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The effect of community participation on subjective well-being  
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## Abstract

Relationships between health and life satisfaction, health and community participation, and community participation and life satisfaction are well documented in the literature. The current project investigates the confluence of these three variables, specifically whether community participation arbitrates the relationship between physical health challenges and life satisfaction. Using a sample of community dwelling elders from five counties in central Illinois, a mediation analysis assessed the interrelationships between each of the three variables; of particular interest was whether community participation arbitrated the relationship between physical health challenges and life satisfaction. A mediational model could not be tested because there is no statistical relationship between physical health challenges and community participation in these data. Instead, there were significant direct effects between each variable and life satisfaction. Post-hoc tests investigated whether community participation differentially affects life satisfaction in the participants who reported greater-than-median number of physical health challenges. Results indicated significant differences in means between worse health groups who have not participated in the community and groups that have, which suggests that community participation plays some role in positively affecting life satisfaction levels in people with physical health challenges.

*key words: physical health challenges/ life satisfaction/ community participation, mediation*

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Public perception is that it is expensive to relieve the distress of a patient's physical health challenges. Individuals rely on services such as medical care, psychiatric care, occupational care, etc. to relieve this distress. However, in times of economic hardship, there is a need for an alternative form of care that is inexpensive and convenient. *Recreational therapy*, a form of therapy in which music, dance, art, and sports are used to improve motor skills and socialization, while decreasing the likelihood of depression and anxiety (Buettner & Kolanowski, 2003), may be applicable as one of these alternative forms of care. Community participation is likely to offer benefits similar to those of recreational therapy; the current study investigates the effects of community participation on the relationship between physical health challenges and life satisfaction.

### **Subjective Well-being**

*Subjective well-being* is a person's perception of his or her own quality of life that takes into account both daily moods, as well as overall satisfaction with life (Diener, 2000). These distinct aspects of subjective well-being are referred to as "affect" and "life satisfaction" (Pavot & Diener, 1993). *Negative affect* and *positive affect* describe moods and emotions felt at a current point in time, whereas *life satisfaction* refers to the assessment of one's life over time. Researchers found that affect is important in determining how a given stimulus affects a person's emotions, and thus studies typically focus more on these measures versus life satisfaction (Pavot & Diener, 1993). Diener, Fujita, Tay, and Biswas-Diener (2011) showed that a sense of purpose in life contributes to an individual's life satisfaction, but does not play as much of a role in "daily satisfaction" or affect, especially after controlling for feelings of pleasure or pain. To explain, daily factors such as a rainy day does not disrupt the typical long term stability of people's life

satisfaction levels (Lucas, Dyrenforth, & Diener, 2008) whereas relatively permanent components in one's life such as social interaction and health do affect life satisfaction. Thus, life satisfaction measures allow researchers to study factors that may change the perception of one's life overall, rather than momentary emotion (Pavot & Diener, 1993).

Research indicates that people identify a standard of an acceptable or pleasant life and measure their own life events to this standard (Pavot, Diener, Colvin, & Sandvik, 1991). Thus, when people's perceptions of their lives match their expectations, they generally report higher life satisfaction. On the contrary, those whose life events do not match their expectations tend to report lower life satisfaction (Pavot & Diner, 1993).

### **Physical Health Challenges and Life Satisfaction**

The current study focuses on interrelationships between three variables: Physical health challenges, community participation, and life satisfaction. Overall health was found to be one of the main contributors to participants' life satisfaction (Enkvist, Ekstrom, & Elmstahl, 2012). Studies have found an inverse relationship between age and life satisfaction (Enkvist et al., 2012); the authors suggest that as individuals age, more health conditions arise for themselves and for their family and friends. Therefore, the influence of age on life satisfaction is likely conferred through increased health risk (Enkvist et al., 2012). Research also found that patients of clinical settings, such as hospitals, scored lower on life satisfaction measures (Enkvist et al., 2012). Patients were also found, however, to have increased life satisfaction scores during the process of receiving treatment for their medical illness or disorder (Pavot & Diener, 1993). This may be because those in recovery experience increased levels of psychosocial variables such as hope and self esteem, which are associated with better functionality and quality of life after release from the hospital (Kortte, Stevenson, Castillo, Hosey, & Wegener, 2012; Chan, Brooks,

Steel, Heung, Erlich, Chow, & Suranyi, 2011). Life satisfaction levels were found to increase in those with higher levels of hopefulness and self esteem (Kortte et al., 2012).

