Feeling authentic during playing pickleball in later life: Predicting positive psychological functioning

Jungsu Ryu\textsuperscript{a}, Jinmoo Heo\textsuperscript{b}, Chungsup Lee\textsuperscript{c}, Amy Chan Hyung Kim\textsuperscript{d}, and Kyung Min Kim\textsuperscript{e}

\textsuperscript{a}Marshall University, USA; \textsuperscript{b}Yonsei University, Seoul, South Korea; \textsuperscript{c}California State University, Long Beach, USA; \textsuperscript{d}Florida State University, USA; \textsuperscript{e}University of Miami, USA

\textbf{ABSTRACT}

Authenticity, being trustful with oneself, is regarded as a principle predictor of healthy functioning. However, the association between authenticity and psychological functioning has not been examined, even though leisure is an ideal context within which to experience authenticity. Therefore, this study examined the association between authenticity and psychological functioning in older adults playing pickleball. A convenience sample of 112 males and 96 females (64.11 ± 6.56, 50–82 years) was utilized. The participants were asked to fill out a questionnaire primarily asking about their levels of authenticity (4-items) and psychological functioning measured by both perceived stress (4-items) and happiness (single item). The pearson correlation tests found higher levels of authenticity were significantly correlated with being less stressed ($r = -0.373$, $p < 0.01$) and happier ($r = 0.203$, $p < 0.01$). A two-step hierarchical regression was used to determine the unique contribution of authenticity to either perceived stress or happiness, and found that authenticity uniquely contributed to 10% of the variance in perceived stress ($F = 4.678$, $p < 0.001$) and 2.3% of the variance in happiness ($F = 3.046$, $p < 0.01$). These results suggest that authenticity in older adults playing pickleball may play an important role in positive psychological functioning.

\textbf{ARTICLE HISTORY}

Received 18 June 2018
Revised 13 January 2019
Accepted 16 January 2019

\textbf{KEYWORDS}

Pickleball; Authenticity; Perceived stress; Happiness; Older adults

1. Introduction

Literature spanning the past decades has provided support for the role of positive psychology in older adults. While late adulthood is associated with a deterioration of health and functional capacity, positive psychology literature has suggested that older adults’ functioning and well-being can be improved. In addition, Rowe and Kahn (1997) stated that behavioral efforts, including engaging in social and leisure activities, can modify or reverse the negative consequences of the aging process.

It has been argued that authenticity is an essential factor of one’s well-being and healthy functioning (e.g., Rogers, 1961; Wood, Linley, Maltby, Baliousis, & Joseph, 2008; Yalom, 1980). Authenticity refers to the state of being a real person who is truthful with oneself and others (Seligman, 2002) and expressing oneself in ways that are in line with inwardly experienced desires, emotions, and values (Harter, 1999; Harter, 2002). An individual feels most authentic when he or she is acting with a strong sense of choice and self-expression (Sheldon, Ryan, Rawsthorne, & Ildardi, 1997). Furthermore, according to Ashforth and Tomiuk (2000), deep authenticity occurs when individuals’ emotional expressions are consistent with their own specific identities that they have internalized or want to internalize as a reflection of themselves. Kernis and Goldman (2005) similarly emphasized that authentic behavior is attributable to an individual’s core self, which denotes one’s preferences and values.

\textbf{CONTACT} Kyung Min Kim kkim@miami.edu
© 2020 Western Social Science Association
The self-determination theory (SDT) posits that an individual has inherent, natural and constructive dispositions that are used to grow a unified sense of self (Deci & Ryan, 1985; Ryan & Deci, 2004). The SDT emphasizes the extent to which individuals’ behaviors are self-determined and self-motivated, and differentiates between intrinsic and extrinsic motivations (Deci & Ryan, 2012). Deci and Ryan (1985) proposed basic psychological needs (i.e., competence, autonomy and relatedness) as motivations for individuals to initiate behaviors and essential elements in effective functioning and psychological health (Ryan & Deci, 2000). Among the three psychological needs, autonomy refers to desire to act in concord with one’s integrated self, which means that autonomous individuals experience their behavior as an expression of the self. Kernis and Goldman (2006) explored their multicomponent perspectives on authentic functioning based on SDT. In this regard, feeling of authenticity can be explained by SDT to some extent.

