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Utility of the Stanford Brief Activity Survey for physical activity assessment in postpartum Latinas: A validation study of a linguistically translated Spanish version

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Abstract

This study assessed the concurrent validity of the English and a linguistic Spanish translation of the Stanford Brief Activity Survey (SBAS) with pedometer measured physical activity (PA) among postpartum Latinas. Latinas (n = 97) completed the SBAS in either English (n = 47) or Spanish (n = 50) and wore pedometers seven days at three different assessment periods. The English version demonstrated significant trends ($p < .01$) for differentiating aerobic walking steps (AWS) and aerobic walking time (AWT) across SBAS intensity categories at two of the three assessment periods. The Spanish version showed marginally significant trends for differentiating AWS ($p = .048$) and AWT ($p = .052$) across SBAS intensity categories at only one assessment period. The English version of the SBAS is effective in assessing PA status among Latinas; however, the Spanish version indicates a need for research to further explore cultural and linguistic adaptations of the SBAS.

Keywords

measurement; pedometers; physical activity assessment; physical activity; Latina/Hispanic; women

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Introduction

Research suggests that Latinos are disproportionally burdened by many chronic disease conditions associated with insufficient physical activity (PA), including: cardiovascular disease, overweight and obesity, and type II diabetes (Kurian & Cardarelli, 2007). Given that Latinos are the largest minority group in the United States (17% of the population; United States Census Bureau, 2013), such health disparities call for innovative approaches to assess, intervene, and promote PA in this underserved population.

Accurate assessment of PA is important when classifying activity levels among Latinos in both research and surveillance system settings. In 2010, Ham and Ainsworth (2010) analyzed two surveillance systems and identified discrepancies in the classification of PA when comparing objective and questionnaire measured PA among Latino adults. When PA was measured with the objective method, accelerometers, Latinos were classified as meeting Healthy People 2010 PA objectives; but when measured with a questionnaire, they failed to meet the objectives. This suggests that the questionnaire method was unable to capture all PA performed by Latinos compared with the accelerometer. Nonetheless, questionnaires are commonly used to assess PA in surveillance, epidemiological, and intervention studies.

Advantages of PA questionnaires include the capability to obtain a relatively quick assessment of PA and ability to assess the type (i.e., leisure, occupational, etc.) and mode of PA performed (i.e. swimming, running, cycling, etc.). PA questionnaires are also a generally less expensive way to collect PA data as compared with purchasing objective monitors, such as accelerometers and pedometers (Shephard, 2003). A downside of questionnaires is the need for complex participant recall of activities performed and generally high literacy and/or numeracy levels to comprehend the questions and estimate the time spend doing activities. Accordingly, the validity of a questionnaire can be an issue when dealing with populations with low literacy or who are unable to perform mathematic calculations.

Another concern about many questionnaires used to assess PA in Latinos is the focus on leisure-time PA with the omission of occupational and household PA. The importance of occupational PA in Latinos and household PA in Latinas cannot be minimized. Marquez and colleagues (2010) examined the National Health Interview Survey (NHIS) survey data to assess time spent in occupational- and leisure-time PA in racial and ethnic minorities. Results indicated that over half of Latinos of Mexican descent reported no leisure time PA (57.3%) and the prevalence of a physically active occupation was highest for Latinos of Mexican descent (39.4%). As well, in the *Madres para la Salud* study with post-partum Latinas, the majority of time spent in PA was associated with household chores and motherhood-related activities such as home care and engaging in activities with children (Ainsworth et al., 2013). Accordingly, PA questionnaires that capture the types of activities performed by a respondent population and avoid literacy issues may be the most efficacious.

The Stanford Brief Activity Scale (SBAS; Taylor-Piliae et al., 2006) provides a practical solution to many of the aforementioned issues associated with PA surveys, especially avoiding numeral literacy. The SBAS consists of two items that assess both leisure and occupational PA. This questionnaire can be completed by participants in less than five

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minutes (Taylor-Piliae et al., 2006) and does not require participants to recall their previous PA or report the time/amount of PA performed. The SBAS has been validated in White populations, but its ability to accurately assess PA behaviors among Latinos is unknown.