### **Community Participation and Life Satisfaction**

Research has likewise found social interaction to be a predictor of life satisfaction; people with more social interaction tend to have higher levels of life satisfaction (Lucas, Dyrenforth, & Diener, 2008). There is debate, however, over whether quality or quantity of social interaction has a greater influence on life satisfaction. Lucas, et al. (2008) argue that social interaction, regardless of quality versus quantity of interaction, affects life satisfaction. However, Pinqart, Martin, Sorensen, and Silvia (2000) found that the quality of social interaction is important because it provides emotional support, thus increasing self-esteem. Married couples who report high quality social contact have higher life satisfaction scores than those who are not married (Lucas, Dyrenforth, & Diener, 2008). Additionally, social contact among the elderly in which the person becomes attached to the individual or group contributes to higher levels of life satisfaction, suggesting that quality of social interaction is more important than quantity of interactions (Enkvist, Ekstrom, & Elmstahl, 2012). Relatedly, religion is another factor that affects subjective well-being. As opposed to a strong religious identity, which was presumably considered a main contributor affecting life satisfaction (Ellison, 1991), Diener, Tay, and Myers found that social contact was one of the mechanisms by which religiosity positively affects life satisfaction (2011).

Aberg, Sidenvall, Hepworth, O'Reilly, and Lithell (2005) investigated the quality of life within the elderly community as it relates to life satisfaction. Results indicated that independence, adaptation, and activity were chosen more often as necessities to higher life satisfaction (Aberg et al., 2005). *Independence* was described as one's ability to perform daily

tasks without assistance and *adaptation* as a coping mechanism to changes occurring around the person (Aberg et al., 2005). The World Health Organization's International Classification of Functioning, Disability, and Health defines *activity* as simple or advanced tasks including social contact, communication, personal interactions, mobility, and community involvement (Aberg et al., 2005). Participants agreed that the inability to participate in such activities negatively affects life satisfaction. Community participation was found to increase factors like independence, adaptation, and activity (Balandine, 2011). *Community participation*, including memberships in clubs, gatherings with friends or family, support groups, and volunteer opportunities, will be used in this study to represent such social interactions.

### **Physical Health Challenges and Community Participation**

Many studies of the benefits of community participation focus on the link between participation and recovery. Since an increase in health is related to higher levels of life satisfaction (Enkvist, Ekstrom, & Elmstahl, 2012), recovery from physical impediments may increase a person's life satisfaction. Searle and colleagues (1995) suggested that the onset of illness leads people to feel the reality of old age and to then reevaluate their lives.

Kaplan, Salzer, and Brusilovskiy (2012) showed that community activities, friendship, and spirituality significantly increased recovery in participants. Community activity may also provide advantages similar to having friendships, such as the sense of belonging (Kaplan et al., 2012). Utilizing this type of positive interaction through community activity is thought to augment coping by increasing the ability to recover and maintain optimistic attitudes (Kobau et al., 2012).

Balandine (2011) found that social seclusion typically seen in those with life long disabilities is correlated with elevated amounts of time spent alone watching television or listening to music. Integration research determined that five elements serve to help integrate

people with disabilities back into society: functioning in a typical way, integration with others without being ignored, taking part in society, acting on possible opportunities, and having a sense of control over the individual's own life (Balandine, 2011). These five characteristics are associated with activity such as community participation (Balandine, 2011).

Kobau, Seligman, Peterson, Diener, Zack, Chapman, and Thompson (2011) advocated for community action by supporting programs that encourage social inclusion of people with disabilities. The programs encouraged independence in a controlled environment, the hallmark of which is lack of discrimination. This type of intervention helps to prevent further physical injury or illness and can also aid in extending longevity (Kobau et al., 2011). Leisure education, a slightly modified Community Reintegration Program, was used to help people understand their value in the community by teaching control (Bullock & Howe, 1991 as cited in Searle, Mahon, Iso-Ahola, Sdrolas, & VanDyck, 1995). These programs also help to improve subjective well-being in participants who report having life impediments that limit participation from their favorite leisure activities (Searle et al., 1995). Results showed that a leisure intervention program, designed to positively affect the control and competence of the participants, raised the participants' life satisfaction levels (Searle et al., 1995). Additionally, community activities such as bowling and other leisure programs increased competence, self esteem, and independence (Balandine, 2011), all of which affect life satisfaction (Diener & Diener, 1995; Pinquart & Sorensen, 2000; Whitbourne, 1985).