Authenticity, as noted earlier, has been regarded as one of the most fundamental determinants of well-being (Wood et al., 2008). Goldman and Kernis (2002), for example, showed the significant effects of authenticity on healthy psychological functioning as well as on well-being. It has been found that greater levels of authenticity not only contribute to increased self-esteem and life satisfaction, but also predict reduced negative affect among college students (Goldman & Kernis, 2002). Additionally, undergraduate students who felt more authentic across their five roles (i.e., student, employee, child, friend and romantic partner) were shown to experience reduced stress, depression, symptomology, and anxiety as well as increased self-esteem (Ryan, LaGuardia, & Rawsthorne, 2005; Sheldon et al., 1997).

With regard to stress at an advanced age, past studies have demonstrated that stress is inversely related to physical and mental health among older adults. For example, it has been shown that higher perceived stress is likely to not only accelerate cognitive decline over seven years of follow-up, but also decrease cognitive function among older adults (Aggarwal et al., 2014). In addition, perceived stress has been shown to induce negative affects and contribute to depression in later life (Pruchno & Meeks, 2004). Given the negative consequences of stress, it appears that adequate and feasible stress management strategies as well as effective measures to lessen stress need to be provided to older adults. The current study will explore the possibility that feeling authentic may be feasible stress management strategies among older adults.

Individuals experience happiness when positive emotions outweigh negative emotions. Leisure-time physical activity is one of factors that has been linked to happiness because of the benefits such as pleasure, coping with stress, forming identity, and social interaction (Iwasaki, 2007; Mannell, 2007). Literature has suggested that participating in leisure-time physical activity is associated with experiencing happiness. For instance, it has been found that physical exercise programs significantly contributed to greater happiness among older adults based on an eight-week intervention study (Khazaee-pool, Sadeghi, Majlessi, & Rahimi Foroushani, 2015). In addition, Seligman’s (2002) study showed that authenticity contributed to authentic forms of happiness.

Cohen (2010) suggested authenticity should be introduced into leisure and recreation studies as he believed it could lead to the creation of a new perspective on the social significance of everyday leisure experiences. In the current study, thus, we explore how feeling authentic in leisure activities is associated with well-being. Pickleball is one of the most popular leisure activities among older adults and is known to be the fastest growing sport across all ages in the United States (Marley, 2017; Newby, 2017). According to the USA Pickleball Association (USAPA), although pickleball was invented in 1965 (USAPA, 2017), it was dormant until the 2000s. Since then, pickleball has begun spreading rapidly through various senior athletic events (Kane, 2015). Pickleball was first included in the Senior Games in 2008 and has become one of the popular events in most Senior Games (Barkas, 2015). Pickleball has many physical and mental health benefits, such as increased social interactions, improved balance and agility and reduced risks of falls (Butz, 2016; Ryu, Yang, Kim, Kim, & Heo, 2018). As pickleball is easy to learn and is not as strenuous as other racket sports, it has appealed to older adults.

The USAPA (2018) estimates that over 2.8 million people play pickleball in the United States. Pickleball is often described as a hybrid of tennis, badminton, and table tennis. It uses a perforated
plastic ball that is slower than a tennis ball and is played on a badminton-sized court, which is approximately one-third the size of a standard tennis court. Pickleball can be played both indoors and outdoors. In pickleball, a skill rating system is used to determine the levels of competition, so that the players are evenly matched. Individuals are rated on a scale of 1.0 (novice) to 5.0 (professional) with half-point increments. Due to its growing popularity, a number of park districts have converted underused or old outdoor tennis courts into pickleball courts (Dandashi, 2017; Davies, 2017; Smith, 2017).

Given the increasing popularity of pickleball among older adults as well as the significance of authenticity in well-being, an examination of the psychological effects of feeling authentic while playing pickleball needs to be performed. Heeding Cohen’s (2010) claims, the examination will also extend our understanding of leisure experiences in terms of authentic dispositions through justifying the applicability of authenticity to leisure studies since it has been rarely introduced in leisure and recreation field. Therefore, the purpose of this study is two-fold. First, we investigate the level of authenticity while older adults are playing pickleball. Second, we explore the association between feeling authentic and positive psychological functioning (i.e., lower perceived stress and greater happiness) among older adults.