The purpose of this report is to assess the concurrent validity of the SBAS with pedometer measured PA in a sample of postpartum Latinas. Specifically, we report: a) evaluation of the ability of the English version of the SBAS to classify pedometer measured PA into the various SBAS categories in a cohort of Latinas, and b) evaluation of the ability of a linguistically translated Spanish version of the SBAS to classify pedometer measured PA into the various SBAS categories in a cohort of Latinas. The findings of the evaluation provide important insight on the utility of the SBAS among Latinas.

Methods

Participants

Participants were a cohort of Latinas enrolled in the *Madres para la Salud* study, a 12-month, two-arm randomized controlled trial evaluating a social support-mediated walking intervention to promote postpartum weight loss (for a detailed description of the *Madres para la Salud* study see Keller et al., 2011). Inclusion criteria for the study included: (a) habitually sedentary (< 2.5 hours of moderate-intensity PA a week) but able to participate in moderate-intensity walking, (b) self-identified as Latina, (c) 18 to 40 years of age, (d) 6 weeks to 6 months post birth, and (e) BMI of 25 to 35 kg/m^2. Exclusion criteria were: (a) severe musculoskeletal or cardiorespiratory problems that would preclude participating in PA, (b) currently pregnant or plans to become pregnant within the next 12 months, (c) current use of antidepressants, anticoagulants, or herbal remedies that affect coagulation, (d) infectious illness, acute or chronic systemic inflammation, (e) regularly taking high doses of oral steroid medication, or (f) osteoporosis at baseline (bone mineral density > 2.5 SD below the average for this age group). The original baseline sample of the *Madres para al Salud* cohort consisted of 139 Latinas. Data presented in this report are from the 97 women who provided SBAS and valid pedometer data. Not all 97 participants provided valid pedometer data at each assessment period, therefore, the number of participants included in analyses varied by assessment period (baseline n = 85, 6 month n = 88, 12 month n = 88).

Measures

Stanford Brief Activity Survey—The Stanford Brief Activity Survey (SBAS; Taylor-Piliae et al., 2006) is a short, 2-item, self-report PA assessment tool. The SBAS assesses both occupational (employment activity such as waitressing) and leisure-time PA (such as walking, tennis, or jogging) and classifies respondents' overall PA intensity on a 5-point scale as follows: inactive (1), light (2), moderate (3), hard (4), and very hard (5). The SBAS was originally validated for English speaking older adults (Taylor-Piliae et al., 2006) and has been validated in other populations such as middle-aged individuals with early onset coronary artery disease (Taylor-Piliae et al., 2007).

The Spanish version used in *Madres para al Salud* was translated from English into Spanish per the translation protocol described by Martinez et al. (2008a). A bilingual and bicultural

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translator translated the SBAS into Spanish and then another bilingual researcher subsequently translated the SBAS back into English. Both translators were of Mexican descent. No cultural adaptations (i.e., changes in examples of activities commonly performed by Latinos) were made to the survey.

Pedometer-measured Physical Activity—Pedometer measured PA was assessed by the Omron HJ-720ITC pedometer (Shelton, CT). The Omron pedometer is small, lightweight a dual-axis acceleration sensor that measures total steps, aerobic intensity steps, and distance walked. Aerobic intensity steps were determined by the pedometer's counter mechanism that classifies step rates greater than 100 steps per minute as aerobic steps. Total minutes spent in aerobic steps also were recorded. Study protocol had participants wear the pedometer on their right hip for seven days during each assessment period. To be considered as a valid assessment, participants were required to wear the pedometer a minimum of three days out of the seven day assessment period. Only participants with valid pedometer data were included in analyses. The Omron pedometer has previously established validity and test-retest reliability (Holbrook, Barreira, & Kang, 2009).

Data Collection Procedures

Participants completed a total of three study assessments (baseline, 6 months, 12 months). Each study assessment required participants to attend two data collection visits spaced one week apart. At the initial visit, participants completed the SBAS in either English or Spanish (according to their language preference) and were given an Omron pedometer to wear for the next seven days. After the seven day period, participants returned the pedometer to the study manager who downloaded the pedometer data into the study database. Study procedures were approved by the Institutional Review Board at Arizona State University and all participants gave written consent prior to enrollment in the study.