Although previous research has found relationships between these three variables, few studies appear to address whether community participation can augment life satisfaction in those with physical health challenges. Community participation was investigated as a potential mediator variable by first determining relationships between each of the three variables: physical



health challenges, community participation, and life satisfaction. The current study hypothesizes that community participation will mediate the relationship between physical health challenges and life satisfaction so that the relationship will diminish or disappear.

### **Method**

#### *Participants*

Participants were pulled from Successful Aging in Context: The Macro-environment and Daily Lived Experience (Montpetit, 2010). These participants were recruited from five counties in Central Illinois. Stratified random sampling was used to generate a sample that is more representative of the larger population in terms of race and socioeconomic status than existing studies of its kind. Community dwelling elders were asked to complete a 43-page questionnaire assessing various aspects of physical and mental health, as well as variables associated with these outcomes. One hundred and thirty two people, ranging in age from 60-74, had sufficient data to be included in analyses ( $M_{Age} = 66.72$  years,  $SD_{Age} = 5.32$  years). Fifty-five percent of the sample was female. Twenty-one percent of people were educated through high school, 30% completed vocational training or had taken some college classes, 21% had earned a college degree, and 27% earned a graduate, medical, or law degree. Eighty-eight percent of participants were White, 5% African American, 2% Asian, and 2% Latino/a. Only 1% earned less than \$7,500 yearly, 7% earned between \$7,500 and \$14,999, 13% earn between \$15,000 and \$24,999, 14% earned between \$25,000 and \$39,999, 27% earned between \$40,000 and \$65,000, and 38% earned over \$65,000 yearly. Fifty-five percent of participants reported being married, 20% divorced, 10% single, 14% were widowed, and 1% were separated.

#### *Measures*

*Self Reported Physical Health.* Participants' general health condition was assessed using a measure of perceived physical health (Belloc, Breslow, & Hochstim, 1971). Participants were presented with a list of twenty-five common chronic health conditions such as asthma, high blood pressure, and paralysis, and were asked to check any that were relevant in their lives within the past twelve months. The checked items were tallied, and higher scores indicate self-reported worse health.

*Community Participation.* Extent of participation in community activity was assessed using a five-item scale from the Midlife Development in the United States (MIDUS) (Brim, Ryff, & Kessler, 2004). Participation includes attending church activities, club activities, volunteer activities, support groups, and activities with friends. Response choices regarding frequency of participation in certain activities ranged from 1 "never" to 4 "everyday." Items are summed to create a total score, with higher overall scores indicating greater participation in community activities (Cronbach's  $\alpha = .53$ ).

*Life Satisfaction.* The Satisfaction with Life Scale (SWLS) is a multi-item scale for global life satisfaction that excludes measures of positive affect and loneliness (Diener, Emmons, Larsen, & Griffin, 1985). Participants rated five-items from 1 "strongly disagree" to 7 "strongly agree." Items include "In most ways my life is close to my ideal" and "If I could live my life over, I would change almost nothing" (Diener et al., 1985). Higher scores indicate higher life satisfaction (Cronbach's  $\alpha = .91$ ).

## Results

Descriptive statistics can be found in Table 1. Community participation and life satisfaction ( $r = .36, p < .05$ ) were significantly correlated, as were physical health challenges and life satisfaction ( $r = -.27, p < .05$ ). Regression analyses consistent with Baron and Kenny

(1986) were used to test a mediational model. See Figure 1 for a conceptual model of mediation using these variables. The outcome variable, life satisfaction, was regressed onto the predictor variable, physical health challenges. The potential mediator variable, community participation, was then regressed onto the physical health challenges and life satisfaction. Life Satisfaction was then regressed onto both physical health challenges and community participation simultaneously.

Because results showed no significant relationship between physical health challenges and community participation, a mediational model could not be tested ( $F_{(1,124)} = 1.20, p = 0.28$ ) (See table 2). Results of Model 2, however, do suggest significant direct effects between community participation and life satisfaction ( $\beta = 0.36, p < 0.001$ ), and between physical health challenges and life satisfaction ( $\beta = -0.27, p < 0.01$ ). The addition of community participation to the regression model resulted in a reduction of the  $\beta$  coefficient describing the relationship between physical health challenges and life satisfaction ( $\beta = -.18, p < 0.05$ ). Exploratory post-hoc tests were run to further examine the how participating in the community affects this relationship.

