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# Use of Leisure Facilities and Wellbeing of Adult Caregivers

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*The current research examines leisure facility use as a moderator of the negative association of caregiving demands with wellbeing among informal caregivers. In accordance with the leisure constraints model, the study also explores the role of intrapersonal, interpersonal, and structural factors that may constrain or facilitate caregivers' use of leisure infrastructure. Data were collected as part of a survey conducted by the Canadian Index of Wellbeing in three communities. Results showed that greater use of leisure facilities buffered the association of greater hours of care with lower levels of mental and physical wellbeing for informal caregivers. Attitudes toward leisure, sense of community, and facility accessibility all positively predicted caregivers' use of leisure facilities. The results suggest that leisure infrastructure plays an important role in supporting wellbeing among caregivers and identify three types of constraints to consider when supporting caregivers' use of leisure facilities in their communities.*

**Keywords** caregiver, community engagement, leisure, leisure attitudes, accessibility, leisure facilities, wellbeing

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## Introduction

As the population ages, an increasing number of adults are providing caregiving support to family members and close friends with a chronic illness or disability (Sinha, 2013). Providing care can be an important source of satisfaction, meaning and personal growth (Cohen, Colantonio, & Vernich, 2002; Grant & Nolan, 1993). However, the demands of caregiving have also been linked to psychological distress (e.g., depression, lower life satisfaction) (Schulz & Beach, 1999) and social isolation (Brody, Lawton, & Liebowitz, 1984; Pillemer & Suito, 2000; Tebb & Jivanjee, 2000). Leisure participation has been found to enhance wellbeing and act as a resource for coping (Caldwell, 2005; Coleman & Iso-Ahola, 1993; Hutchinson, Loy, Kleiber, & Dattilo, 2003). Leisure infrastructure such as parks, recreation centers, and swimming pools offer a key resource for leisure participation and social interaction for caregivers as well as other members of the community (Bedimo-Rung, Mowen, & Cohen, 2005; Kaczynski & Henderson, 2008).

The extent to which such community leisure infrastructure supports the wellbeing of caregivers within their communities and the psychological and structural barriers that may inhibit the use of leisure facilities by caregivers are important to understand in order to ensure caregivers are supported in their roles. To better understand how providing informal care relates to leisure facility use and wellbeing, we examined leisure facility use and wellbeing in a sample of informal caregivers from three different municipalities in Ontario, Canada, drawing on Crawford and Godbey's (1987) model of the effect of interpersonal, intrapersonal, and structural constraints on participation in leisure activities. The goals of the current research were twofold: (1) to examine the role of leisure in reducing the typically negative association between caregiving demands and physical and mental wellbeing among informal community caregivers, and (2) to explore factors that may constrain or enable caregivers' use of leisure facilities in their communities.

## Caregiving in Later Life and Wellbeing

The majority of long-term informal caregiving is provided by unpaid, middle-aged and older adult caregivers who provide support for parents, spouses, family members, and friends in their homes and communities (Anderson et al., 2013; Sinha, 2013). For some caregivers, the costs of providing such informal support can be high. Increased rates of depression, lower life satisfaction, work-family conflict, and poorer health are more common among adults who provide care compared with their noncaregiving peers (Adams, 2008; Duxbury, Higgins, & Smart, 2011; Grant, Bartolucci, Elliot, & Giger, 2000; Vitaliano, Scanlan, Zhang, Savage, & Hirsch, 2002).

## Leisure as a Buffer of Caregiver Demands

Researchers have identified leisure satisfaction as a potential moderator of the impact of caregiver demands on wellbeing (Losada et al., 2010; Mausbach et al., 2012). Caregivers typically report spending less time engaging in leisure activities compared with noncaregiving, same-aged peers (Clark & Bond, 2000; Dunn & Strain, 2001; Mausbach, Patterson, & Grant, 2008). Yet research suggests that leisure participation represents a particularly important mechanism for coping with stress and negative life events (Kleiber, Hutchinson, & Williams, 2002). Studies examining the role of leisure have found that caregivers who are more satisfied with their leisure opportunities report less depression (Losada et al., 2010), more positive affect (Mausbach, Harmell, Moore, & Chattillion, 2011), and better vascular functioning (Mausbach et al., 2012).

The association between leisure satisfaction and wellbeing is particularly strong among caregivers who face greater demands in their roles. Mausbach et al. (2011) found a stronger positive association between leisure satisfaction and positive affect and a stronger negative association between leisure and negative affect among caregivers with a greater feeling of subjective burden of care than those with a lower burden of care.

