, may provide practitioners with direction for client-centred interventions. For example, if persons with stroke use self-talk, practitioners can capitalize upon this strategy by facilitating its successful integration during therapy and even across a range of various situations and contexts in the home and community. Bottari and colleagues (2014) suggest that reinforcing strategies that one is already doing well may be a promising target for therapy. Additionally, if participants were not successful or efficient with a self-generated strategy, but naturalistically integrate it into everyday task performance, this may be an additional area for focusing interventions. For example, technology use was difficult for many of the participants with stroke in this sample and is an important consideration for interventions. Technology is constantly changing and becoming more embedded in our everyday lives (Monteiro, 2018). Addressing technology use as a strategy in adults with executive function impairments will undoubtedly become more important with time. Although adults with stroke and executive function impairments may struggle with technology use, it is necessary that practitioners consider how the virtual context is being used in everyday life for persons with stroke to develop interventions that may be generalizable in the home and community.

Anosognosia, or impaired insight, may be particularly important for strategy integration. For instance, if one does not recognize he or she has executive function impairments, they may not recognize the need to incorporate strategies into daily life. Goverover, Johnston, Toglia, and DeLuca (2007) conducted an RCT examining an awareness intervention designed to help persons with acquired brain injury anticipate and recognize symptoms. The study offered preliminary support for self-awareness training for improving self-regulation and functional gains in acquired brain injury. Participants in the sample of the current study demonstrated no significant difference with controls on subjective executive function impairments using the Dysexecutive Questionnaire (Burns, Dawson, et al., 2019; Wilson, Alderman, Burgess, Ernslie, & Evans, 1996). It is possible that participants with stroke in this study had limited insight which may have contributed to the integration or lack thereof self-generated strategies.

Limitations and future work

This study is not without limitations. First, we only examined strategies that were observable by the raters. We did not identify internal strategies that were not observable, and we did not prompt participants to describe the use of internal strategies. For example, one of the most frequently used strategies was reading the task list for greater than five seconds. Although this may be related to planning, it is possible that participants needed additional time to process information or were not formulating a plan. While future studies may benefit from interviewing participants about what internalized strategies were used to support performance, it may be challenging to fully capture the use of internal strategies as one may not be entirely aware or in-tune with what internal strategies they use or do not use. Second, strategies were only observed during a single, performance-based assessment and this may not fully capture what strategies are used across a range of activities beyond the MET-Home task list that may emerge in everyday life. Future studies should consider using alternative methods of inquiry to examine the use of self-generated strategies in the home and community. Another limitation of this study is that participant insight may have influenced strategy use. Further studies are needed to control for lack of awareness or insight in persons with stroke. Finally, the sample was relatively small and future studies with larger samples and more rigorous sampling techniques are needed to examine self-generated strategy use in adults with post-stroke executive function impairments.

Conclusions

This study found that self-generated planning strategies were associated with increased MET-Home performance in adult participants with stroke-related executive function impairments. However, there was no significant association between better performance and self-monitoring, multi-tasking or "using the environment". This study also found that neurologically-healthy control participants had better MET-Home performance scores associated with the use of self-monitoring, multi-tasking, and "using the environment" strategies, but not planning. The results from this study indicate the importance of rehabilitation practitioners' consideration of self-generated strategies during everyday tasks in the home and community. Further research is needed to examine whether training on strategy use after stroke can enhance successful performance. This study suggests that self-generated strategy use is related to enhanced performance on the MET-Home in adults with post-stroke executive function impairments and neurologically-healthy controls.

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