Results of a two way ANOVA (see Table 3), using a median split on the community participation and physical health challenges variables, suggested significant main effects between community participation and life satisfaction ( $F = 12.75, p < 0.001$ ) and between physical health challenges and life satisfaction ( $F = 4.57, p < 0.05$ ). The interaction effect also trended towards significance ( $F = 3.88, p = 0.051$ ). To investigate this trend, means were compared. Results showed little difference in means of life satisfaction between participants with better health/low community participation and better health/high community participation (see Table 4). However, in those with worse health, t-tests revealed significant mean difference ( $t = -3.37, p < 0.01$ ) in life satisfaction between low community participation ( $M = 21.40, SD = 8.73$ )

and high community participation ( $M = 27.50$ ,  $SD = 4.22$ ) groups, indicating that community participation may play some role in affecting life satisfaction in those with worse health, but not in those reporting few physical health challenges.

### Discussion

Although the mediational hypothesis could not be tested because the relationship between community participation and physical health challenges was not significant, results did indicate that both variables have direct effects on life satisfaction. Lucas et al. (2008) also found that social interaction is associated with greater life satisfaction. Likewise, Enkvist et al. (2012) also found a direct effect between physical health challenges and life satisfaction; people with worse health tend to have lower levels of life satisfaction.

Looking over results of analyses in which direct effects are tested simultaneously, it is interesting that the coefficient describing the relationship between physical health challenges and life satisfaction was diminished when community participation was added to the regression equation. Accordingly, it seems reasonable to question whether community participation has *some* augmenting effects on life satisfaction in people with physical health challenges. When comparing means, the two worse health groups suggested that individuals in worse health who participate in the community reported higher levels of life satisfaction than those reporting less community involvement. These results coincide with findings that community integration programs increase subjective well-being in individuals with physical impediments (Searle et al., 1995). Community participation may augment life satisfaction levels in those with worse health, but does not seem to affect life satisfaction levels in those who report very few, if any, physical health challenges. Additionally, the average number of health challenges reported by participants in this sample was relatively low ( $M = 2$ ).

Although correlation does not equal causation, it seems reasonable to suggest that community participation might arbitrate the relationship between physical health challenges and life satisfaction. Another possibility includes physical health challenges arbitrating the relationship between community participation and life satisfaction, instead. Previous research does support the intention that community involvement, in part, affects life satisfaction in those with worse health. As mentioned previously, individuals with decreased health tend to have lower levels of life satisfaction (Enkvist et al., 2012) and those with more social interaction tend to have higher levels of life satisfaction (Lucas et al., 2008). Also, activities such as bowling integrate people with disabilities back into the community, which was found to increase competence, self esteem, and independence, variables in which predict higher levels of life satisfaction (Balandine, 2011; Diener & Diener, 1995; Pinquart & Sorensen, 2000; Whitbourne, 1985). Thus, community participation is likely to diminish the decreasing effect physical health challenges has on life satisfaction.

Results of the post-hoc tests should be interpreted with caution with respect to the increasing chance of type I error, in which a relationship is found where one does not actually exist (Maxwell & Delaney, 1990). The post-hoc tests, together, all answered a single question: does participation in the community, rather than lower participation in the community, augment life satisfaction levels in those with physical health challenges? Since this was considered a single family of analyses, no adjustment to the  $p$ -value was deemed necessary to control family-wise error rate at  $p < .05$  (Maxwell & Delaney, 1990). Replication of these results would help establish their reliability.

Studies of life satisfaction typically investigate predicting relationships between a single variable and life satisfaction. While the current study found direct effects, it also suggested that

community participation may augment life satisfaction in those with physical health challenges. The simultaneous inclusion of these three variables is the most notable strength of the current research.

Factors that limit the generalizability of the current study include the inability to consider severity of physical health challenges. Differences in severity may have limited some individuals from participating in the community (Searle et al., 1995). Moreover, it is not clear whether the presence of severe physical health challenges prevented individuals from participating in the community resulting in lower levels of life satisfaction, or if the amount of community participation itself affected life satisfaction levels in those with worse health; note that worse health indicates more physical health challenges and does not suggest severity of the illness. The current sample, aged 60-74 years old, may simply have too few physical health challenges; previous literature found that as one ages more health conditions arise (Enkvist et al., 2012). The inability to consider recovery as a factor in this study may explain the lack of a significant relationship between community participation and physical health challenges. Further, participants were not asked to indicate recovery from physical health challenges on the questionnaire. Previously, recovery from health challenges suggested a link between community participation and health challenges (Kaplan, Salzer, & Brusilovskiy, 2012).