The number of hours that informal caregivers spend providing care varies greatly. According to Sinha (2013), the majority of informal caregivers report a relatively modest number of care hours per week (a median of three hours); however, a substantial number of caregivers (approximately 10%) report 30 or more care hours per week. Providing more hours of care is associated with greater symptoms of depression and psychological distress (Chung, Pressler, Dunbar, Lennie, & Moser, 2010; Hirst, 2003; Miyashita et al., 2009; Washio et al., 2005). Leisure participation may represent a potential coping mechanism for the stress associated with a more demanding caregiving role. In the current research, we examined the effect of leisure facility use as a moderator of the effect of caregiver demands, as operationalized by hours of care per week, on caregivers' wellbeing. While community-based leisure facility use represents just one form of leisure participation, it involves a form of leisure that includes active engagement in the community by caregivers and may reflect the community's ability to provide support to those individuals in a caregiving role. Previous research on caregiver wellbeing has found benefits of leisure for both mental and physical health (Losada et al., 2010; Mausbach et al., 2011). We tested those findings in the current study, operationalizing wellbeing as participants' satisfaction with their mental and physical health, and predicted that greater leisure facility use would buffer the typically negative association of greater caregiving hours with lower levels of wellbeing.

### Testing a Model of Leisure Constraints

The second goal of the current study was to examine variables that constrain or enable leisure facility use among caregivers. The leisure constraints model identifies three potential types of constraints to leisure participation: intrapersonal (individual), interpersonal (dyadic or relational), and structural (Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991; Godbey, Crawford, & Shen, 2010). Each of these types of variables has the potential to constrain or enable individuals' engagement in leisure activities. Better infrastructure to support accessibility, for example, may enable leisure facility use among a broader cross-section of the population. Lack of accessibility, may act as a constraint.

According to the leisure constraints model, intrapersonal constraints are internal states or beliefs that influence individuals' preferences for participation in leisure (Crawford et al., 1991). An individual's attitude about the importance of leisure is an example of an intrapersonal constraint that can affect leisure participation. Ajzen and Driver (1991) found that participants' beliefs about the benefits of different types of leisure activities were associated with their participation in those activities over the course of 12 months.

Among caregivers in particular, attitudes towards leisure can be ambivalent, reflecting a struggle between the desire for leisure and the perception of care provision as a priority obligation that supplants other goals and activities (Bedini & Guinan, 1996; Bedini & Phoenix, 2004; Rogers, 1997). In a study of female caregivers to older adult family members, Bedini and Guinan found that caregivers' beliefs about the ethics and obligations of care was associated with their perceptions of entitlement to leisure and the importance of leisure in their own lives. Some caregivers, they found, were so focused on their obligations as caregivers or their responsibility to care that they perceived little place in their own lives for leisure or other self-focused activities (see also Dupuis & Smale, 2000; Rogers, 1997, 1999; Weinblatt & Navon, 1995). In the current research, we examined the role of attitudes

towards leisure as a predictor of leisure facility use among caregivers. Caregivers with more positive beliefs about the importance and benefits of leisure may be particularly likely to use leisure infrastructure within their communities.

Thus, we seek to better understand to what extent different types of leisure constraints may be linked to caregivers' use of facilities within their communities. In the current research, we examined three potential variables that may affect leisure participation. Intrapersonal constraints were represented by attitudes towards leisure, interpersonal constraints by sense of community, and structural constraints by facility accessibility. Although we refer to each of these variables as constraints, we consider constraints as variables that, depending on their levels, have the potential to enable or constrain caregivers' use of leisure facilities in their communities.

### *Leisure in the Community*

Leisure can occur either in public or in private spaces. In the current study, we explored caregivers' engagement in leisure activities in public leisure facilities. It is important, therefore, to understand the role of interpersonal factors on caregivers' use of leisure infrastructure. Interpersonal constraints are dyadic or relational factors that influence leisure preferences and participation (Godbey et al., 2010). A sense of community represents an interpersonal constraint (broadly defined) that may affect caregivers' use of leisure facilities. Sense of community, as defined by Prezza, Pacilli, Barbaranelli, and Zampatti (2009), refers to the extent to which individuals feel connected to and supported by their local geographic communities. To the extent that community facilities offer the opportunity for leisure, a stronger sense of community connection may be important in enabling the use of such infrastructure.

Barrow and Harrison (2005) report an association between neighborhood attachment and physical health in a sample of community caregivers. Informal caregivers with a greater sense of belonging to their neighborhood communities reported better health and less bodily pain than those who felt less connected. Their research suggests that sense of community may be an important interpersonal factor to consider in the context of caregivers, and public spaces represent an important resource for community engagement and connection (Cattell, Dines, Gesler, & Curtis, 2008). In the current study, we examined whether caregivers' sense community constrained or enabled their use of leisure infrastructure within their communities. We predicted that caregivers who felt a stronger sense of community would be more likely to use the leisure infrastructure available in their communities.