Statistical Analysis

Normality of the data was assessed using box-plots, histograms, and QQplots. Due to the skewness of the PA data and small sample sizes in some of the SBAS categories, non-parametric statistics were used to evaluate the validity of the SBAS with pedometer measured PA. Preliminary tests comparing differences in pedometer measured PA according to SBAS language preference (English vs. Spanish) was evaluated using a Mann-Whitney test. To assess differences in pedometer measured PA across SBAS PA intensity classification categories a Kruskal-Wallis test was used. All analyses were conducted using SPSS (version 21; IBM Corp., 2012).

Results

Participant Characteristics

Latinas included in the study (n = 97) had a mean age of 28.9 (SD = 5.5) and were mostly overweight (BMI M = 29.5, SD = 3.6). The majority had a high school (43%) or below high school education level (36%), were either married (51%) or living with a significant other (35%), and not employed (78%). Most were born in Mexico (n = 76, 78%), 8 were born in the United States (8%), and 13 were born in Central America (13%).

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SBAS Validation

Preliminary analyses were conducted to determine if there were differences in pedometer measured PA according to SBAS language preference. Results showed no differences ($p > .05$) in pedometer assessed PA according to SBAS language preference (at any of the three assessment periods). Changes in pedometer measured PA according to SBAS language preference were also examined. Results indicated no difference ($p > .05$) for any of the pedometer measured PA change score values according to SBAS language preference (from baseline to 6 months or from baseline to 12 months).

Table 1 shows pedometer measured PA values according to SBAS category for all participants with valid PA data (combined the English and Spanish). At all three assessment periods, significant trends emerged for differentiation of aerobic walking steps per day ($p = 034$, $p = .001$ and $p < .001$ at baseline, 6 months and 12 months, respectively) and aerobic walking time ($p = .035$, $p = .001$ and $p < .001$ at baseline, 6 months and 12 months, respectively) according to SBAS intensity classification. Results showed a corresponding trend for increased aerobic walking steps per day and aerobic walking time as SBAS intensity classification increased. However, this trend was not apparent for aerobic walking steps or aerobic walking time among participants classified to “inactive” and “light intensity” SBAS categories at the 6 month assessment. Overall findings suggest that participants classified into higher PA intensity categories by the SBAS performed more aerobic walking steps and spent more time in aerobic walking. A similar trend for increased total pedometer steps according to SBAS category was also observed but these findings were not significant.

Table 2 illustrates pedometer measured PA values according to SBAS category for Latinas ($n = 47$) who completed the SBAS in English. Results differed from analyses assessing pedometer outcomes for the entire *Madres para la Salud* cohort (combined English and Spanish). No differences in pedometer measured PA across the SBAS intensity categories emerged at baseline; conversely, at 6 and 12 months, significant trends emerged for increased aerobic walking steps ($p = .002$ and $p = .001$ at 6 and 12 months, respectively) and aerobic walking time ($p = .002$ and $p = .001$ at 6 and 12 months, respectively) as SBAS intensity classification level increased. We also note that at the 12 month assessment, misclassification emerged among participants in the “inactive” and “light intensity” categories. Participants classified as “inactive” demonstrated higher values for aerobic walking steps and aerobic walking time than those classified as “light intensity”.

Table 3 illustrates pedometer measured PA values according to SBAS category for participants who completed the SBAS in Spanish ($n = 50$). At baseline, marginal trends were found for the pedometer measured PA outcomes of aerobic walking steps ($p = .048$) and aerobic walking time ($p = .052$) according to SBAS intensity classification. In contrast to the results of participants who completed the SBAS in English, no significant trends were observed for differentiation of pedometer measured PA according to SBAS category at 6 months at 12 months.

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Discussion

The purpose of this report was to assess the validation of the English version and a linguistically translated Spanish version of the SBAS in comparison to pedometer measured PA in postpartum Latina women. Results of the validation evaluation provide support for the use of the English version of the SBAS in Latinas. Findings for the linguistically translated Spanish version were less favorable and indicate more research is needed on adapting the SBAS for use in Spanish-speaking persons.

When assessing the ability of the SBAS to differentiate pedometer measured PA outcomes among all participants with valid pedometer data (combined the English and Spanish), we observed a corresponding trend for the SBAS to classify aerobic steps and aerobic walking time in accordance with the SBAS intensity levels (Table 1). However, when we evaluated the English and Spanish version of the SBAS separately, a very different story emerged. At the baseline assessment, no significant trends were observed for any of the pedometer outcomes using the English version of the SBAS and only marginally significant trends were observed in the Spanish version (i.e. aerobic walking steps and aerobic walking time). At the 6 month and 12 month assessments, results indicated a positive trend for the English version of the SBAS to classify pedometer measured PA; no such trends emerged using the Spanish version. These findings suggest that the overall trends observed for analyses with the combined English and Spanish versions of the SBAS were heavily influenced by Latina participants who completed the SBAS in English.

