

# Design's Impact

on Seniors' Perceptions of Wellness



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PERKINS EASTMAN DESIGN RESEARCH

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*Human by Design*

# PERKINS — EASTMAN DESIGN RESEARCH

Perkins Eastman is a global architecture firm dedicated to the idea that design can have a direct and positive impact on people's lives. For almost forty years, our senior living experts have shared a passion for research and design that focuses specifically on improving the quality of life and level of care of older adults. We create places and spaces that put the user at the heart by employing best practices, sustainability, and a thorough understanding of our clients' missions and operations. Our diverse teams partner with our clients globally to deliver next-generation projects suited to users who will live, work, play, learn, age, and heal within the environments we plan and design.

# Design's Impact on Perceptions of Wellness

At Perkins Eastman, we rely on our collective expertise, extensive research, and stakeholder engagement to create environments that enhance people's quality of life. We apply this approach to all our projects, including three senior living communities across the US we worked with who have a strong commitment to resident wellness and health. Along with meeting all the practical needs of the projects, our design teams applied different strategies to leverage the built environment's positive influence and to create places that enrich residents' wellness.

Our research team, working closely with the projects' designers, studied the impact of the design decisions on residents' perceptions of **wellness**. We focused on three dimensions of wellness<sup>1</sup> which have the potential to greatly impact residents' quality of life: physical, social/emotional, and intellectual wellness. As lifelong learners, we sought the opportunity to dig deeper—to evaluate our successes, learn from our work, and grow our abilities in delivering high quality environments for our clients and their stakeholders.

We knew a true evaluation of success could only come by including the residents themselves—the people at the center of our designs and strategies. Thus, we endeavored to formally collect feedback, by way of resident questionnaires, to supplement the anecdotes we were hearing and our informal observations with hard data

from the three sites. Primarily, we wanted to understand whether intentional design strategies intended to promote whole-person wellness positively contributed to residents' perceptions of wellness in their new environments.

After introducing the study and the three participating communities, this report shares the overarching strategies purposefully employed by the designers to support whole-person wellness. This is followed by a summary of findings on how residents' perception of wellness may have been influenced by the design strategies used. Finally, the report ends with closing thoughts and a matrix presenting the strategies and the aspects of wellness each may influence when applied to the built environment.

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## Levels of Wellness



### Physical

Recognizing the need for physical activity, diet, sleep, and nutrition.



### Social / Emotional

Coping effectively with life and creating satisfying relationships.



### Intellectual

Recognizing creative abilities and finding ways to expand knowledge and skills.



# The Three Communities at a Glance

This report focuses on three not-for-profit senior living communities that have undergone either new construction and/or renovations with the purpose of, among other things, supporting their residents' holistic wellness.

## MonteCedro

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Located in Altadena, CA, this non-profit senior living community takes full advantage of the stunning landscape and Mediterranean-like climate of the greater North Los Angeles area with its outdoor spaces and bright indoor areas. MonteCedro looks to inspire its residents to lead creative, aspirational, and fulfilling lives through its innovative programming and holistic approach to wellness.

Perkins Eastman was engaged to support this vision through planning and design services, including various common areas, 184 living residences along with memory support and in-home services.

The design incorporated a mix of flexible spaces that were meant to encourage residents to pursue art, physical activity, self-care, intellectual growth, and entertainment.

## Spring Lake Village

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Tucked in the picturesque Sonoma Valley, Santa Rosa, CA, this senior living community offers a variety of living choices including apartments and cottages. Perkins Eastman was tasked with planning a campus expansion for this not-for-profit community to add 62 new independent living homes as well as renovate the Village Center. The renovation and construction were completed in multiple stages and achieved LEED Silver.

The design added and relocated favored amenity spaces, providing flexible spatial configurations and blurring the boundaries between indoor and outdoor spaces. Based on resident interest, amenities were enhanced to increase residents' holistic wellness, including an auditorium, state-of-the-art fitness center, heated pool, and library. Additionally, a new bistro-style dining area offers flexibility on when and what to eat, a welcomed feature that is often heavily used and full of life.

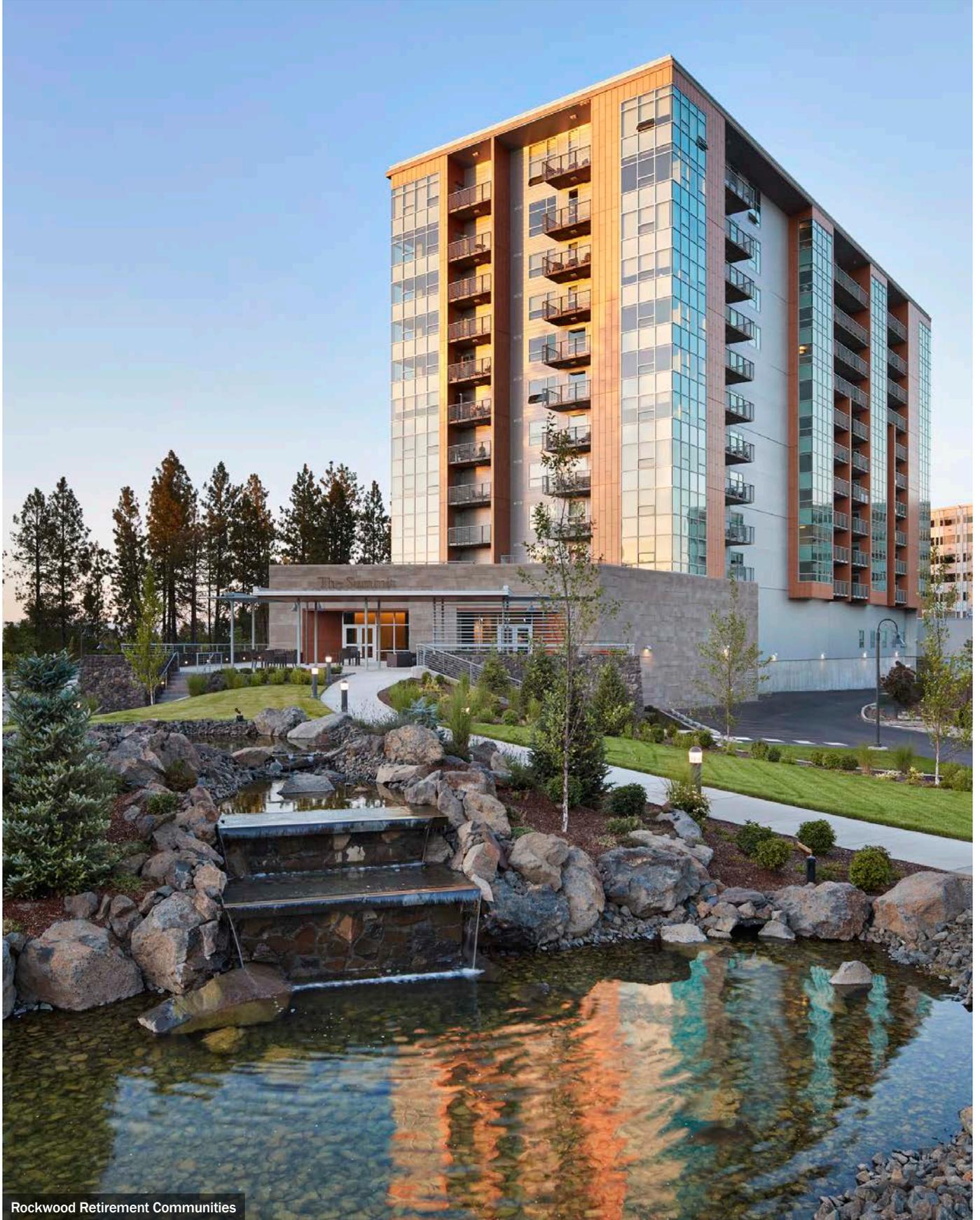
## Rockwood Retirement Communities

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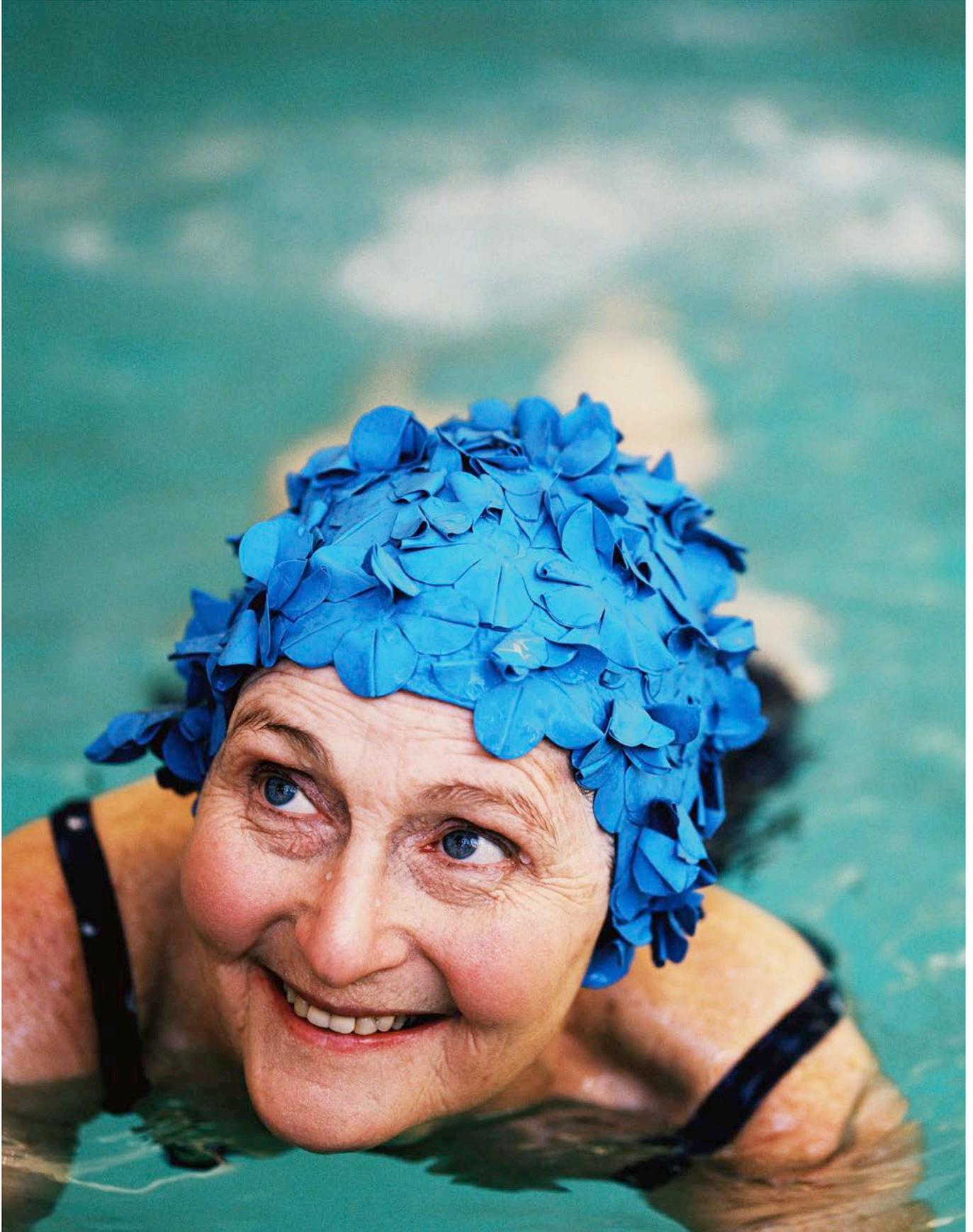
A non-profit organization in Spokane, WA, Rockwood provides a variety of independent living, assisted living, and skilled nursing residences/services for seniors. Rockwood's forward-thinking leadership runs a Livewell program: a holistic approach to wellness that focuses on physical activity, healthy diets, vocational training, spiritual growth, and educational programs. Perkins Eastman reimagined the existing Ridge Tower and designed the new Summit building, with 65 new independent living apartments and abundant activity and social spaces for the entire community.