Finally, structural barriers—the third type of barrier identified in the leisure constraint model (Godbey et al., 2010)—are external constraints that can impede individuals' ability to access different types of leisure activities. In the current study, we examined facility accessibility as a type of structural constraint on caregivers' use of leisure facilities in their communities. The location, affordability, and timing (i.e., hours open) of leisure infrastructure all can affect the use of such facilities by individuals within a particular community (Nicholls, 2001; Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004). In the current study, we examined the effect of perceived accessibility on caregivers' use of leisure facilities.

In sum, the current research explored leisure facility use as a moderator of the association between caregiving hours and wellbeing, as well as potential predictors of leisure facility use among informal caregivers to address two different research questions. The first research question examined the nature of the association between the use of community leisure infrastructure and wellbeing among informal community caregivers. In accordance with past research on leisure satisfaction and wellbeing (e.g., Chattillion et al., 2012; Losada

et al., 2010; Mausbach et al., 2012), we hypothesized that for informal caregivers in the community, leisure participation would act as a buffer of the effects of hours of care on wellbeing. We predicted that caregivers who provided more hours of informal care would report lower satisfaction with their mental and physical health. However, we also predicted that this negative association between caregiving hours and wellbeing would be moderated by participants' use of leisure facility infrastructure, and that caregivers with more hours of care who reported greater use of leisure facilities would report higher levels of wellbeing versus those who made less use of leisure infrastructure.

Our second research question focused on the types of factors that may constrain or enable leisure facility use among informal caregivers within a community. If, as past research suggests, leisure participation is a moderator of the effect of caregiver demands on wellbeing, then what kinds of factors enable or constrain caregivers from using community leisure infrastructure already available in the community? Guided by the leisure constraints model (Crawford & Godbey, 1987; Crawford et al., 1991), we examined the role of attitudes toward leisure, sense of community, and ratings of facility accessibility in leisure facility use among informal caregivers.

## Method

This study is an analysis of data from surveys conducted by the Canadian Index of Wellbeing (CIW) in three mid-sized communities in Southern Ontario, Canada. The surveys were designed to examine eight domains that comprise the Canadian Index of Wellbeing (CIW): democratic engagement, living standards, healthy populations, quality of the environment, time use, leisure, culture, and community vitality (Michalos et al., 2011). The purpose of the survey was to allow residents to provide feedback on aspects of their community that either contribute to or detract from quality of life. The information gathered could then be used to address areas of concern to community leaders, to inform policy development, and to design effective services and supports to enhance wellbeing among residents.

## Participants

Of the 3,360 respondents in the survey aged 40 years and older, 514 reported providing unpaid care to a dependent adult or older family member or friend. Data on number of caregiving hours were not available for 13 participants and one participant entered a number of hours that was not possible in the time span of a week. The sample used in this article, therefore, is based on a total of 500 caregivers.

The average age of caregivers was 59.94 ( $SD = 9.67$ ), 55.4% of caregivers were female, 73.7% reported being in a married or cohabiting relationship, and 81.2% were born in Canada. Caregivers reported providing an average of 17 hours a week of care ( $M_{\text{MALES}} = 16.62$ ;  $SD = 31.39$ , and  $M_{\text{FEMALES}} = 17.27$ ;  $SD = 33.46$ ), and a mean household income of 6.23 ( $SD = 2.28$ ), which is the equivalent of \$60,000 to \$79,999. Twenty-two per cent of the caregivers reported living with a disability. For a complete list of descriptive statistics on all of the variables in the model, see Table 1.

## Measures

*Caregiver status and demands.* Participants were asked to indicate (yes or no) whether they provided unpaid care to an older or dependent adult. If they responded "yes," they were then asked to report how many hours in a typical week they provided unpaid care to an older/dependent adult in their family or an older/dependent adult who is a neighbor

**TABLE 1** Means and Frequencies for Demographic, Leisure Facility, Leisure Constraint and Wellbeing Variables

Variable	<i>M</i> / <i>%</i>	<i>SD</i>
Demographics		
Age	59.85	9.67
Gender (female)	55.60	—
Marital status <sup>a</sup>	73.00	—
Income	6.25	2.29
Born in Canada	82.10	
Disability	22.20	—
Hours of care	16.97	32.58
Leisure facility use	1.62	0.43
Leisure constraints		
Attitudes towards leisure	4.97	0.73
Sense of community	5.00	0.82
Facility accessibility	4.62	0.77
Wellbeing		
Mental wellbeing	5.24	1.49
Physical wellbeing	4.56	1.56