The limited ability of the SBAS Spanish translated version to differentiate between pedometer measured PA highlights the importance of both linguistically *and* culturally-adapted PA surveys. Linguistically and culturally adapting surveys may help account for individual, social, and cultural influences on PA; reading and numeric literacy; and questionnaire understanding that can influence survey responses (Arredondo, Mendelson, Holub, Espinoza, & Marshall, 2012; Berrigan, Dodd, Troiano, Reeve, & Ballard-Barbash, 2006; Marquez & McAuley, 2006). For example, Arredondo and colleagues (2012) showed that culturally adapting PA surveys to accurately reflect terms commonly used and activities frequently performed among Latinos of Mexican descent increased the understanding and comprehension of PA survey questions. Yet, while this is understood, the lack of culturally adapted PA surveys is a weakness the field of PA assessment. In their review of 13 PA questionnaires administered to Latino populations, Martinez et al. (2008b) found only 4 PA surveys that met 4 or more of the 6 recommended criteria used for cultural translation (i.e., forward translation with 2+ Spanish translators, use translators with similar background as respondents, back translation into parallel English, use different back translators, review meaning, and revise as needed; Geisinger, 1994; Sperber, Devellis, & Boehlicke, 1994). Additional research is needed on culturally adapting surveys, including the SBAS, to assess PA in Spanish speaking cohorts.

Gender-adaption of the SBAS may also be necessary to obtain an accurate assessment of PA among Latinas. Baseline study data (collected using activity logs) showed that our sample of Latinas performed the majority of their daily PA by engaging in household, childcare, and occupational activities (Ainsworth et al., 2013). However, example activities listed on the

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SBAS did not reflect the household (i.e. cleaning, gardening), childcare (i.e. walking children to school), or occupational activities (i.e. household cleaning/maid service) commonly reported by our sample of Latinas. As a result, Latinas may not have considered these activities as PA when completing the SBAS. Future studies should explore whether modifying example activities listed on the SBAS to reflect activities commonly performed by Latinas improves assessment of PA in this underserved population.

We also observed a clustering of similar pedometer assessed PA values among participants classified to the “inactive” and “light intensity” categories and among participants classified to the “moderate intensity” and “hard intensity” categories. Findings suggest that SBAS may be more sensitive in differentiating between “light intensity” and “moderate intensity” PA than between “inactive” and “light intensity” or “moderate intensity” and “hard intensity” PA. Additionally, we were perplexed as to why in two instances (i.e., at the 6 month assessment for the entire *Madres para la Salud* cohort and the 12 month assessment for those who completed the English) we observed lower pedometer values for aerobic walking steps and aerobic walking time among participants classified in “light intensity” category than the “inactive” category. A possible explanation for this could be is that some of the Latinas classified as “inactive” by the SBAS walked their children to school; which resulted in increased aerobic walking steps and aerobic walking time. Baseline study data collected via PA logs showed that our sample of the Latinas spent on average 50 minutes/day walking their children to school (Ainsworth et al., 2013); it is possible that participants failed to consider this activity as exercise when completing the SBAS, leading to the misclassification observed in our data. Further, as previously noted, some women in the study may not have perceived motherhood and household responsibilities as PA, highlighting the possibility of women’s roles in Latino culture as not emphasizing ‘exercise’ or PA (Gonzales & Keller, 2004; Keller & Fluery, 2004).

This report has several strengths. First, we present data from three separate data collection periods; which provided multiple assessments in which evaluate the utility of the SBAS. Another was that we used an objectively-assessed PA outcome (i.e., pedometers) as our criterion PA measure. A third strength was the method in which we linguistically translated the SBAS. Use of multiple bilingual translators to linguistically adapt the SBAS strengthened the validity of the Spanish translated version of the SBAS (Arredondo et al., 2012).