The design was initiated and completed at a time when the concept of whole-person wellness was at its infancy within the senior living industry. Inspired by Rockwood's leadership, Perkins Eastman's designers were eager to deliver on wellness through building design as well as push the envelope further by applying their pioneering knowledge and application of Biophilic design principles.





Rockwood Retirement Communities

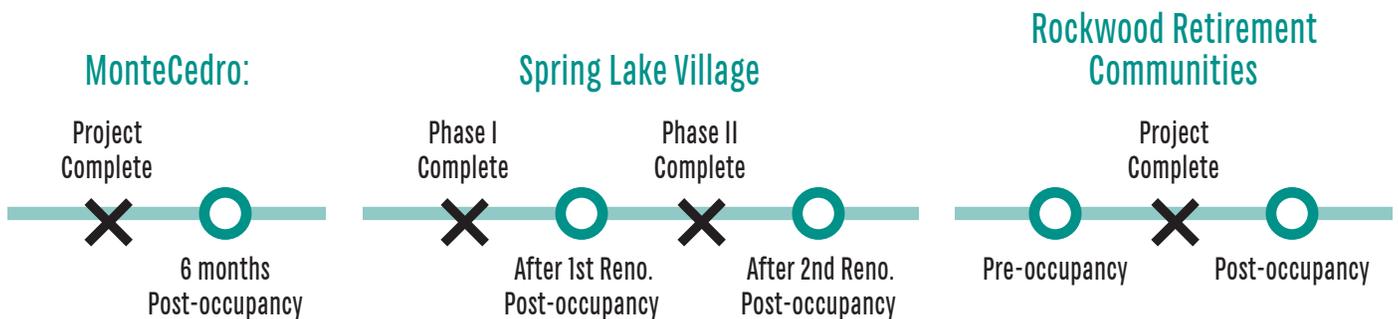


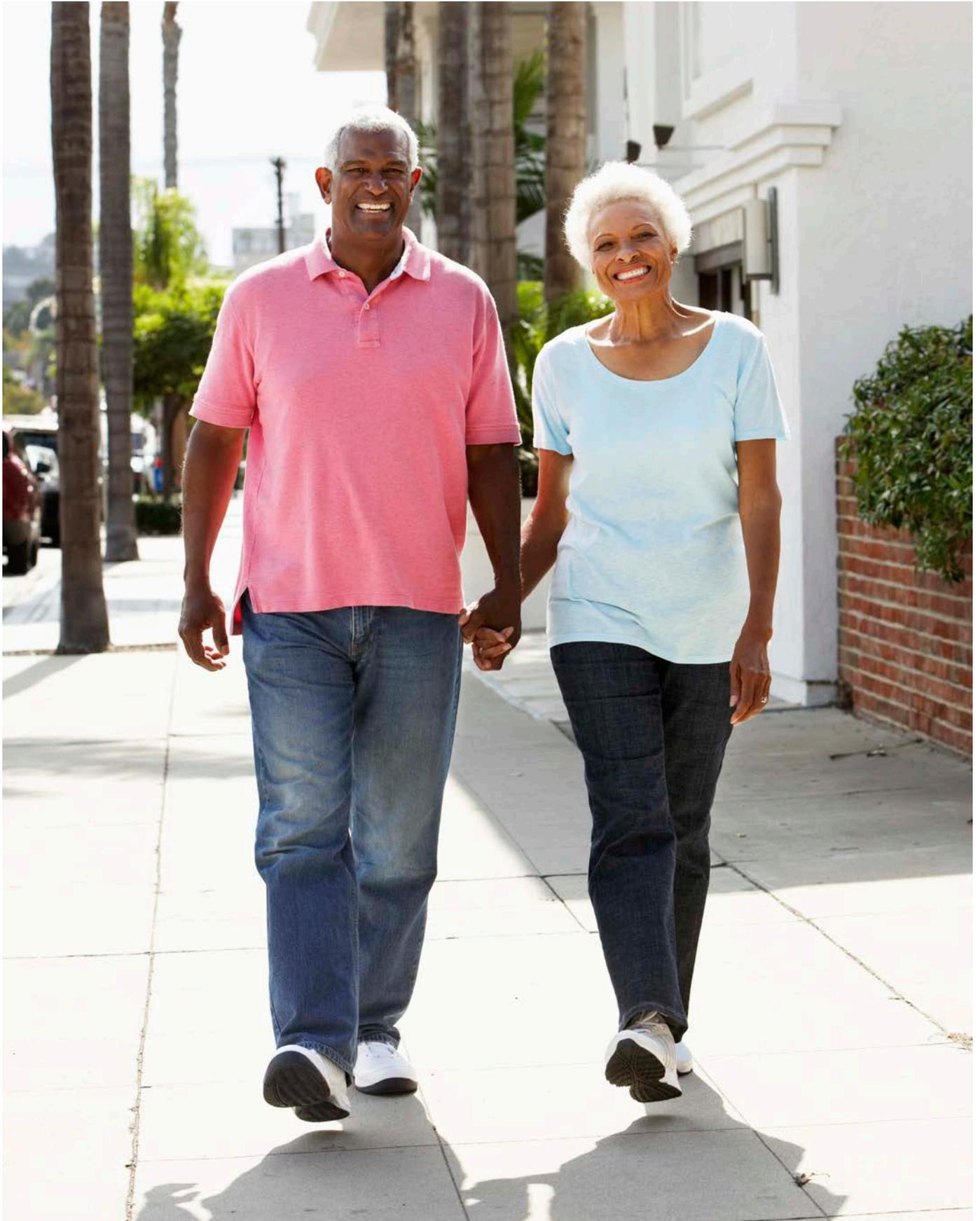
# Study and Participants

Pre-occupancy evaluation (PreOE) and post-occupancy evaluation (POE) data were collected via resident questionnaires in 2015-17 at three senior living communities. These sites were selected because their project goals focused on whole-person wellness and specific design strategies were incorporated into the projects to support this objective. In sum, 381 residents participated at pre-occupancy stages across two sites (222 at Spring Lake Village<sup>2</sup> and 159 at Rockwood Retirement Communities) while 543 residents participated in post-occupancy stages across three sites (106 at MonteCedro, 232 at Spring Lake Village, and 205 at Rockwood Retirement Communities).

Residents responded to questionnaires at strategic points in the design process: before construction (PreOE) and after construction and occupancy (POE). The timing of each questionnaire offered different insights and lessons learned. For example, at MonteCedro, residents were involved in a post-occupancy questionnaire six months after project completion, which captured people's evaluation of spaces after the move-in adjustment period was over. On the other hand, Spring Lake Village went through two stages of building additions and renovations that allowed two post-occupancy evaluation surveys. These evaluations fell two years apart and helped explore the sustained impact of design on residents' perceptions of wellness. At the third site, Rockwood, both pre- and post-occupancy questionnaires were administered. Together, pre and post surveys established a reference point that charted the design's progress at supporting the multiple aspects of wellness.

381 residents participated at pre-occupancy stages across two sites and 543 residents participated in post-occupancy across three





# Designing for Wellness Strategies

Many senior living communities have, in recent years, shifted their focus to whole-person wellness by intentionally guiding residents to engage in activities, socialize, exercise, and pursue intellectual growth, among other holistic endeavors. Oftentimes, however, communities have a good mix of programs to support this vision, but lack the right spaces to inspire and support

such pursuits. Designers have been responding to this discrepancy by applying a variety of design strategies to allow environments to better encourage and support whole-person wellness initiatives. There is a large array of strategies designers use; the following is an over-arching look at some.

## Wellness Strategies



Autonomy + Control



Design in Variety



Promoting use through location and access



Patterns of Movement



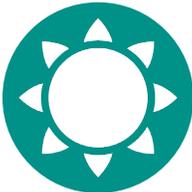
Natural Connections



Touch of Serendipity



Degrees of Privacy



Layers of Light



Sensory Experiences



Feelings of Home



Autonomy  
+ Control

## Autonomy, Control, and Choice

Feelings of autonomy and control are some of the psychological factors crucial for building a sense of home particularly for an older population.<sup>3</sup>

There are many levels of autonomy and control that residents require. Providing options, variations, and flexibility through design can help address this. For example, seating arrangements

suitable for both individual/personal use and for social gatherings allow residents to choose their desired level of connection and interaction with others. Another example is providing indoor, outdoor, and in-between seating areas to give residents control over their degree of connection to the natural environment.

1. The library space at MonteCedro offers a variety of seating options suitable for residents to either sit individually with a book, or huddle around a table for a conversation or activity.



2. The indoor dining area at MonteCedro spills out onto an exterior porch giving residents a comfortable seating option for enjoying their meals in the fresh air on fair weather days.



## Designing in Variety

Activities can be split into two categories: individual and social. They may occur passively (e.g., individual: people watching/contemplating, social: attending the theatre) or actively (e.g., individual: exercising by oneself, social: playing

card games in a group). They can occur both indoors and out, or even somewhere in between. Successful communities provide a variety of flexible spaces that can accommodate a wide range of activities.



Design in Variety



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3. The balconies at Rockwood are ideal for solitary activities such as reading or contemplating.



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4. Rockwood's theatre room is suitable for attending an event whether by oneself or with a group of friends.

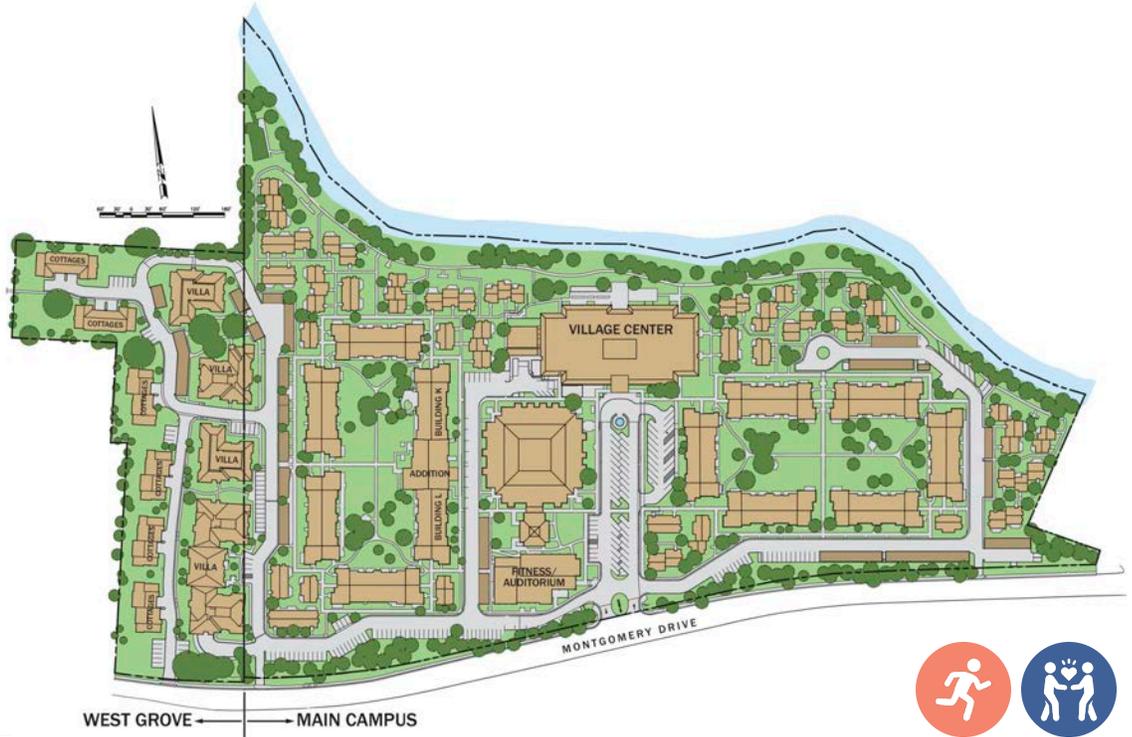


### Promoting use through location and access

## Promoting Use through Location and Access

Perceiving that spaces are easy to reach and accessible is paramount for residents to use them often. Both a space's location within the overall community and within

a building affect people's feelings of access, as does entrance orientation and visual connections.



5. At Spring Lake Village the fitness center and swimming pool were relocated to the front of the community to increase their access by everyone.