*n* = 500; <sup>a</sup>percentage married/cohabiting vs. else

or friend. Hours of care were calculated by summing the total number of hours across both categories of care receivers. Past research has found that the number of hours of care provided is a skewed distribution with many caregivers providing only a few hours per week, and some providing many more (Sinha, 2013). In the current sample, caregivers spent a median of 6 hours of care per week with a range of 1 to 168 hours. As with most behavioral data, the distribution of hours per week is severely skewed; therefore, the number of hours of care was log transformed in order to generate a more normalized distribution thereby meeting necessary assumptions for analysis (Manning & Mullahy, 2001). Number of hours spent per week providing care to an older adult does not completely capture the complexity of the care role or its associated demands, but it does provide a reasonable means of distinguishing between those individuals who are allocating more or less time to their role—time that could be dedicated to other activities, including leisure.

*Leisure participation.* Leisure facility use was measured on a 5-point scale ranging from “never” (value = 1) to “quite often” (value = 5). Participants were asked, “During the past year, how often did you use the following recreation and cultural facilities in your community?” Facilities included a variety of sports (e.g., arena), cultural (e.g., library), and recreation (e.g., public parks) facilities within the community over the past year. The scale was developed for the community survey to reflect the use of a variety of different facilities available in each community and only facilities that were common to all of the communities (11 in total) were included in the following analyses. The facilities included were local parks, recreation centers, sports arenas, skating rinks, sports fields, swimming pools, wading pools, public libraries, historic sites, performing arts facilities, and visual arts facilities. The mean score on the reported use of the 11 facility types was used to represent overall leisure participation with higher scores reflective of greater use of the facilities in

the community. The leisure facility use variable was mean-centered before it was added to the regression analyses.

*Leisure constraints.* Three types of leisure constraints were measured in the study. Participants' *attitude towards leisure* was measured using selected items drawn from a scale developed by Ragheb (2012; see also original version of scale, Beard & Ragheb, 1980). The Leisure Satisfaction Scale measures respondents' positive beliefs about the benefits of their leisure experiences (Ragheb), and the current study included 12 items from 4 subscales of the original scale. Participants were asked to report their beliefs about the educational (e.g., "My leisure provides opportunities to try new things"), social (e.g., "My leisure provides with opportunities for social interactions with others"), physiological (e.g., "My leisure helps me to stay healthy"), and relaxation (e.g., "My leisure helps relieve stress") benefits of leisure, with each dimension represented by three items. In order to facilitate ease of responding, the metric for responding to the items was modified such that respondents were asked to indicate their agreement with each statement on a 7-point scale ranging from "very strongly disagree" (value = 1) to "very strongly agree" (value = 7). The overall reliability of the items included from this measure was high ( $\alpha = .91$ ). In the current study, the mean score for all 12 of the items was used as a measure of attitude towards leisure.

*Sense of community* was measured using a shortened version of the Multidimensional Sense of Community Scale for Local Communities (MTSOCS; Prezza et al., 2009). The MTSOCS measures individuals' sense of belonging and support in their local community. The original scale includes 19 items and 5 factors. In the interest of brevity, participants in the current study completed 11 questions from 3 of the subscales, including those items measuring social bonds (4 items—e.g., "I feel at ease with the people in this community"), the availability of help in case of need (3 items—e.g., "Many people in this community are available to give help if somebody needs it"), and the extent to which the community fills their needs (4 items—e.g., "This city provides opportunities for me to do a lot of different things"). Participants were asked to rate the extent to which each statement was true of their community on a 7-point scale from "very strongly disagree" (value = 1) to "very strongly agree" (value = 7). Five of the items were reverse-scored so that higher numbers indicated a stronger sense of community. The overall reliability of the shortened version of the scale used in the current study was high ( $\alpha = .90$ ). The mean score on all 11 of the items was calculated to generate a measure of sense of community with higher scores reflective of an individual's stronger sense of belonging to and support by the community.

*Facility accessibility* was measured with a 6-item scale developed by the CIW community wellbeing survey. On a 7-point scale from "very strongly disagree" (value = 1) to "very strongly agree" (value = 7), participants were asked to report the extent to which facilities were perceived to be convenient to get to, affordable, and offered at convenient times. The specific items were: "The recreation and culture facilities are easy for me to get to," "There are places nearby where I can take classes for my own interest," "Recreation and culture programs are offered at times that are convenient to me," "There is a local park nearby that is easy for me to get to," "The cost of public recreation and culture programs prevents me from participating" (reverse coded), and "The recreation and cultural facilities are very welcoming to me." The reliability for this scale was  $\alpha = .76$ . The mean score on all 6 of the items was calculated to generate a measure of the perceived accessibility of the leisure facilities in the community with higher scores reflective of higher perceived accessibility.