Further research is necessary to investigate the direct effects between community participation and life satisfaction, as well as physical health challenges and life satisfaction. Future studies could consider a within-subjects design in which participants with poor health, low levels of life satisfaction, and no involvement in the community are prescribed different levels of community participation. This would allow for the investigation of potential change in life satisfaction levels for those with physical health challenges.

Evidence that community participation positively affects life satisfaction levels in those with poor health supports the use of community participation as one inexpensive method for helping individuals cope with physical health challenges. Especially during times of economic hardship, there is a need for an alternative or adjunct treatment to more formal means of assistance; community participation, perhaps delivered by recreational therapy, seems to be a viable option. Understanding the effects of community participation can be utilized by those with poor health to increase their levels of happiness in the face of physical health challenges.

Table 1  
Descriptive statistics

Variable	Mean	SD	Age	Gender	Life Satisfaction	Community Participation	Physical health challenges
Life satisfaction	25.68 7	6.58	.08	-.10	<b>1.00</b>		
Community participation	11.53 6	3.25	.02	.09	<b>.36</b>	<b>1.00</b>	
Physical health challenges	2.72	2.37	.05	.11	<b>-.27</b>	-.10	<b>1.00</b>

*Note:* Correlations in bold are significant at the  $\alpha = 0.05$  level.



Table 2  
Regression analyses testing for mediation of the health → life satisfaction relationship by aspects of community participation

Model	F-value	R <sup>2</sup> <sub>Adjusted</sub>	β <sub>standardized</sub>	SE	t-Value
Model 1 (df = 1,130) Physical health challenges	10.11**	.07			
Life Satisfaction			-.27	.09	-3.18**
Model 2 (df = 1, 124) Community participation	1.20	.002			
Physical health challenges			-.10	.09	-1.10
Model 3 (df = 1, 123) Life satisfaction	18.53***	.13			
Community participation			.36	.08	4.30***
Model 4 (df = 2, 123) Life satisfaction	12.02***	.15			
Physical health challenges			-.18	.08	-2.22*
Community participation			.34	.08	4.12***

Note: \*p < 0.05. \*\*p < 0.01. \*\*\* p < 0.001.

Table 3  
Post-hoc two way factorial ANOVA of Community participation and physical health challenges on Life satisfaction

Source	<i>Df</i>	<i>F</i>	<i>p</i>
(A) Community Participation	1	12.75	.0005
(B) Physical health challenges	1	4.57	.03
A x B (interaction)	1	3.88	.051

Table 4  
Post-hoc mean life satisfaction scores for experimental groups

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	Better health	Worse health
low community participation	25.92 (6.25)	<b>21.40 (8.73)</b>
high community participation	27.68 (4.50)	<b>27.50 (4.22)</b>

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*Note:* Mean differences in bold are significant at the  $\alpha = 0.001$  level.

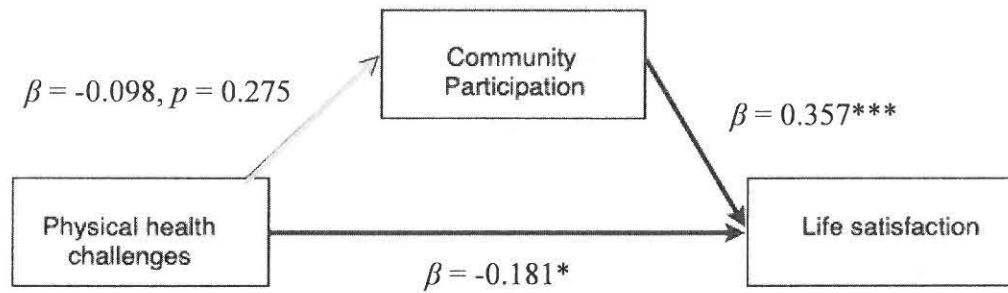


Figure 1. Conceptual model representing the regression relationships tested in the mediational models. The model tests whether community participation arbitrates the relationship between physical health challenges and life satisfaction.

Note: \* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

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