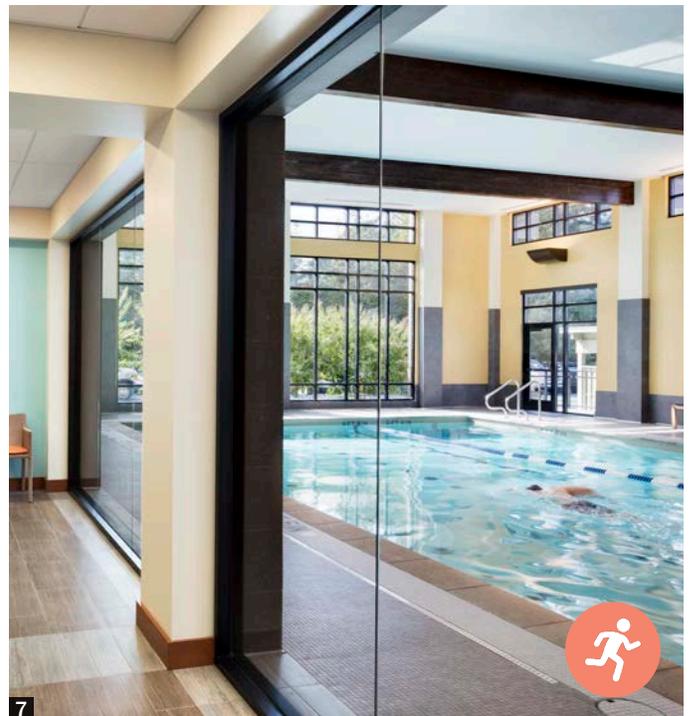
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6. The Summit, a new building at Rockwood, was intentionally oriented towards the rest of the community to draw people into its amenity spaces.



6

7. The indoor pool, a feature typically hidden behind solid walls, was promoted at Spring Lake Village by wrapping circulation around it and providing visual access through floor-to-ceiling glass. Residents seeing the sunlit space with its refreshing water and outdoor views may be encouraged to get in a workout or leisurely swim.



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## Patterns of Movement

Residents may move about a space in either a targeted manner (i.e., traveling from point A to B) or a more leisurely mode (e.g., enjoying the views, looking for social opportunities). Successful circulation patterns offer the most

convenient routes for targeted movement as well as pleasant routes that can informally bring people together and encourage them to engage with others or with the activities going on around them.



Patterns of Movement



8. By placing two major activity spaces at Montecedro—the auditorium and theatre—at either end of the main circulation spine, people are brought together and encouraged to congregate after attending an event. The open dining area and lobby with abundant seating is anchored between the two locations offering a place for conversations to continue after an event, rather than attendees splitting up and going straight home to their private residences.



9. Circulation at Rockwood winds and curves within the Summit building, opening up in strategic locations into different areas, drawing attention to a game room, dining area, or library. Walking along the path, residents who spot something of interest may be encouraged to join in on an activity, increasing their chances of maintaining social/emotional, physical, and intellectual wellness.



Natural Connections

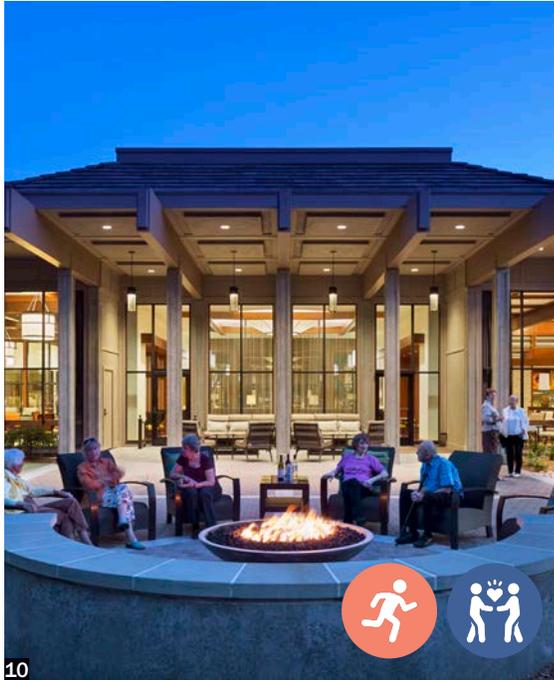
## Natural Connections

Natural environments offer multi-sensory experiences<sup>5</sup> and many benefits to cognitive,<sup>6</sup> emotional, and physical health. Buildings can provide residents with opportunities to engage with nature either passively through their five senses (i.e., viewing, hearing, smelling, touching, and feeling) or actively through movement

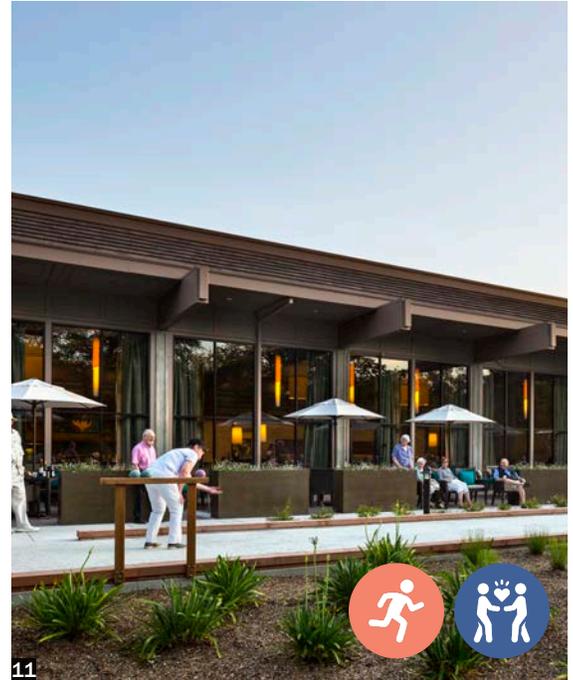
and activity (e.g., walking, running, gardening, contemplating).

Further, aspects of the natural environment can be brought into the interior environment through applying principles of Biophilic Design.

10. & 11. Patios at Spring Lake Village, where residents can play games during the day or sit around a fire under a starry sky, brings people together to enjoy the benefits of the outdoors.



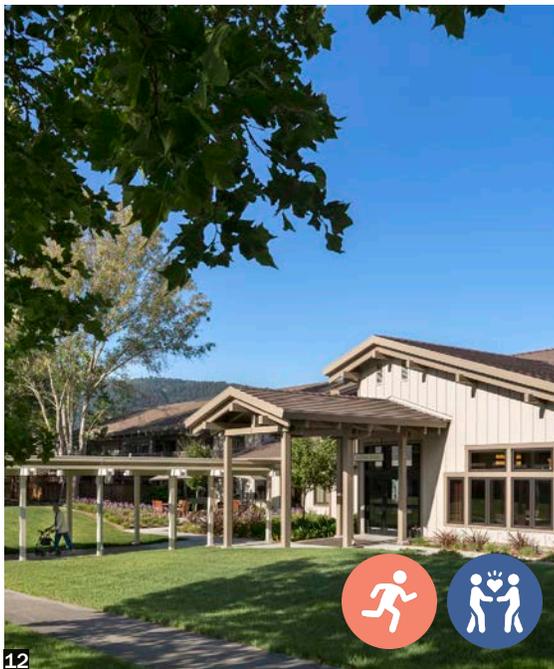
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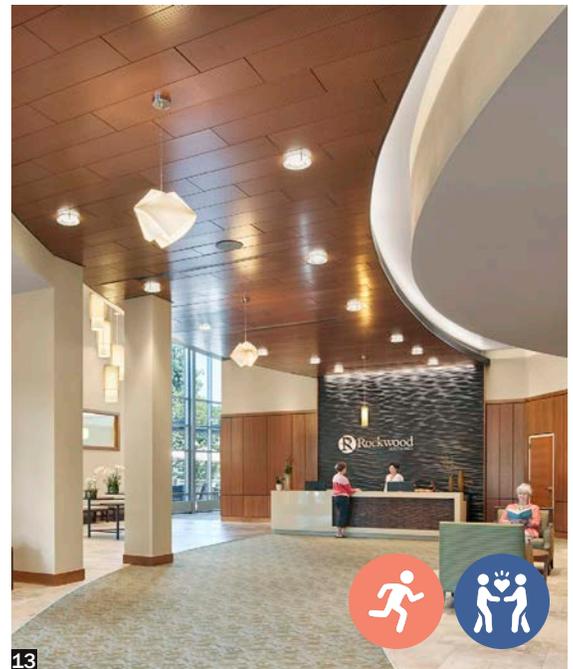
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12. Shaded paths at Spring Lake Village provide a place for leisurely walks while connecting the community.

13. Designers at Rockwood applied various Biophilic principles<sup>4</sup> in their design, including the use of natural materials, motifs, patterns, and color palette



12



13

## Touch of Serendipity

Creating spaces that foster unplanned, serendipitous opportunities to meet others and see occurring activities can help the

development of meaningful relationships and increase chances of residents partaking in the community's programs.



Touch of Serendipity



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14. MonteCedro's designers chose to place one of its dining spaces away from the building's isolated corners, opting to locate it instead in the center of the building's plan with the main circulation running through it. This design strategy maximizes visual exposure, allowing residents to serendipitously spot and join friends for a meal or chat.



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15. Rockwood's living room opens up on its winding interior corridor and is set-up with games, reading chairs, and comfortable sofas for intimate conversations. Residents walking by can spontaneously connect with a friend or create a new acquaintance



Degrees of Privacy

## Degrees of Privacy

Degrees of privacy are important for individual growth and relationship development. Cozy corners are ideal for (e.g.) losing oneself in a book or having a conversation with a friend.

Open, visually connected spaces are great for both planned and chance interactions and relationship building.

16. Partitions of different heights and transparency were used along Rockwood's circulation path to offer varying degrees of openness and enclosure. Based on one's comfort level or mood, residents can continue walking along the path, choose a location that is highly visible and convenient for seeing and being seen, or select a private and quiet area suitable for (e.g.) a conversation, reading a book, or playing a game of chess.



16



17. At Spring Lake Village, a flexible pre-function Creekside Lounge was added, nestled between the Great Room and the Sonoma Room for fine dining. Its location, along with operable partitions, allow it to be made both private and public, based on the occasion. The room invites people entering or leaving either the Great Room or Sonoma Room to easily and opportunely join in on functions and social events, while offering those seated in it a warm and intimate spot to converse.



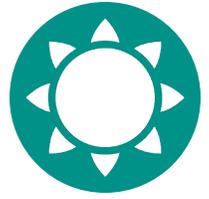
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## Layers of Light

Light, especially daylight, is a powerful element that can create dramatic changes to the feel of a space. For instance, washing spaces with unobscured light fills them with a dynamic energy, whereas filtering light through swaying tree leaves creates a calm and soothing effect. These variations in ambiance can draw people

to spaces and increase their engagement in the activities offered therein. Along with affecting ambiance, daylight can also influence residents' health, and well-being. Providing access to appropriate levels of daylight allows residents to harness its benefits and avoid the negative effects of over-exposure.



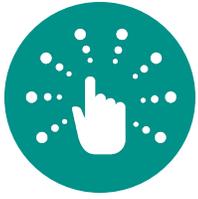
Layers of Light



18. At Spring Lake Village, floor-to-ceiling windows in the art studio bring in abundant light filtered through tree branches. The indoor environment melts into the outdoors creating an inspirational area for residents to explore the arts, increasing their intellectual and emotional wellness.



19. Residents at MonteCedro can benefit from access to direct daylight, either lounging by the pool in the full sun or under an umbrella to ensure they avoid over-exposure.