*Measures of wellbeing.* Wellbeing was measured using two items borrowed from the Happiness Initiative Survey (Howell, deGraaf, Musikanski, & Godzikoskaya, 2011), which is based on the 2010 Survey on Gross National Happiness of Bhutan (Ura, Alkire, Zangmo, & Wangdi, 2012). Participants were asked to rate on a 7-point scale from “extremely dissatisfied” (value = 1) to “extremely satisfied” (value = 7) their satisfaction with their mental wellbeing and their physical wellbeing. Analyses were conducted for each of these two outcome variables separately.

*Socio-demographic variables.* Socio-demographic variables selected for use in the analyses included gender, age, marital status, income, whether born in Canada, and caregivers’ own disability status. *Gender* was indicated as male (0) or female (1). *Age* was participants’ self-reported age in years. In the community survey, *marital status* was categorized as single, married, cohabiting, divorced, separated, or widowed. For the current analyses, marital status was recoded such that participants were categorized as married/cohabiting (1) or single/separated/divorced/widowed (0). *Total household income* from all sources last year was rated using an index from 1 (under \$10,000) to 10 (\$150,000 and over). Participants were asked if they were *born in Canada* (“yes” = 1 or “no” = 0). *Disability status* was measured with a question asking respondents to indicate whether they were living with a disability that limited their activities (“yes” = 1 or “no” = 0).

### ***Procedure***

Random samples of 10,512, 11,000, and 20,000 households from each of the three communities were invited to participate in a community survey. Across the three communities, a total of 4,159 respondents aged 18 to 97 years completed either an online or print version questionnaire (from 1,243 to 1,515 from each community). The majority of respondents opted to complete the survey online, with approximately 10% in each community requesting a print survey, which they returned in a prepaid business envelope. The data were collected between June 2012 and July 2013. The community wellbeing survey includes a variety of measures including democratic engagement, time adequacy, and quality of environment, some of which were designed in conjunction with community partners to assess indicators of wellbeing specific to a particular community. These measures were not related to the research questions tested in the current article and are not included in the analyses below. All of the measures included in the current analyses (i.e., caregiver status, leisure facility use, facility accessibility, sense of community, attitudes toward leisure, wellbeing, and various socio-demographic variables) were administered to participants in all three communities.

### ***Plan of Analysis***

Three regression models were tested using SPSS (version 22). The first two models tested the effect of caregiving hours and frequency of facility use on caregivers’ satisfaction with their mental health and physical wellbeing. The first step in the regression models included age, gender, household income, marital status, whether born in Canada, disability status, and caregiver hours. The moderator variable, facility use, was added at Step 2. The interaction between caregiver hours and facility use was included in the last step of the model.

The purpose of the third model was to examine the effect of three types of leisure constraints (attitudes towards leisure, sense of community, and accessibility) on caregivers’ use of leisure facilities. The first step of the model included age, gender, household income, marital status, born in Canada, disability status, and caregiver hours. The second step added the constraint variables attitudes towards leisure, sense of community, and accessibility.

**TABLE 2** Unstandardized Coefficients for Regression Models Showing Association of Demographics, Caregiver Hours, Facility Use, and Interaction terms with Mental and Physical Wellbeing

Variables	Mental Wellbeing		Physical Wellbeing	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Step 1				
Constant	4.25***	0.69	5.02***	0.66
Age	0.02**	0.01	0.02**	0.01
Female	0.06	0.15	-0.11	0.14
Married/Cohabiting	0.40*	0.17	0.22	0.17
Income	0.03	0.03	0.03	0.03
Born in Canada	-0.31	0.18	-0.08	0.18
Disability	-0.36***	0.17	-1.26***	0.17
Caregiver hours	-0.16**	0.06	-0.20*	0.06
Adjusted <i>R</i> <sup>2</sup>	0.07		0.18	
Step 2				
Leisure facility use	0.39**	0.16	0.47**	0.16
Adjusted <i>R</i> <sup>2</sup>	0.08		0.19	
Step 3				
Care hrs X Facility use	0.27*	0.14	0.40**	0.13
Adjusted <i>R</i> <sup>2</sup>	0.08		0.20	

Note.  $n = 451$ ; \* $p \leq .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