Some limitations must be noted. We only assessed pedometer measured PA for seven day period; which relies on the assumption that activity performed during the seven day period is an approximate measure of participant’s usual activity. If participants engaged in more or less physical activity during the assessment window, pedometer measured PA may not accurately reflect participants’ normal activity patterns. Another limitation was our sample was a relatively homogenous study population (i.e., < 6 months postpartum, relatively young, and mostly married and unemployed) which limits the generalizability of our findings to Latinas of different demographic characteristics.

This report provides valuable information regarding the validity of the English and a Spanish version SBAS among Latinas. Our analyses indicate that the English version of the

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SBAS shows promise for adequately assessing PA levels when compared to pedometer measured PA in Latinas. Findings from the linguistically translated Spanish version of the SBAS indicate need for future studies to explore the cultural, linguistic, and gender adaptations of the SBAS.

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Table 1

Pedometer measured physical activity based on SBAS categories for all participants with valid PA data.

	Inactive *n* = 45	Light Intensity *n* = 28	Moderate Intensity *n* =12	Hard Intensity *n* = 0	Very Hard Intensity *n* = 0	*p*-value
Baseline Assessment Physical Activity Level Measured by SBAS (*N* = 85)						
Pedometer Measured Physical Activity						
Total Steps (steps/day)	4714.93 (1767.27)	5139.04 (2827.64)	5233.13 (2006.15)	0	0	.720
Aerobic Walking Steps (steps/day)	248.60 (514.45)	494.04 (720.19)	735.54 (984.13)	0	0	.034
Aerobic Walking Time (min/day)	2.43 (4.86)	4.55 (6.59)	7.38 (10.00)	0	0	.035
6 Month Assessment Physical Activity Level Measured by SBAS (*N* = 88)						
	Inactive *n* = 25	**Light Intensity** *n* = 30	**Moderate Intensity** *n* = 28	**Hard Intensity** *n* = 6	**Very Hard Intensity** *n* = 0	***p*-value**
Pedometer Measured Physical Activity						
Total Steps (steps/day)	5709.24 (2560.88)	5885.17 (3115.80)	7036.21 (2474.21)	8097.44 (2454.01)	0	.072
Aerobic Walking Steps (steps/day)	945.10 (1703.35)	644.61 (1008.45)	2156.93 (1717.97)	2131.74 (1470.28)	0	.001
Aerobic Walking Time (min/day)	8.66 (15.27)	5.86 (9.12)	18.89 (14.81)	17.58 (11.54)	0	.001
12 Month Assessment Physical Activity Level Measured by SBAS (*N* =88)						
	Inactive *n* = 18	**Light Intensity** *n* = 26	**Moderate Intensity** *n* = 34	**Hard Intensity** *n* = 10	**Very Hard Intensity** *n* = 0	***p*-value**
Pedometer Measured Physical Activity						
Total Steps (steps/day)	5811.28 (3298.50)	6357.92 (3105.27)	7231.68 (3504.22)	7009.46 (2837.05)	0	.264
Aerobic Walking Steps (steps/day)	529.08 (831.79)	550.26 (1190.18)	1216.49 (1457.59)	2200.10 (1425.26)	0	<.001
Aerobic Walking Time (min/day)	5.06 (7.64)	4.72 (9.87)	10.98 (13.03)	19.19 (12.49)	0	<.001

Note: A Kruskal-Wallis test was used to analyze differences across SBAS categories for each pedometer outcome. Only participants with valid pedometer data are included.

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Table 2

Pedometer measure physical activity based on SBAS categories for Latinas who completed the SBAS in English.