## Sensory Experiences

### Sensory Experiences

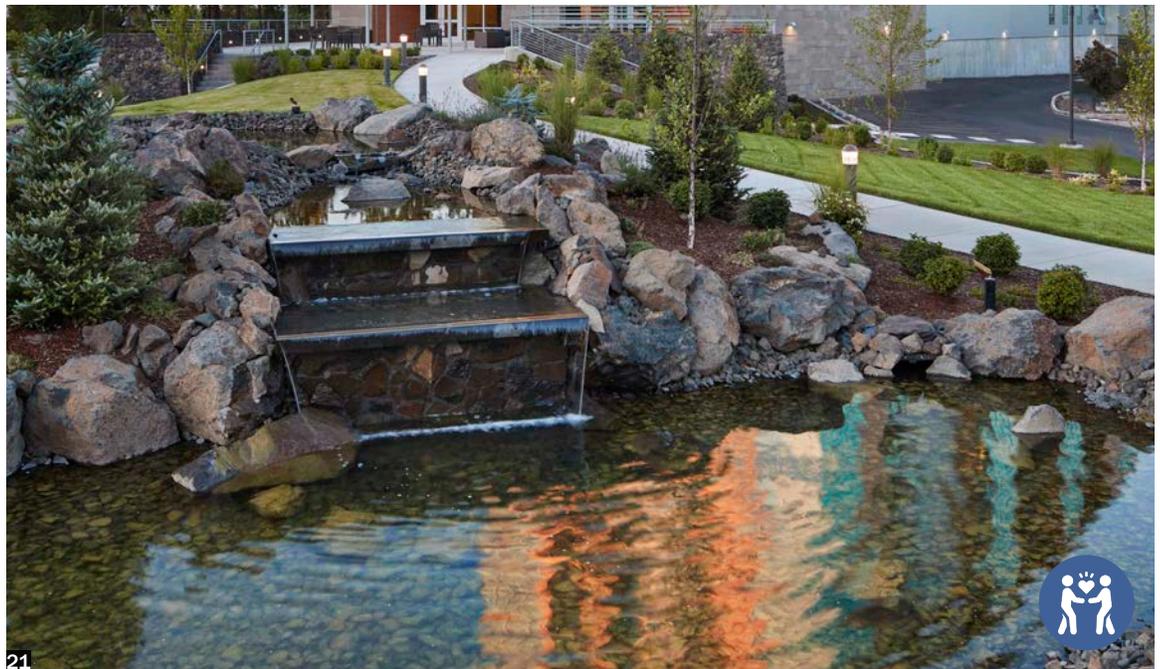
Engaging the senses through intangible elements, such as pleasant fragrances and sounds, can help increase wellness in different ways. For example, lavender can calm and relax people,<sup>7</sup> cinnamon can enhance cognition,<sup>8</sup>

and the smell of fresh-baked bread around meal times in combination with other methods contributed to a 5% reduction in seniors' malnutrition in one study.<sup>9</sup>



20. The kitchen at the Spring Lake Village Bistro opens directly into the dining area, filling it with enticing smells of favored foods.

20



21. A gentle waterfall feature, with rays of light breaking on the water's rippling surface and the sound of water softly falling and bouncing off stones, greets residents as they enter the Summit at Rockwood, providing a rich sensory experience that can evoke happy memories for some residents or help create new pleasant ones for others.

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## Feelings of Home

Conjuring the indefinable sense of comfort that comes with homey or vernacular design features can de-institutionalize a building, evoke positive memories, and relax or invigorate people. In a non-institutional environment, residents may be less likely to retreat and isolate themselves,

taking advantage instead of the holistic wellness programs offered and building relationships with others. This is particularly important for residents transitioning from a home they had spent many years in among neighbors they've known for long periods of their life.

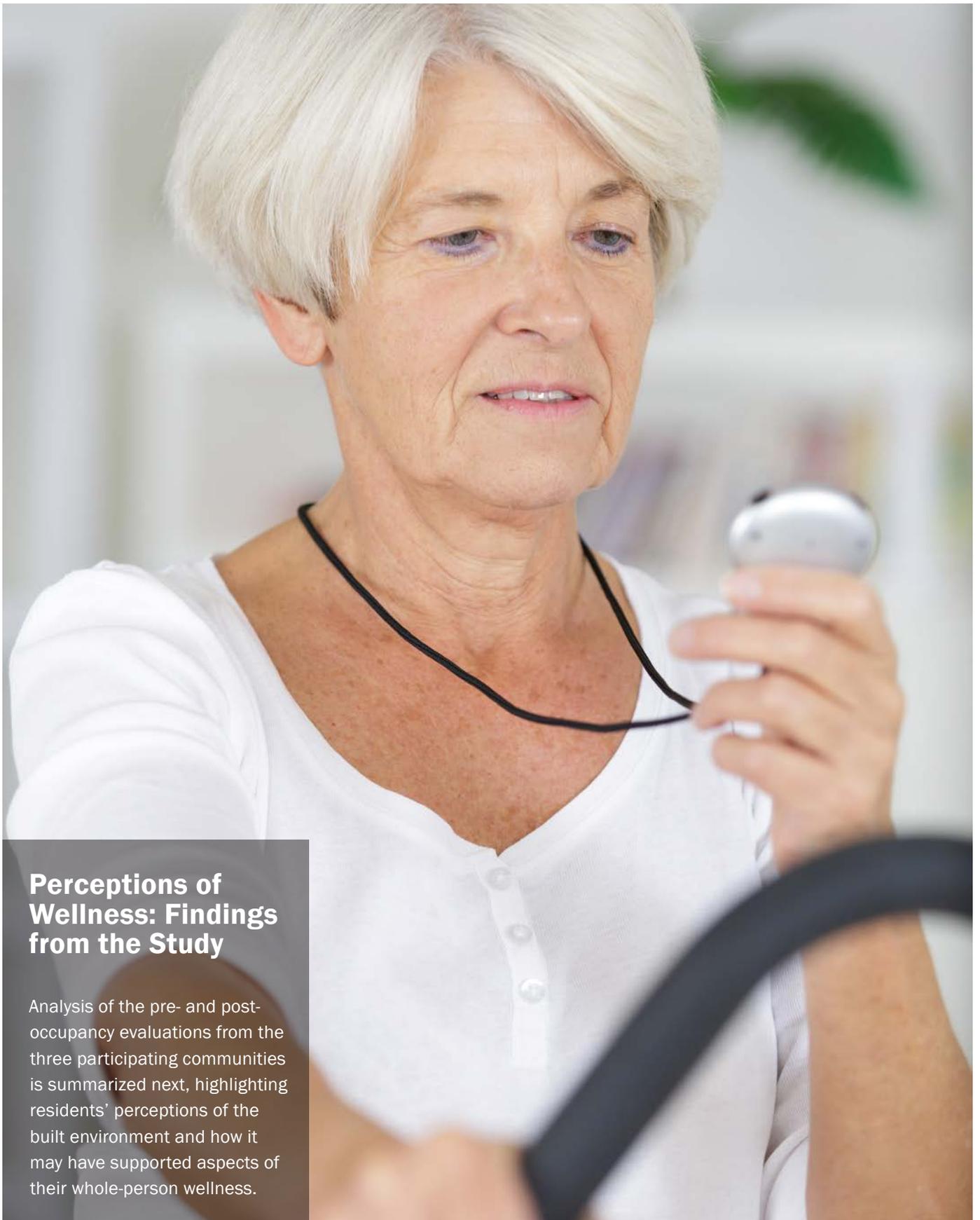


Feelings of Home



22. Spring Lake Village's design team carefully preserved some of the furniture pieces in the Great Hall while breathing new life into the beloved space, maintaining its familiar, homey character and importance to the residence.

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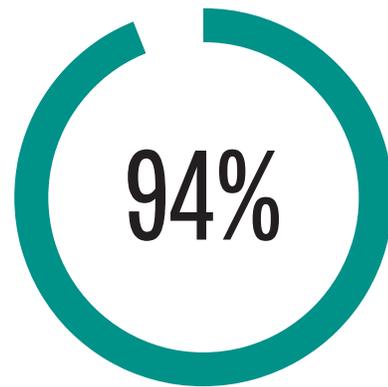
## Perceptions of Wellness: Findings from the Study

Analysis of the pre- and post-occupancy evaluations from the three participating communities is summarized next, highlighting residents' perceptions of the built environment and how it may have supported aspects of their whole-person wellness.

# MonteCedro

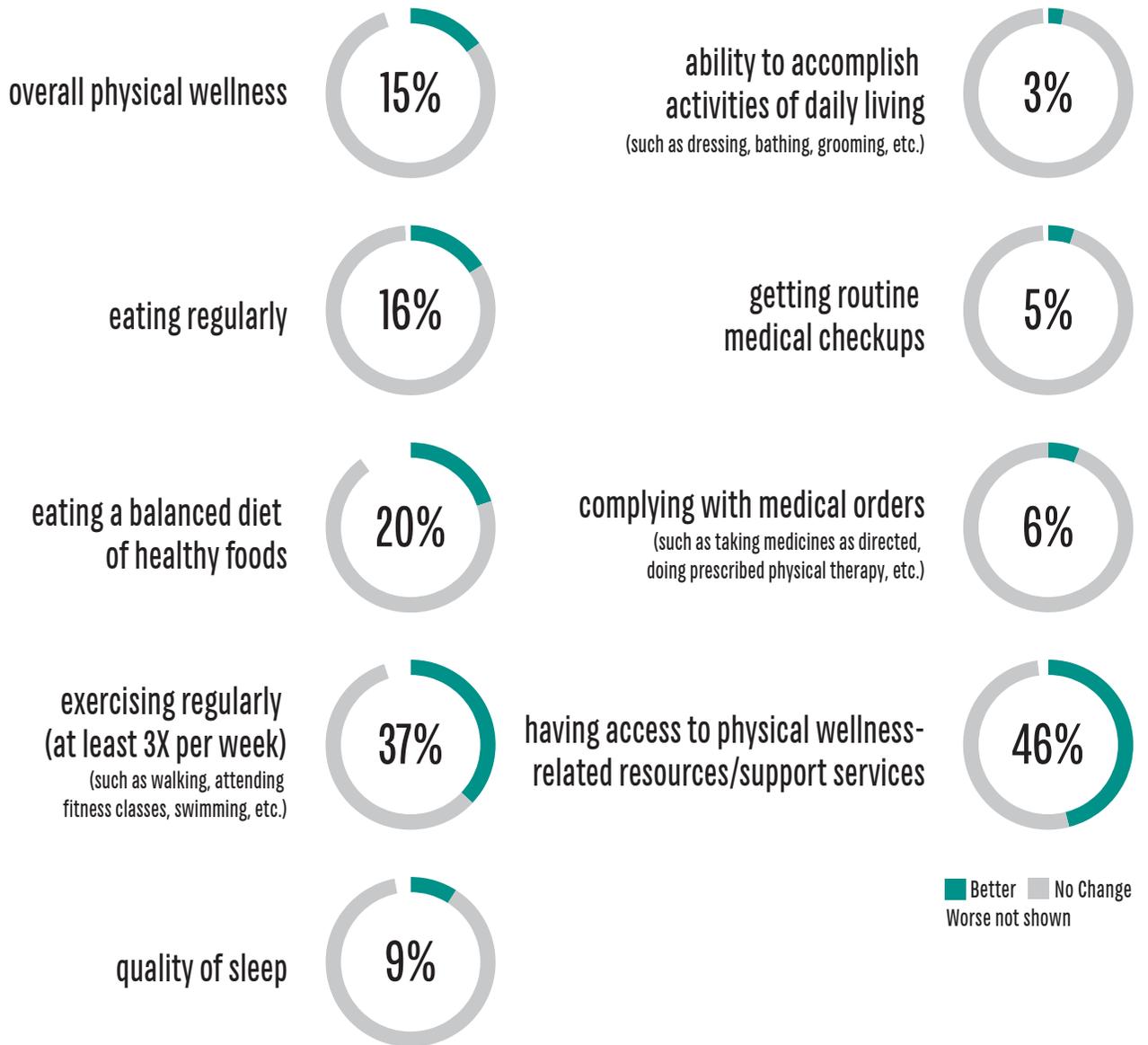
## Physical Wellness

Many factors contribute to people’s physical wellness including the built environment, which was said to provide “good” to “excellent” support at MonteCedro by the majority of residents (94%). Despite residents mostly indicating “no change” to specific aspects of their physical wellness, this is actually a notable achievement. MonteCedro’s residents are described as individuals who have been energetic and active their entire lives, so for them to cite no change is a testament of a design that helps sustain their lifestyle and physical activities despite the challenges of moving to a new environment. Furthermore, the survey showed that residents felt some aspects, such as access to physical-wellness resources and exercising regularly, were “better” after moving to MonteCedro (46% and 37% of residents, respectfully). The airy and inviting design of the fitness center and swimming pool, for instance, may have contributed to this increase in perceived physical wellness.