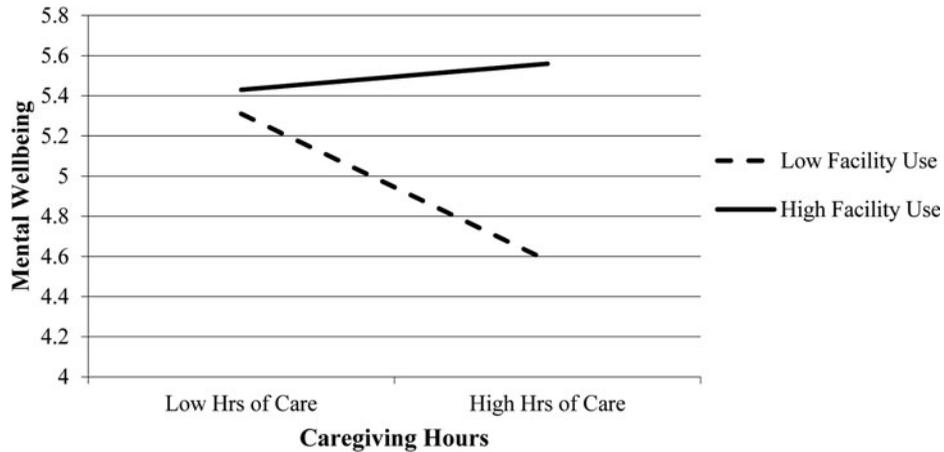
Significant interactions for all of the models tested in this study were probed using Hayes' PROCESS macro for SPSS (Hayes, 2013). PROCESS allowed us to examine the simple slopes for the association of each focal variable (e.g., predictor) with each criterion variable (i.e., outcome) at low ( $M - 1 SD$ ) and high ( $M + 1 SD$ ) levels of the moderator variable.

## Results

### Wellbeing

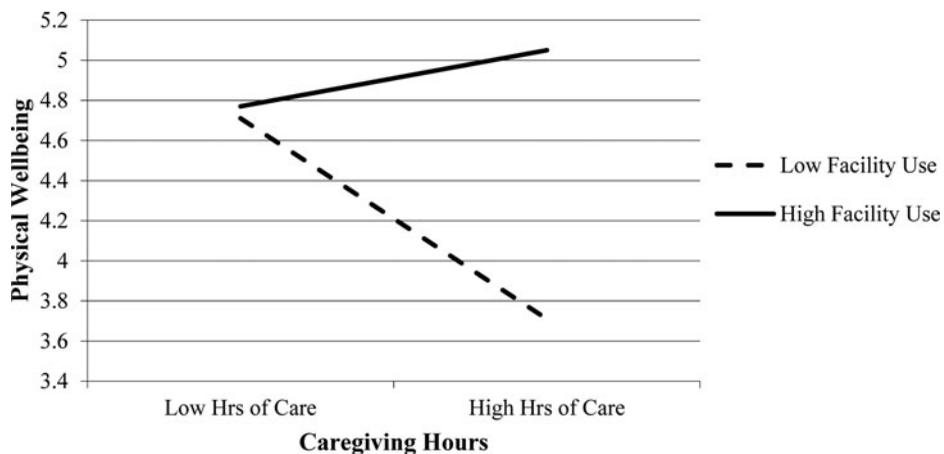
*Mental wellbeing.* In Step 1, age and marital status were positively associated with mental wellbeing. Older participants and those who were married or cohabiting reported more satisfaction with their mental wellbeing. Disability status and caregiving hours were negatively associated with mental wellbeing. Caregivers who spent more hours of care per week and those who had a disability themselves reported lower mental wellbeing (see Table 2).

In Step 2, leisure participation, as indexed by leisure facility use, positively predicted mental wellbeing among caregivers. The interaction between caregiver hours and facility use (Step 3) was also significant. At lower levels of facility use (approximately 1 *SD* below the mean), participants who provided more hours of care per week reported worse mental wellbeing than those who provided fewer hours of care ( $b = -.24$ ,  $SE = 0.08$ ,  $p < .01$ ; Figure 1). At higher levels of facility use (1 *SD* above the mean), hours of care were not associated with mental wellbeing ( $b = .01$ ,  $SE = 0.10$ ,  $p = n.s.$ ; Figure 2). This pattern suggests that higher levels of facility use may buffer the typically negative association between greater care hours and worse mental health.



**FIGURE 1** Association of caregiver hours with mental wellbeing moderated by leisure facility use.

*Physical wellbeing.* In Step 1 of the model (see Table 2), older age was associated with greater satisfaction with physical wellbeing. Higher hours of care and having a disability, in contrast, were associated with lower levels of satisfaction with physical wellbeing. In Step 2, leisure facility use positively predicted physical wellbeing. The interaction between hours of care and leisure facility use in Step 3 was significant. Among caregivers who reported lower levels of facility use, those providing more hours of care reported lower physical wellbeing than those with fewer caregiving hours ( $b = -.32$ ,  $SE = .08$ ,  $p < .01$ ; Figure 2). There was no difference in physical wellbeing between low and high intensity care providers among those participants who reported higher levels of facility use ( $b = .05$ ,  $SE = 0.09$ ,  $p = n.s.$ ; Figure 2). As with the pattern reported above, this suggests that greater facility use buffers the association typically found between greater care hours and lower levels of wellbeing. Single-item measures of physical and psychological wellbeing have been shown to have substantial predictive ability (e.g., self-rated health and mortality;