	Inactive	Light Intensity	Moderate Intensity	Hard Intensity	Very Hard Intensity	*p*-value
Baseline Assessment Physical Activity Level Measured by SBAS (*N* = 40)						
	***n* = 20**	***n* = 14**	***n* = 6**	***n* = 0**	***n* = 0**	
Pedometer Measured Physical Activity						
Total Steps (steps/day)	4568.23 (1743.67)	4147.54 (3401.31)	4162.35 (1471.51)	0	0	.765
Aerobic Walking Steps (steps/day)	279.40 (519.42)	418.95 (643.62)	636.03 (1027.43)	0	0	.447
Aerobic Walking Time (min/day)	.69 (4.91)	3.79 (5.72)	5.93 (9.15)	0	0	.455
6 Month Assessment Physical Activity Level Measured by SBAS (*N* =41)						
	Inactive	Light Intensity	Moderate Intensity	Hard Intensity	Very Hard Intensity	*p*-value
	n = 12	*n* = 14	*n* = 13	*n* = 2	*n* = 0	
Pedometer Measured Physical Activity						
Total Steps (steps/day)	5013.03 (2072.02)	6376.60 (2908.37)	7110.30 (2626.24)	10073.29 (3069.25)	0	.05
Aerobic Walking Steps (steps/day)	494.62 (169.36)	673.07 (1254.25)	2672.66 (1926.92)	3146.17 (967.09)	0	.002
Aerobic Walking Time (min/day)	7.71 (5.44)	6.05 (11.40)	23.15 (16.37)	25.26 (5.08)	0	.002
12 Month Assessment Physical Activity Level Measured by SBAS (*N* =43)						
	Inactive	Light Intensity	Moderate Intensity	Hard Intensity	Very Hard Intensity	*p*-value
	n = 11	*n* = 12	*n* = 13	*n* = 7	*n* = 0	
Pedometer Measured Physical Activity						
Total Steps (steps/day)	6430.18 (3732.88)	5354.33 (2065.55)	6581.77 (2344.05)	6125.61 (2852.72)	0	.562
Aerobic Walking Steps (steps/day)	513.21 (607.62)	136.23 (263.06)	1628.56 (1700.33)	1781.05 (1052.98)	0	.001
Aerobic Walking Time (min/day)	5.03 (5.28)	1.32 (2.66)	14.85 (15.39)	15.17 (8.11)	0	.001

Note: A Kruskal-Wallis test was used to analyze differences across SBAS categories for each pedometer outcome. Only participants with valid pedometer data are included.

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Table 3

Pedometer measure physical activity based on SBAS categories for Latinas who completed the SBAS in spanish.

	Inactive *n* = 26	Light Intensity *n* = 13	Moderate Intensity *n* = 6	Hard Intensity *n* = 0	Very Hard Intensity *n* = 0	*p*-value
Baseline Assessment Physical Activity Level Measured by SBAS (*N* = 45)						
Pedometer Measured Physical Activity						
Total Steps (steps/day)	4827.78 (1811.26)	5686.14 (2192.84)	6303.91 (1984.22)	0	0	.177
Aerobic Walking Steps (steps/day)	224.91 (519.60)	612.91 (822.20)	835.05 (1025.35)	0	0	.048
Aerobic Walking Time (min/day)	2.24 (4.91)	5.71 (7.64)	8.83 (11.45)	0	0	.052
6 Month Assessment Physical Activity Level Measured by SBAS (*N* =47)						
	Inactive *n* = 13	**Light Intensity** *n* = 16	**Moderate Intensity** *n* = 14	**Hard Intensity** *n* = 4	**Very Hard Intensity** *n* = 0	***p*-value**
Pedometer Measured Physical Activity						
Total Steps (steps/day)	6439.91 (2771.31)	7636.65 (3263.13)	7289.31 (2170.50)	7109.52 (1729.99)	0	.619
Aerobic Walking Steps (steps/day)	1451.19 (2212.34)	619.70 (775.46)	1832.10 (1401.78)	1624.52 (1504.01)	0	.176
Aerobic Walking Time (min/day)	13.10 (19.80)	5.68 (6.94)	16.29 (12.46)	13.75 (12.42)	0	.170
12 Month Assessment Physical Activity Level Measured by SBAS (*N* =45)						
	Inactive *n* = 7	**Light Intensity** *n* = 14	**Moderate Intensity** *n* = 21	**Hard Intensity** *n* = 3	**Very Hard Intensity** *n* = 0	***p*-value**
Pedometer Measured Physical Activity						
Total Steps (steps/day)	4832.73 (2407.74)	7218.14 (3634.14)	7634.01 (4064.48)	9071.76 (1640.72)	0	.133
Aerobic Walking Steps (steps/day)	554.02 (1159.21)	905.15 (1540.02)	961.40 (1261.80)	3180.88 (1938.39)	0	.091
Aerobic Walking Time (min/day)	5.11 (10.90)	7.63 (12.71)	8.59 (11.06)	28.57 (17.79)	0	.086

Note: A Kruskal-Wallis test was used to analyze differences across SBAS categories for each pedometer outcome. Only participants with valid pedometer data are included.