94% of respondents said the built environment at MonteCedro provides “good” to “excellent” support of physical wellness

## Residents' Evaluation of Physical Wellness Aspects





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23. Amenities like the fitness center, swimming pool, and salon, the latter shown here, are used to encourage physical wellness.

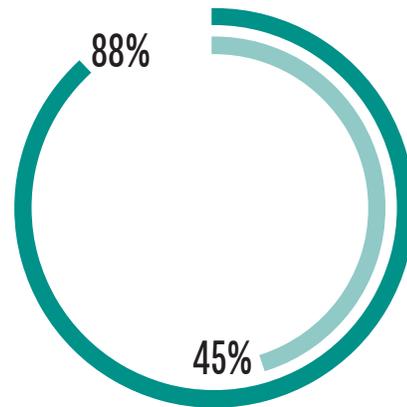
## Social/Emotional Wellness

In terms of social/emotional wellness, the design team aimed to improve this aspect of wellness by creating environments that would help build a sense of community among residents. Responses from the POE were encouraging, as almost 60% of residents indicated MonteCedro feels like one community regardless of where someone lives on the property. Additionally, almost everyone (93% of residents) indicated they developed new relationships at the community, while many (75% of residents) maintained their network of friends and community engagement after their move into the senior living community. Attending activities and programs that fit many individuals' interests (88% of residents) could have been one way new relationships developed. Another may have been the casual dining area, which 88% of residents thought provided "good" to "very good" opportunities for socializing—almost double the 45% of residents who thought the Fine Dining area provided that support.

Similar to physical wellness, a slight majority reported "no change" to specific aspects of social/emotional wellness, however it seems the purposeful design for social interactions may have helped residents feel they had "better" access to social/emotional wellness related resources/support services, a well-developed support system, and feeling a sense of connection/belonging (49%, 46%, and 43% of residents, respectfully). Considering the challenges of moving to a new home, particularly at a later stage in life, it is notable that residents' social/emotional wellness either improved or held steady, and any "worsening" was noted by no more than 1–2% of residents.

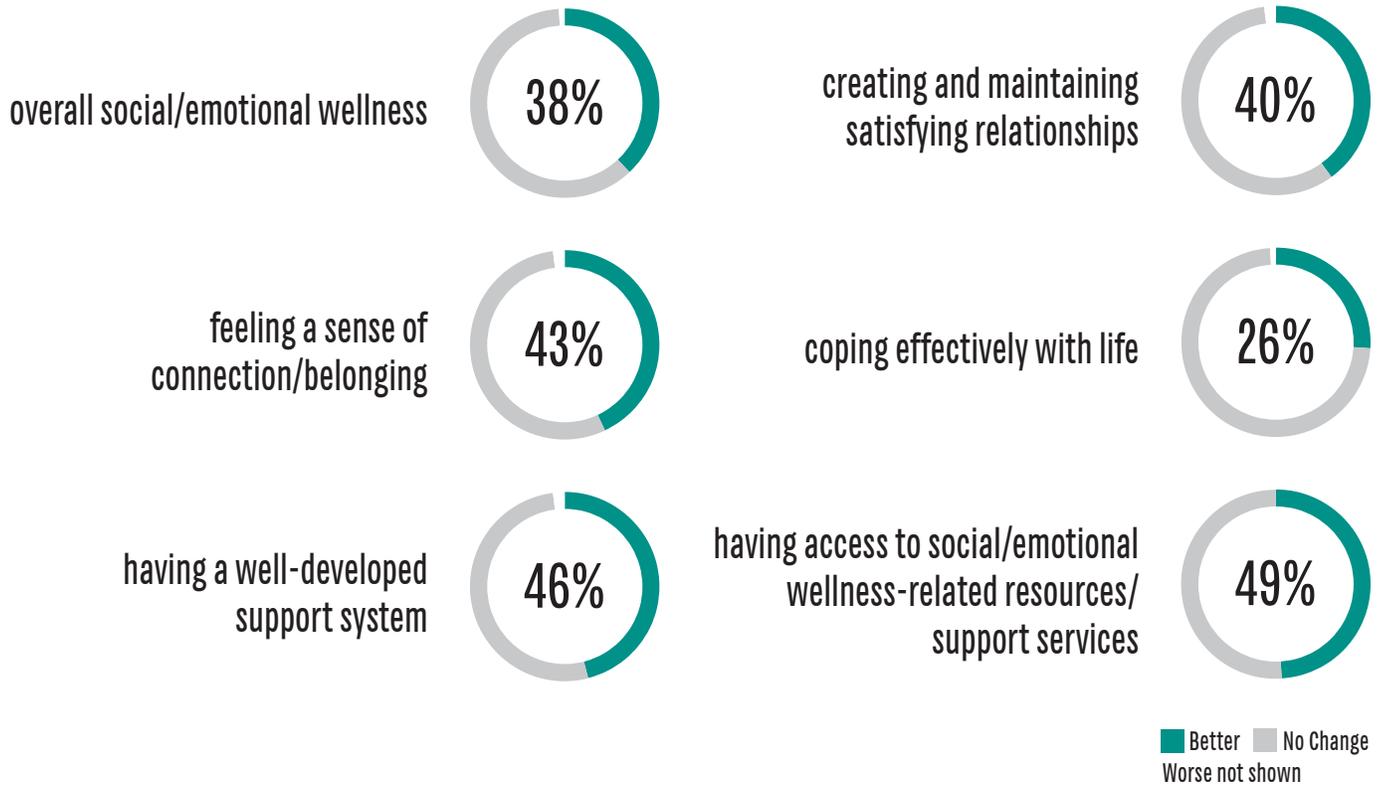


92% of respondents said the built environment at MonteCedro provides "good" to "excellent" support of social/emotional wellness.



88% of residents thought the Off Lake Bistro casual dining option provided "good" to "very good" opportunities for socializing—almost double the 45% of residents who thought the Fine Dining area provided that support.

## Residents' Evaluation of Social/Emotional Wellness Aspects



24. Variety of dining venues including the fine dining option (right) provide opportunities for socializing and connecting with others.

## Intellectual Wellness

Specific aspects of intellectual wellness saw improvement according to the majority of residents. This is most notable in the percentages of respondents who found improvement in their access to intellectual wellness-related resources, opportunities to expand or challenge knowledge and skills, and opportunities to explore the creative arts (69%, 62%, and 58% of residents, respectively). This can likely be attributed to the creative and dedicated programming at MonteCedro that is supported by the design of the built environment, which includes Ted Talks and creative endeavors. Jointly, the spaces and programming likely contributed to results in the POE showing 95% of participants indicated the built environment provides “good” to “excellent” support for their intellectual wellness.



95% of respondents said the built environment at MonteCedro provides “good” to “excellent” support of intellectual wellness.

## Residents’ Evaluation of Intellectual Wellness Aspects





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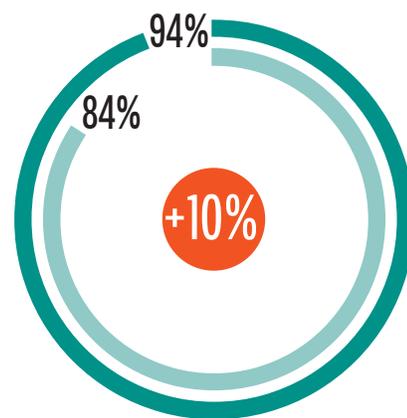
25. The auditorium (above) with its flexible furniture and abundant light is one of several spaces at MonteCedro suitable for intellectual, social and spiritual activities.

# Spring Lake Village

## Physical Wellness

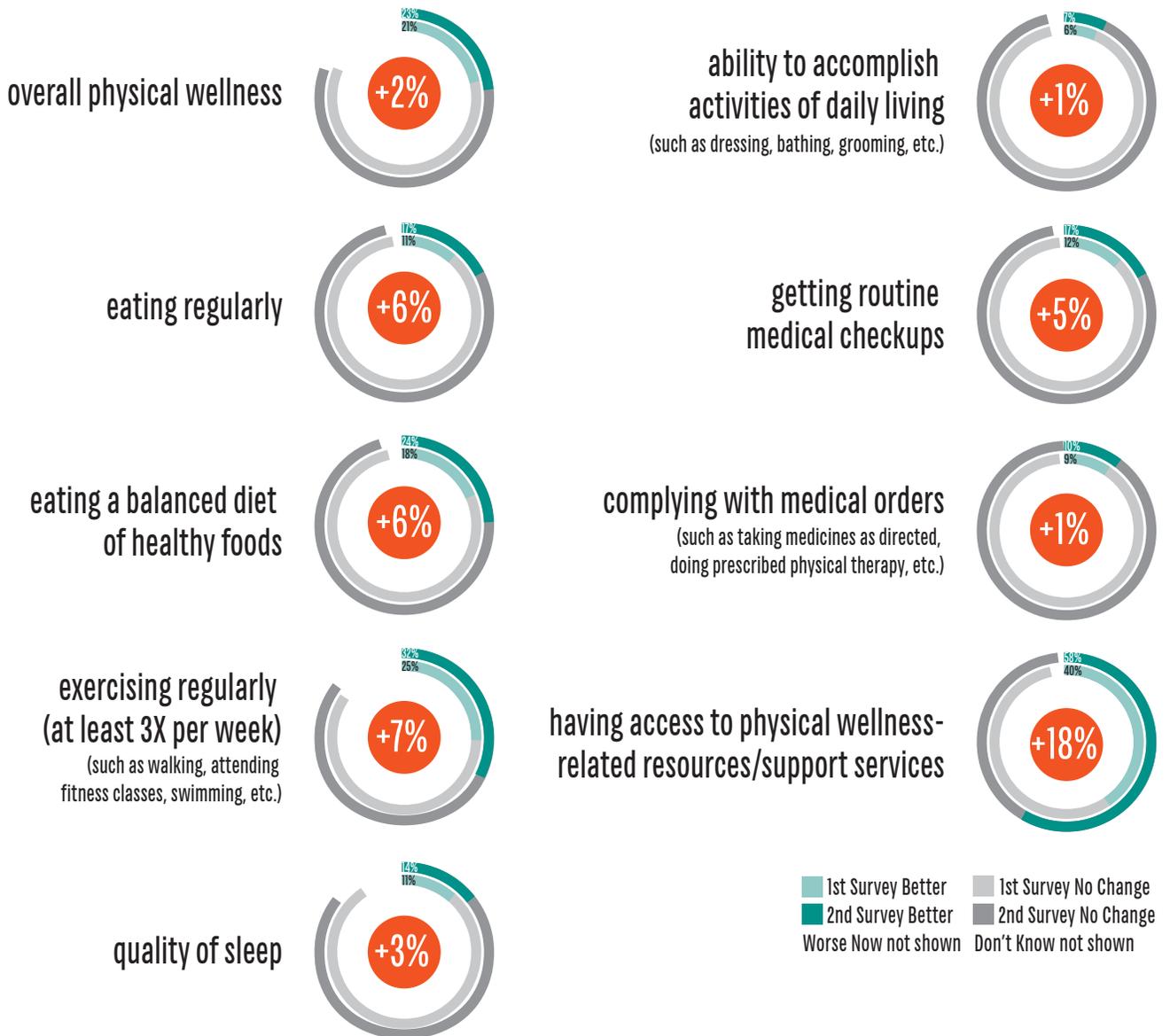
In both rounds of surveys, residents thought the built environment provided “good” to “excellent” support of their physical wellness (84% and 94% of residents, respectfully). Specific aspects of their personal physical wellness did not see much change according to the majority of residents, while a very small percentage indicated that a few aspects worsened. This decline, however, is likely due to personal factors (e.g., a natural result of aging) as opposed to the design of the built environment.