**FIGURE 2** Association of caregiver hours with physical wellbeing moderated by leisure facility use.

**TABLE 3** Unstandardized Coefficients for Regression Models Showing Association of Demographics, Caregiver Hours, Attitudes towards Leisure, Sense of Community, and Facility Accessibility with Leisure Facility Use

Variables	Facility Use	
	<i>B</i>	<i>SE</i>
Step 1		
Constant	1.88***	0.20
Age	-0.01	0.01
Female	0.07	0.04
Married/Cohabiting	0.04	0.05
Income	0.02	0.01
Born in Canada	-0.09	0.05
Disability	-0.08	0.05
Caregiver hours	-0.06**	0.02
Adjusted $R^2$	0.07	
Step 2		
Attitudes towards leisure	0.11***	0.03
Sense of Community	0.07*	0.03
Facility Accessibility	0.08*	0.03
Adjusted $R^2$	0.16	

Note.  $n = 452$ ; \* $p \leq .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Kaplan & Camacho, 1983) and also good reliability and validity (DeSalvo et al., 2006; Robins, Hendin, & Trzesniewski, 2001).

### *Leisure Facility Use*

Whereas the previous analyses examined leisure facility use as a moderator of caregiver wellbeing, in the third model we examined the effect of three types of leisure constraints on caregivers' use of leisure facilities in their communities. See Table 3 for the regression analyses.

In Step 1, only caregiver hours significantly predicted leisure facility use. Caregivers who reported more care hours were less likely to use leisure facilities. In Step 2, sense of community, attitudes toward leisure, and facility accessibility were all significantly associated with facility use. Caregivers with a greater sense of community, more positive attitudes toward leisure and those for whom facilities were more accessible all reported greater leisure facility use.

### **Discussion**

The first goal of this research was to examine leisure facility use as a moderator of the association between caregiving demands and wellbeing. Consistent with previous research (Mausbach et al., 2011), we hypothesized that the effect of hours of care on mental and physical wellbeing would be moderated by use of leisure facilities within the community. This prediction was supported. Caregivers who provided more hours care per week reported less satisfaction with their mental and physical wellbeing than did caregivers with fewer hours of care. This effect was moderated by leisure facility use. Among caregivers who

reported lower facility use, those with a higher weekly involvement in caregiving were less satisfied with their mental and physical wellbeing than individuals providing fewer care hours. Among caregivers who made greater use of leisure facilities, there was little difference in satisfaction with mental or physical health between caregivers with fewer and greater hours of care.

Our second goal in this study was to explore the effect of different types of constraints on caregivers' use of leisure facilities in their communities. Given the importance of leisure for caregiver wellbeing both in the current study and in past research, it is necessary to understand the kinds of factors that may constrain or facilitate caregivers' use of the leisure infrastructure available to them. In accordance with the Leisure Constraints Model (Crawford & Godbey, 1987; Crawford et al., 1991), we explored the effect of three types of constraints (attitudes toward leisure, sense of community, and accessibility) on caregivers' use of leisure facilities.

Attitudes toward leisure, sense of community, and facility accessibility all positively predicted leisure facility use among caregivers. Caregivers with more positive attitudes toward leisure, who felt more connected to and supported by their community, and who perceived facilities to be more accessible were all more likely to use the leisure facilities in their communities.

In sum, the current study suggests that leisure infrastructure performs an important function in supporting informal caregivers within their communities and helping them to maintain physical and mental wellbeing. The current study also identified three variables, namely, attitudes toward leisure, facility accessibility and sense of community, that constrained (and enabled) caregivers' usage of leisure facility infrastructure within their communities. These findings replicate and extend past research in several important ways. Similar to Mausbach and colleagues (2011), we found that leisure functioned as a moderator of caregiver demands on wellbeing. However, it did so using different operationalizations of demand (i.e., hours of caregiving versus caregiver burden), wellbeing (satisfaction with mental and physical health versus experience of positive and negative affect), and leisure participation (use of leisure facilities versus leisure satisfaction). The inclusion of leisure facility use, in particular, provides important evidence for policy makers about the potential importance of leisure facilities in supporting informal caregivers in the community. Participants in the current research were asked about their use of leisure facilities already in place within their own individual communities. The finding that the use of existing leisure infrastructure is associated with the maintenance of wellbeing among caregivers suggests that both municipal and state/provincial level governments as well as community organizations should consider including leisure infrastructure in their planning to support informal caregivers. The results also identify factors (e.g., accessibility) that caregivers perceive as being barriers to their use of leisure facilities, and suggest interventions (e.g., promoting greater sense of community and more positive attitudes toward leisure) that may further enable leisure facility use among caregivers.