Other aspects of physical wellness saw improvement, however. Most relevant to the built environment was residents’ evaluation of their access to physical wellness-related resources/support services. The first survey was conducted after the relocation of the fitness center and swimming pool, complete with aquatic programs, to the front of the community and the addition of the new Auditorium Building (Montgomery Center), making these buildings accessible to everyone, which may have contributed to 40% of residents reporting their access to physical wellness-related resources was better than it had been. In the second survey, conducted two years later, that percentage increased to 58% (a difference of +18%) which may have been helped by residents settling in, establishing a routine and taking advantage of purposeful programming offered by the community. In fact, residents also reported in the second survey that they exercise more regularly (at least three times per week) an increase from 25% in the first survey to 32% in the second (a +7% difference).



Support of physical wellness improved from 84% in the first survey to 94% in the second.

## Residents' Evaluation of Physical Wellness Aspects





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26. Heated pool with spectacular views offers an attractive option for physical activity.



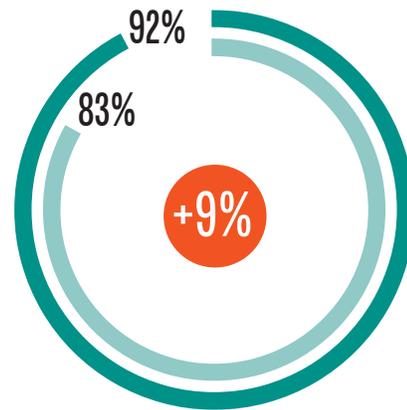
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27. Upgraded fitness center is framed with glass doors making it visible for residents in hopes that will encourage more exercise.

## Social/Emotional Wellness

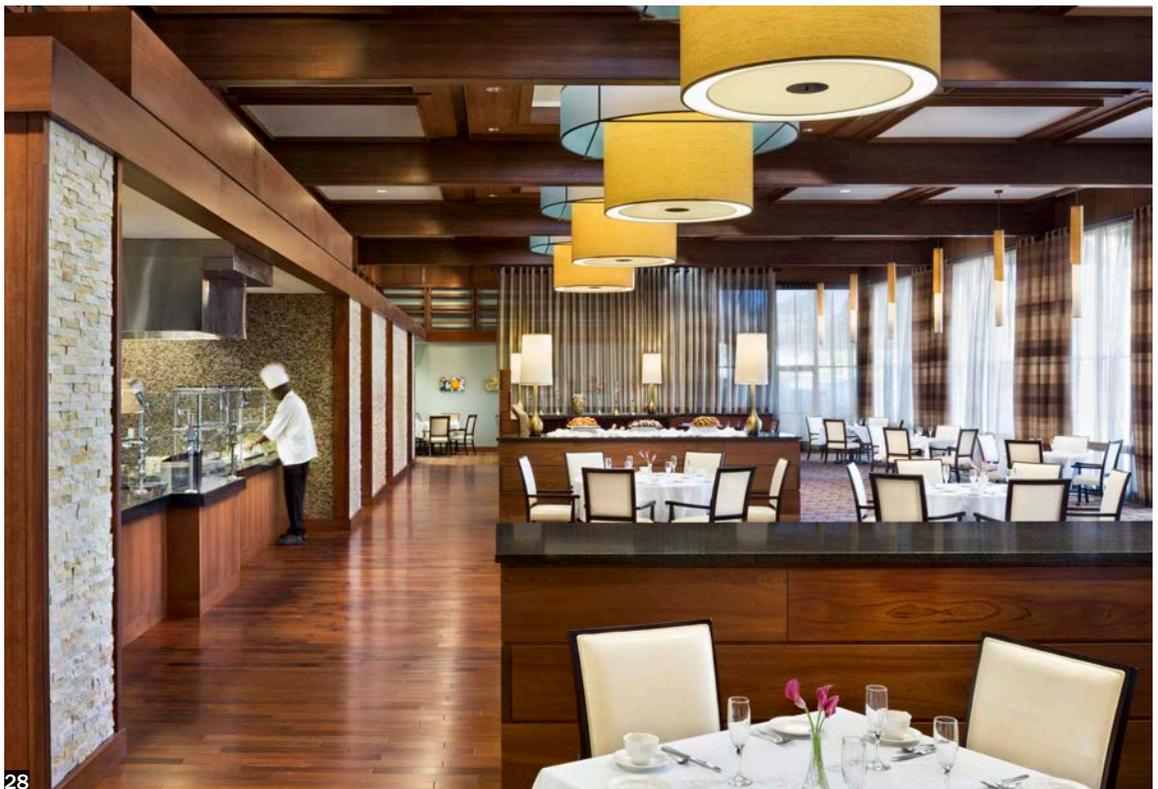
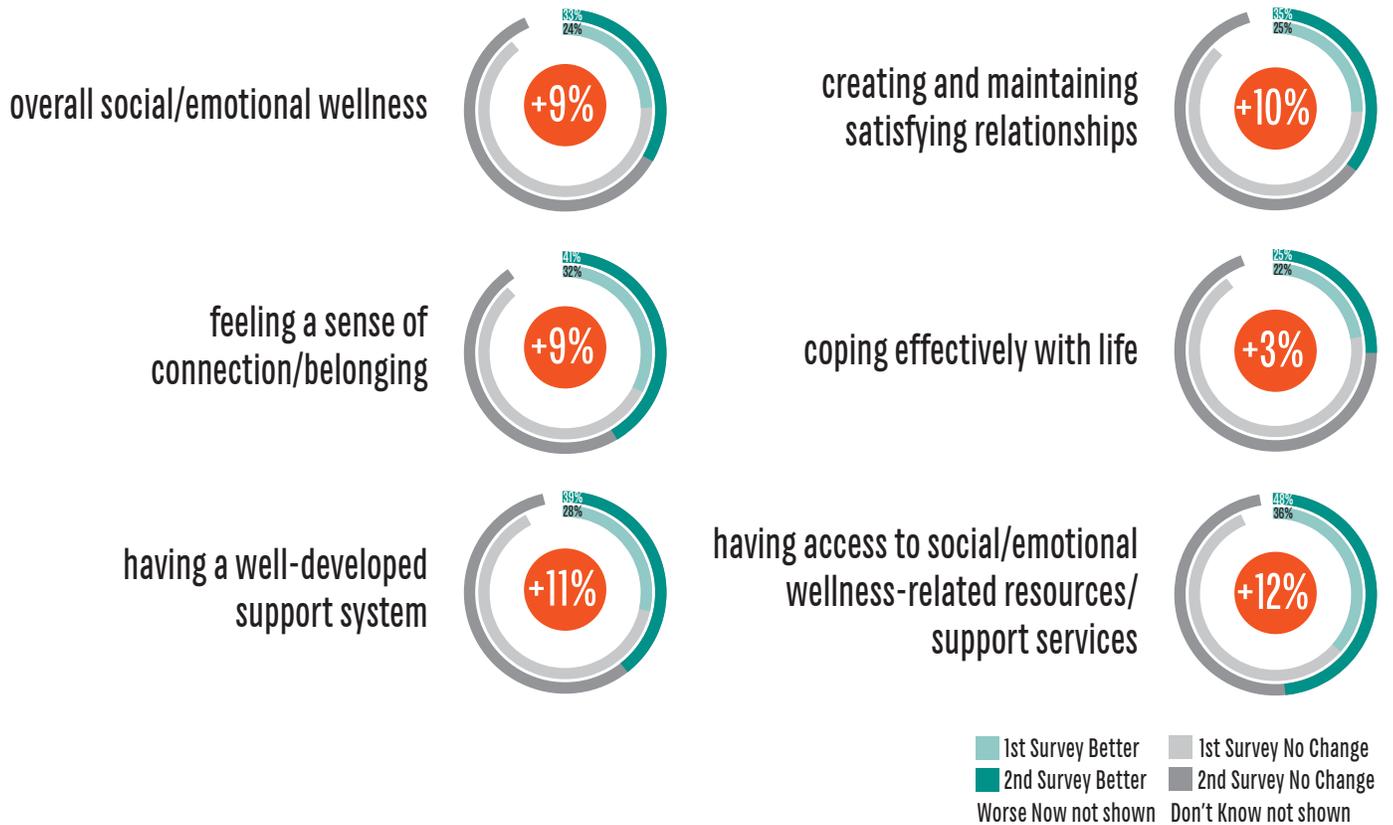
Having a strong sense of community can improve social/emotional wellness, and was therefore one of the project goals and items surveyed. About a third of respondents to the second survey said Spring Lake Village feels like one community regardless of where one lives on the campus. However, a little over half indicated they knew those who live closest to them best. Programmatic efforts to overcome physical distances could help residents get to know more people regardless of where they live. The new Bistro, for instance, was designed to play such a role, offering casual dining options and areas for people to socialize with friends, both new and old.

Renovating the main entrance to the Village Center, including the outdoor fountain and seating to draw residents into the center, was another strategy the designers employed to increase social/emotional wellness. It appears residents appreciated this and other design strategies that support social/emotional wellness because in the first survey, 83% thought the built environment provided “good” to “excellent” support for their social/emotional wellness, which increased to 92% in the second survey (a difference of +9%). Despite changes to their lifestyles and routine, social/emotional aspects of wellness did not change for the majority of residents. A very small percentage of residents in the first survey thought some aspects were slightly “worse”, but this percentage decreased in the second round of surveying. Nonetheless, other aspects of social/emotional wellness were perceived as “better,” most notable was having access to social/emotional wellness related resources/support services (36% in the first survey, increasing to 48% in the second survey—a difference of +12%), having a well-developed support system (28% increasing to 39%, +11%), creating and maintaining satisfying relationships (25% increasing to 35%, +10%) and feeling a sense of connection and belonging (+9% increase in the second).



Support of social/emotional wellness improved from 83% in the first survey to 92% in the second.

## Residents' Evaluation of Social/Emotional Wellness Aspects



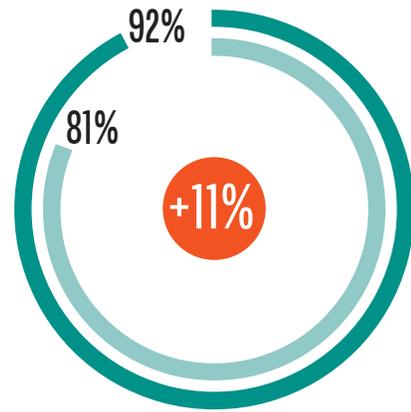
28. View into Dining Area with its warm wood and comfortable furniture encourages people to spend longer times at meals eating and socializing.

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## Intellectual Wellness

Both rounds of surveys indicated residents felt that the built environment provides “good” to “excellent” support for their intellectual wellness (81% of residents in the first survey, increasing to 92% in the second survey, a difference of +11%). However, the results of the second survey differed from the first in that the latter had a slightly lower percentage of respondents who indicated that aspects of their intellectual wellness saw “no change” and a slightly higher percentage who indicated that aspects of their intellectual wellness were “better”. Most notable was access to intellectual wellness-related resources/support services, which was perceived as better by 56% of residents in the second survey (+11%). Design strategies, like adding technologies to the library that make accessing its resources easier and intuitive, may have been one way the design helped. Similarly, opportunities to expand and/or challenge knowledge and skills was said to be better by 47% of the residents in the second survey (+8%), as was having the opportunity to explore the creative arts (+6%), which may have been the result of a flexible and inviting design that supports a range of desirable programing.

Collectively, the pre- and post-occupancy surveys showed that the improvements to wellness that were documented in the first survey were either sustained or improved with time, as demonstrated by the data collected by the second survey.



Support of intellectual wellness improved from 81% in the first survey to 92% in the second

## Residents' Evaluation of Intellectual Wellness Aspects



■ 1st Survey Better    ■ 1st Survey No Change  
■ 2nd Survey Better    ■ 2nd Survey No Change  
■ Worse Now not shown    ■ Don't Know not shown



29. Group and individual seating in this activity room allow residents to explore and expand their skills, knowledge and art.



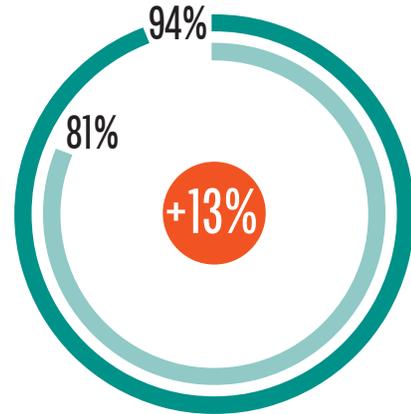
30. Large auditorium with flexible seating offers a wide range of events, shows and lectures.

# Rockwood Retirement Communities

## Physical Wellness

The new building, The Summit, was intentionally re-oriented by the design team towards the overall larger community by changing the main entry location, to encourage everyone to venture into its amenity spaces, expanding it substantially. This ease of access may have contributed to more residents in the POE (+13%) indicating that the new building supported their physical wellness. Complying with medical orders and getting routine check-ups was also rated highly by 97% and 96% of participants respectfully (+13% in the POE compared to the PreOE), as was eating regularly and eating a balanced diet of healthy foods (+7% and +5%, respectfully). A sustained and slightly improved diet may have been a result of the new building providing more dining venues, which offer greater choices and an appetizing atmosphere.

To decrease dead-ends and increase opportunities of socializing, dining venues were intentionally designed to lead into one another creating socializing zones. Moving along the “Riverwalk” circulation spine with its visual and physical access into spaces, may have also helped boost participation in community activities, such as social events/gatherings, dining outside of one’s residence, and attending education and fitness classes. In the first three categories, the percentage of participation “a few times a week” almost doubled, while attending fitness classes “once a day” increased by slightly more than double what it was at pre-occupancy (i.e., 5% in the PreOE increased to 13% in the POE). This may be a testament to

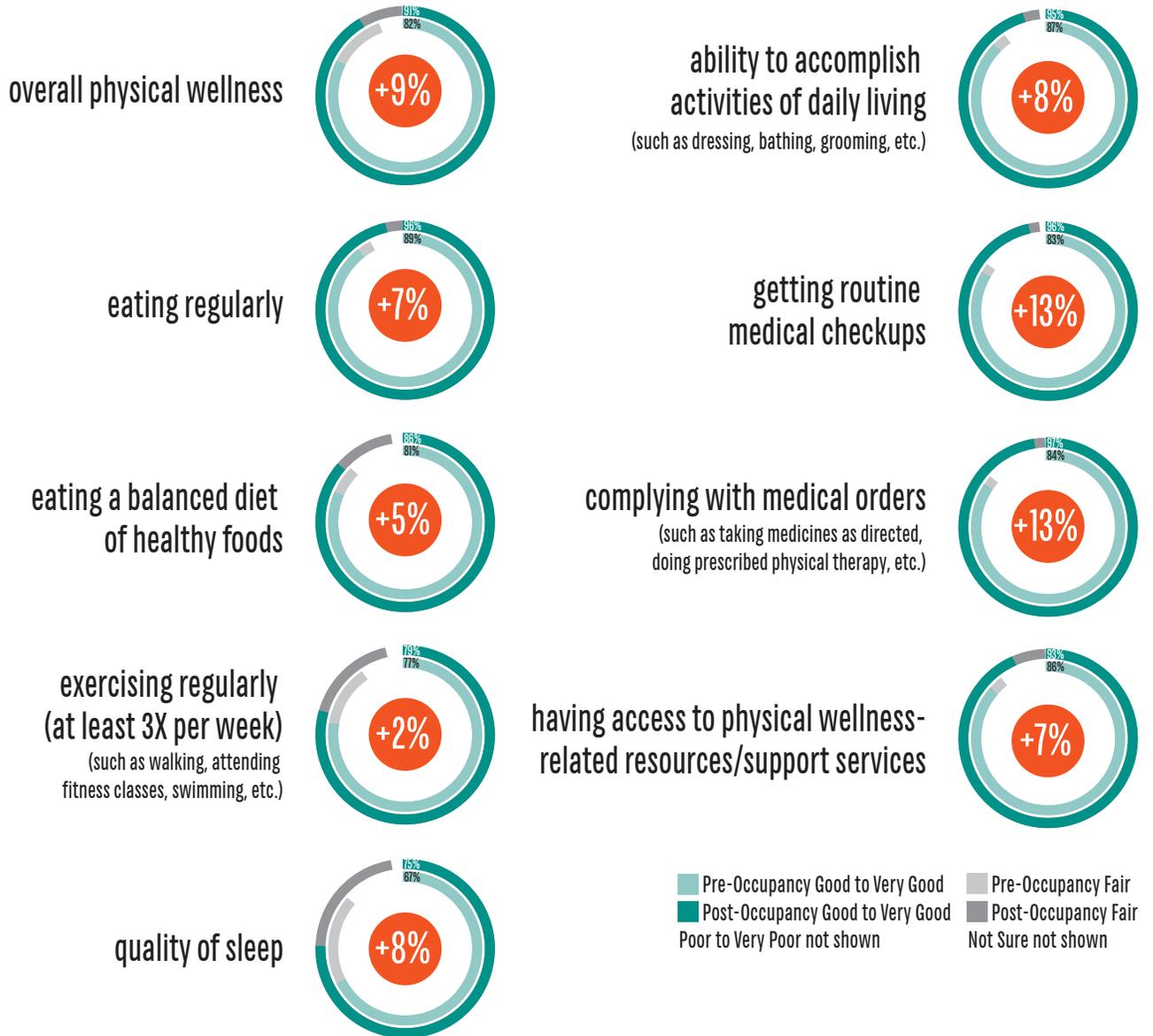


In the Pre-OE, 81% of residents thought the building provided “well” to “very well” support for physical wellness, compared to 94% in the POE, +13%.

a transparent and open design that encourages people to move around as well as being able to peruse the programs being offered.

Implementing Biophilic design principles may have also contributed to increased participation in activities as the spaces now provide abundant daylight and stunning views to the outdoors, making them more inviting. In fact, 46% of residents reported that they lingered longer in the new amenity spaces and dining venues, 62% said they appreciated the choice of amenity spaces and 68% appreciate choice of dining venues.

## Residents' Evaluation of Physical Wellness Aspects

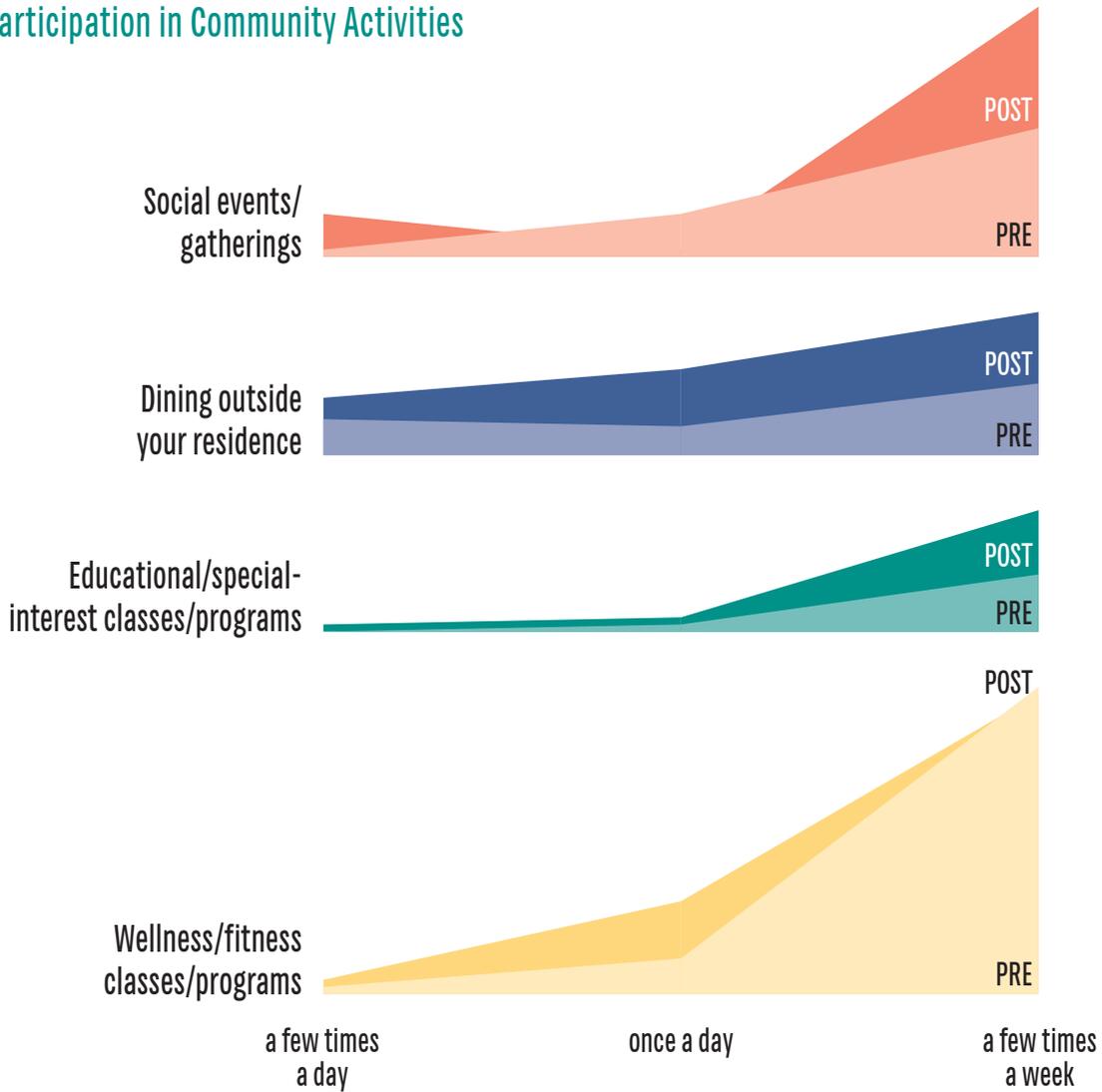




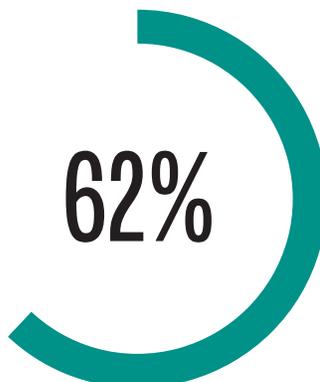
31

31. Upgraded gym with direct access to outdoor views and plentiful space for residents to exercise and connect with others may inspire increased activity.

## Resident Participation in Community Activities



Around 46% of residents reported that they lingered longer in the new amenity spaces and dining venues.



62% of residents said they appreciate the choice of amenity spaces.



68% of residents said they appreciate the choice of dining venues.