An interesting question raised by the current research relates to the role of social integration as a potential mediator of the effects of leisure participation on wellbeing. Leisure facility use involves a form of leisure that, by definition, includes some level of active engagement in the community. It would be of interest to examine the effectiveness of community-based leisure versus other more private forms of leisure (e.g., hobbies, watching television) in buffering the effect of ongoing demands caregivers perceive in their roles. Both Mausbach et al. (2011), and Chattillion et al. (2012) found that leisure satisfaction, a measure which includes participation in a variety of pleasant activities both private (e.g., watching TV at home) and public (e.g., shopping), played a role in supporting caregiver wellbeing. The present study contributes to potential benefits linked to more public forms

of leisure participation shown to be important for maintaining a sense of social integration (Coleman & Iso-Ahola, 1993; Kaczynski & Henderson, 2008).

There are a number of limitations to the current research which should be noted when interpreting the findings from this study. The data used in this study were taken from a community-based survey of community wellbeing. The measures were not designed to investigate the wellbeing of caregivers specifically. The survey, therefore, lacks some details that would be informative in better understanding the nature of the association between leisure facility use and caregiving. It is unknown, for example, how long the caregivers in the sample have spent providing care. The length of time respondents spend in the caregiving role and the changing nature of their relationship with the care recipient may have important consequences both for the effect of caregiver hours on wellbeing, and the role of leisure participation as a moderator of the effect of caregiver hours on wellbeing (Dupuis & Smale, 2000).

This study was an initial foray into understanding the role of community leisure facilities in supporting caregivers' wellbeing. The effect of caregiver burden on wellbeing varies depending not only on the number of hours per week caregivers spend providing care but also on a myriad of other factors, including the nature and severity of the care receiver's illness or disability (Pinquart & Sørensen, 2004), the type of support available to the caregiver (Cannuscio, et al., 2004), caregivers' subjective appraisal of their ability to cope (O'Rourke & Tuokko, 2004), and the quality of the relationship between the caregiver and care recipient (Quinn, Clare, & Woods, 2009). Unfortunately, information on these variables was not available in the community survey used in the current research. Future research is needed to better elucidate how variability in the characteristics of the caregiver/care-recipient roles may interact with the ways in which caregivers use and the extent to which they benefit from leisure facilities in their communities. It would also be useful to examine how caregivers perceive participation in leisure activities; for example, as a coping strategy, as a form of respite from caregiving, as a form of social participation, or as a way of setting boundaries that respect the caregiver's own needs for recreation and renewal. In contrast to research highlighting caregiving demands, other research suggests caregivers sometimes derive benefits like reprioritization of goals and a renewed focus on the importance of family and social ties (e.g., Kim, Schulz, & Carver, 2007). It would be worthwhile to examine how these forms of benefit finding may shape the nature and role of leisure facility use for caregivers.

Further research is also needed to better understand the role of leisure constraints on caregivers' behavior. For example, it would be helpful to explore factors that affect caregivers' sense of community, and to identify aspects of facility accessibility that may be particularly likely to facilitate or impede leisure facility use among caregivers. More fine-tuned measurement tools examining the nature of caregivers' attitudes towards leisure and the association between attitudes towards leisure and leisure participation by caregivers would be informative. It is also important to note that although the leisure constraints investigated in the current study significantly predicted leisure facility use, they only accounted for a small percentage in the variance of facility usage by caregivers. More research is needed to explore the role of different types of social, psychological and infrastructure variables associated with caregivers' use of community leisure facilities. Since the association of caregiving with wellbeing sometimes differs by gender (e.g., Yee & Schulz, 2000) and leisure participation is also a gendered process (e.g., Shaw, 1994), it is important for future research to examine potential gender differences not only in the role of leisure as a buffer for caregivers, but also the potentially gendered nature of leisure facility use. Finally, although we considered the role of leisure facility use as a buffer for caregiver wellbeing in one set of analyses and the role of leisure constraints in separate analyses, it is possible

that the nature of leisure constraints differs or changes with intensity of caregiving and this suggests another direction for future research.

The findings of the current study have a number of policy implications for how communities can support wellbeing among informal caregivers. The results suggest that leisure infrastructure can play an important role in promoting wellbeing among those informal caregivers who are able and willing to take advantage of leisure facilities. Programs that facilitate the use of leisure infrastructure among caregivers, both in terms of improving the accessibility of leisure facilities, and providing greater opportunities for leisure (e.g. respite care programs), as well as those that promote the benefits of leisure for caregivers, may become increasingly important in helping to support the wellbeing of informal care providers within our aging society.

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