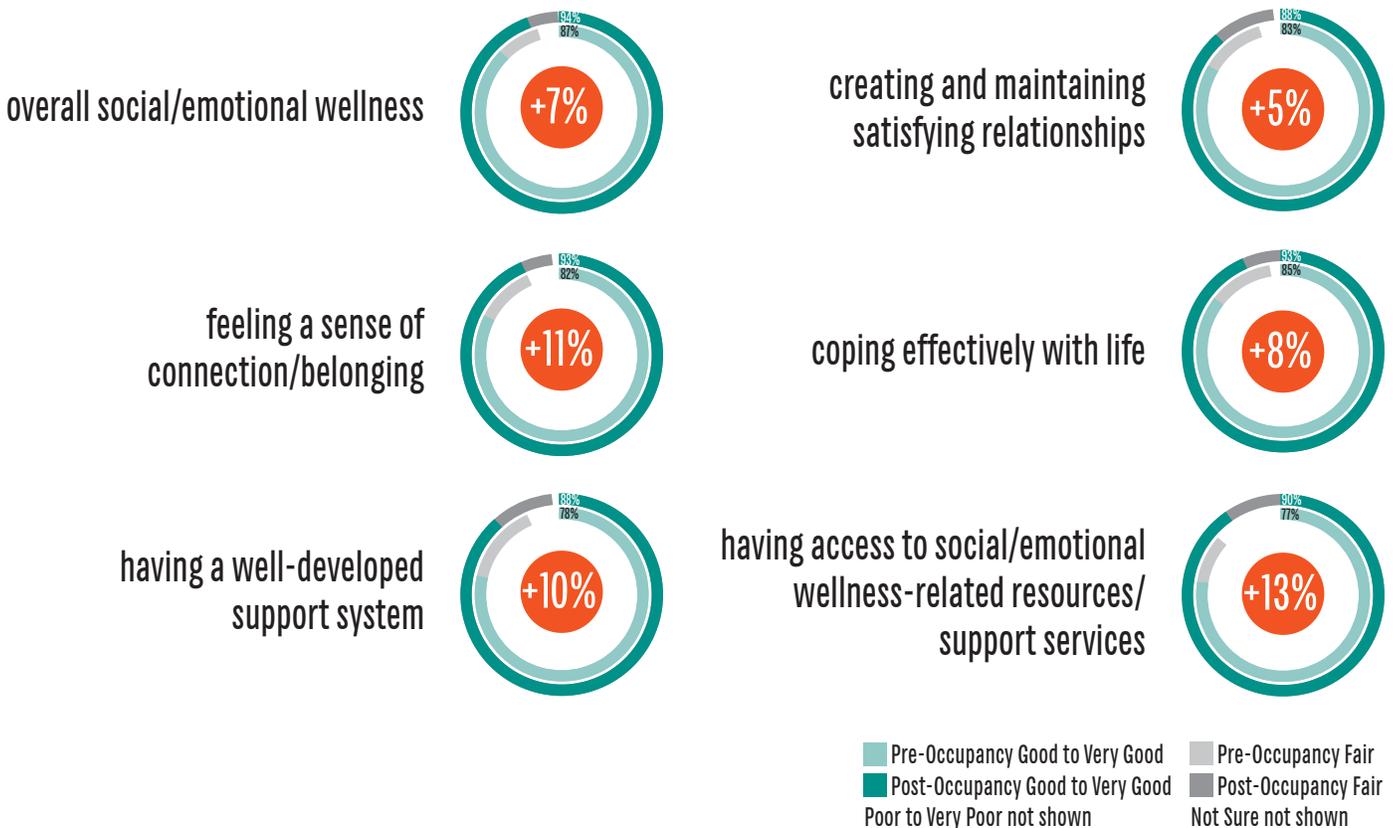
# Social/Emotional Wellness

Aside from contributing to physical health, attending events more often and lingering in common areas may have had a positive impact on residents' social/emotional wellness. In fact, the POE indicates that residents' social/emotional wellness improved, going from 73% of residents who thought the building provided support that was "well" to "very well" in the PreOE to 93% in the POE. More specific measures of different aspects of social/emotional wellness also improved. For example, residents' feelings of connection and belonging saw a positive increase (82% of residents in the PreOE thought their sense of connection and belonging was "good" to "very good" compared to 93% at POE, +11%) as did having a well-developed support system (78% indicated it was "good" to "very good" compared to 88%, +10%). This is arguably no small feat considering the difficulty people often face when adapting to a new space and community.



The POE indicates that residents' social/emotional wellness improved, growing from 73% of residents who thought the building provided "well" to "very well" support in the PreOE to 93% in the POE.

## Residents' Evaluation of Social/Emotional Wellness Aspects





32

32. Breakout space outside of auditorium offers opportunities for continuing conversations and longer lingering.

## Intellectual Wellness

Easy access to a variety of spaces may have also contributed to more residents indicating the spaces provided support of their intellectual wellness that is “well” to “very well” (61% of residents in the PreOE compared to 91% in the POE, a difference of +30%). Reports of residents feeling that the environmental support for overall intellectual wellness was “good” to “very good” also increased (85% compared to 97%, +12%). Specific aspects of intellectual wellness were also rated highly by the majority of residents, including access to intellectual wellness-related resources/support services (+27% in the POE), opportunities to expand and/or challenge their knowledge and skills (+19% in the POE), and opportunities to explore the creative arts (+15% in the POE).

Overall, all three aspects of wellness—physical, social/emotional, and intellectual—were better supported since the new amenities were opened at the Summit, according to a large percentage of participants (41%, 44%, and 44% of residents, respectively).



In the POE, more residents indicated spaces provided support of their intellectual wellness that is “well” to “very well” (61% of residents in the PreOE compared to 91% in the POE, a difference of +30%).

## Residents’ Evaluation of Intellectual Wellness Aspects

overall intellectual wellness



opportunities to explore the creative arts

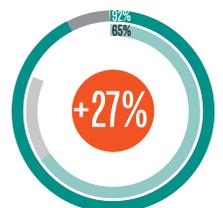
(such as participating in or observing theatre, dance, music, and art)



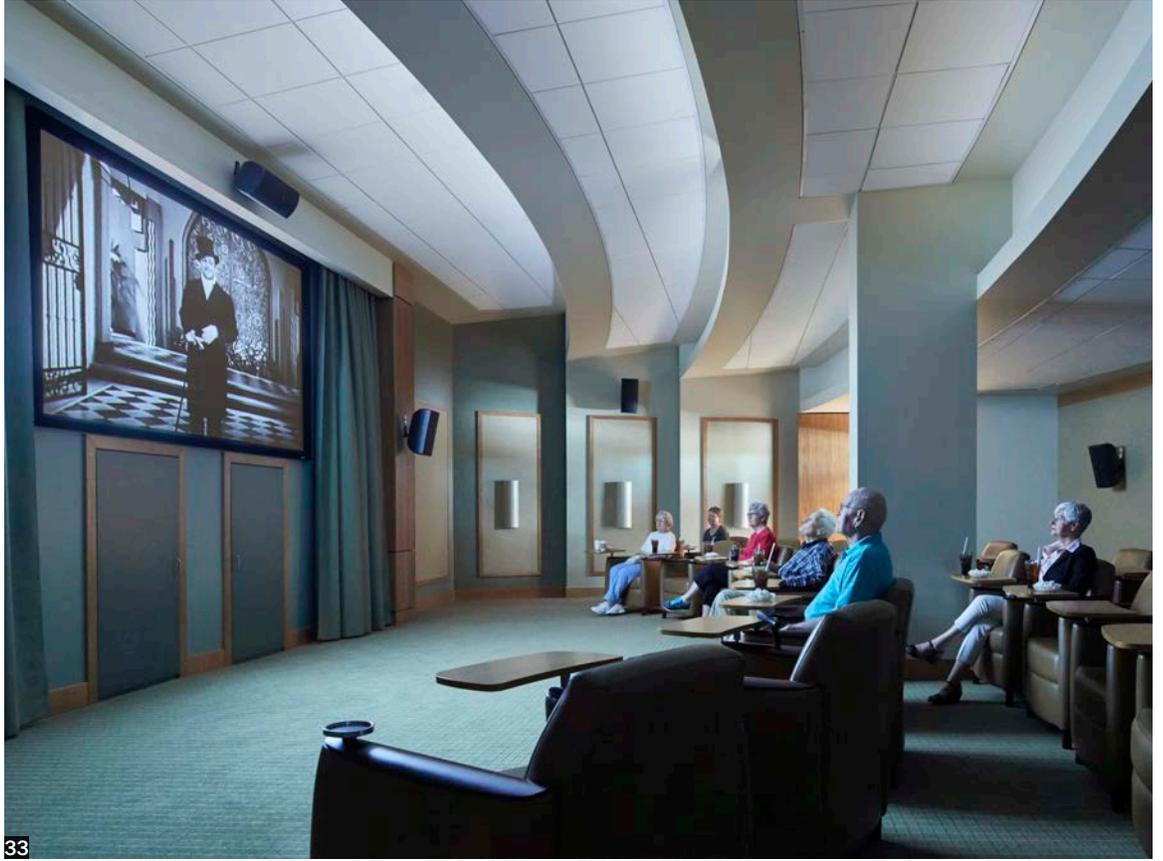
opportunities to expand and/or challenge your knowledge and skills



having access to intellectual wellness-related resources/support services



■ Pre-Occupancy Good to Very Good    ■ Pre-Occupancy Fair  
■ Post-Occupancy Good to Very Good    ■ Post-Occupancy Fair  
■ Poor to Very Poor not shown    ■ Not Sure not shown



33. Theatre rooms can be used for entertainment as well as education.



34. A well designed art studio supports artistic growth and exploration.

## Summary of Findings: Residents' Perceptions of Wellness

Overall, across the three communities we evaluated, residents' perceptions of their physical, social/emotional, and intellectual wellness positively increased or held steady after they began using the new or newly renovated spaces at their community. Aspects that showed the most improvement in physical wellness in all communities included access to physical wellness resources and exercising regularly. In terms of social/emotional wellness, having access to social/emotional resources, a well-developed supports system, and feeling a sense of

connection and belonging were consistently better across the three communities. In two of the three communities, residents felt like one community regardless of where one lived on the site, and developed new friendships and sustained old ones; the third community could not be compared as these questions were not included in their survey. Finally, access to intellectual wellness resources was perceived as better, as were opportunities for residents to expand their knowledge and explore the creative arts.





# Closing Thoughts

Through this study, we found that both senior living providers and designers are interested in supporting resident whole-person wellness, and that there is a belief that the environment can have a positive impact on the building occupants. We saw that supporting wellness is more than just providing spaces for various programmatic elements and activities, but that it's also important to employ strategic design decisions that support whole-person wellness.

The overarching design strategies discussed and the impact they could have on wellness are summarized in the matrix below. They should be seen as a starting point from which senior living designers and providers throughout the industry can continue to expand upon, developing more strategies and approaches for designs to support whole-person wellness.

# Design Strategies for Wellness

## ASPECT OF WELLNESS

	Physical	Social/ Emotional	Intellectual
<b>Autonomy, Control and Choice</b>			
<b>Designed Activities</b> Individual vs. Social Passive vs. Active Indoor vs. Outdoor			
<b>Location and Access</b> Within the community Within a building Orientation Visual connections			
<b>Patterns of Movement</b> Targeted: from point A to B Leisurely			
<b>A Natural Connection</b> Passive Active			
<b>A Touch of Serendipity</b>			
<b>Degrees of Privacy</b>			
<b>Layers of Light</b>			
<b>Sensory Experiences</b>			
<b>Feeling of Home</b>			

## Endnotes

- 1 Find more information on the dimensions of wellness in: Center of Healthy Living: Providing Whole-Person Wellness to Seniors. Accessed from: [http://www.perkinseastman.com/white\\_papers](http://www.perkinseastman.com/white_papers)
- 2 Both surveys were administered as POEs, however, the first survey arguably serves as a pre-occupancy when viewed in conjunction with the second survey which serves as its post occupancy. These surveys will be referred to as “first survey” and “second survey” in this report.
- 3 M. D. Rijnaard, J. van Hoof, B. M. Janssen, et al., “The Factors Influencing the Sense of Home in Nursing Homes: A Systematic Review from the Perspective of Residents,” *Journal of Aging Research*, vol. 2016, Article ID 6143645, 16 pages, 2016. <https://doi.org/10.1155/2016/6143645>
- 4 For a detailed description and evaluation of the application of Biophilia to a senior living community see Moldow, L., Wood M., and Chmielewski, E. (2019). *The Ability of Design to Impact Wellness: Rockwood Retirement Communities Post Occupancy Evaluation*. Accessed from: [http://www.perkinseastman.com/white\\_papers](http://www.perkinseastman.com/white_papers)
- 5 Heerwagen, Judith. 2009. Biophilia, health, and well-being. In: Campbell, Lindsay; Wiesen, Anne, eds. *Restorative commons: creating health and well-being through urban landscapes*. Gen. Tech Rep. NRS-P-39. U.S. Department of Agriculture, Forest Service, Northern Research Station: 38-57.
- 6 Bratman, G. N., Daily, G. C., Ley, B. J., Gross, J. J. (2015). The benefits of nature experience: Improved affect on cognition. *Landscape and Urban Planning*, 138, 41–50.
- 7 Guéguen, N. & Petr, C. (2006). Odors and consumer behavior in a restaurant. *International Journal of Hospitality Management*, 25(2), 335-339. <http://dx.doi.org/10.1016/j.ijhm.2005.04.007>
- 8 Zoladz, P. and Raudenbush, B. (2005) Cognitive Enhancement through Stimulation of the Chemical Senses. *North American Journal of Psychology*, Vol. 7, No.1, p. 125-140
- 9 PremiumScenting and AIRQ. Enhancing quality of life in elderly care homes.

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