2. Methods

2.1. Participants

A convenience sample was recruited from the 2017 U.S. Open Pickleball Championship which is an annual international pickleball tournament. This event took place in Naples, Florida in April 2017, and it is known as one of the largest pickleball tournament in the world. There were approximately 1,200 participants and 10,000 spectators at this event in 2017. While most participants were from the United States, there were some participants from 14 different countries (Simmons, 2017). The investigators were present during the event, and set up a booth to administer surveys. The investigators explained the purpose and procedure of the study to those who voluntarily stopped by the booth to fill out the surveys. While the event lasted seven days, the surveys were collected over two days. It took approximately 15 min to complete the questionnaire, and anonymity of data were ensured. Of the 218 surveys collected, 10 cases were excluded in which respondents completed less than 50%. The final sample size was 208. This resulted in 95.4% response rate.

The sample included 112 males and 96 females. Age of participants ranged from 50 to 83 years (M = 64.11, SD = 6.56). Most participants identified themselves as Caucasians (93.2%). A total of 34.3% of the participants had a college education, and 35.3% held a graduate degree. Majority of the participants were married (81.6%). With regard to occupational status, 77.9% of participants indicated that they were retired. Demographic characteristics of the study participants are provided in Table 1.

2.2. Instrumentations

2.2.1. Authenticity

A modified version of Kernis and Goldman’s (2006) Authenticity Inventory utilized in Kraus, Chen, and Keltner’s study (2011) was employed to measure the level of feeling authentic in involvement in pickleball. Participants were asked to indicate how much they agree with each item “right at this moment.” This instrument includes 4 items featuring statements such as “I feel like it is easy to express my true attitudes and feelings during interactions with others,” “I feel like I can be myself with others,” “I feel like I’m artificial in my interactions with others,” and “I feel like I would change myself to get along with others.” The last two items were reversely coded and the total score of four items were averaged (M = 4.97, SD = .93). It was rated on 6-point Likert-type scale (1 = strongly disagree to 6 = strongly agree) with higher scores implying greater authenticity. Cronbach’s alpha for this index was .688.
Perceived stress was measured using the Short Form Perceived Stress Scale (PSS-4) (Cohen, Kamarck, & Mermelstein, 1983). The PSS-4 consists of 4 items which were rated on a 5-point Likert-type scale, where 1 = never, 2 = almost never, 3 = sometimes, 4 = fairly often, to 5 = very often. Of the four items, two positively stated items (i.e., “how often have you felt confident about your ability to handle your personal problems?” and “how often have you felt that things were going your way?”) were reverse-coded and summed with the negatively stated items (i.e., “how often have you felt difficulties were piling up so high that you could not overcome them?” and “how often have you felt that you were unable to control the important things in your life?”). All four items were averaged (M = 2.05, SD = .60) and the responses were ranged from 1 to 3.5. Higher scores indicate higher levels of stress and Cronbach’s alpha for this index was .529.

2.2.3. Happiness
Participants reported their general feelings of happiness with a single item. This item was adapted from Abdel-Khalek’s study (2006) demonstrating a good temporal stability and concurrent, convergent, and divergent validity. The test-retest reliability of the single-item scale of happiness was used to examine the temporal stability. The coefficient of stability was 0.86 which represents good reliability. Each participant was asked, “Do you feel happy in general?” and their answers ranged from 1 (minimum) to 10 (maximum). Higher scores indicate greater happiness level.

2.3. Data analysis
Descriptive statistics were performed to identify characteristics of the study participants. Bivariate correlation was conducted to analyze the relationships among the study variables. Marital status was assigned 0 for married and partnered respondents, and 1 for divorced, singed, and widowed
respondents. Two separate two-step hierarchical multiple regression analyses were employed to estimate the association between authenticity in leisure engagement and positive psychological functioning among older adults controlling for demographic characteristics (i.e., age, gender, education and marital status) (e.g., Cohen & Janicki-Deverts, 2012; Diener & Chan, 2011). The hierarchical regression analysis is useful if variables of interest explain a statistically significant amount of variance in a dependent variable after accounting for all other variables (Gelman & Hill, 2007). Therefore, our first models included demographic information and authenticity in leisure engagement and playing experiences were added to the second models in order to predict two different dependent variables respectively: perceived stress and happiness.

2.4. Control variables

Literature has demonstrated associations among perceived stress, happiness, and demographic factors such as age, gender, education, and marital status. Higher levels of stress were reported in younger adults than older counterparts in studies of European and Spanish populations (Vallejo, Vallejo-Slockert, Fernández-Abascal, & Mañanes, 2018; Warttig, Forshaw, South, & White, 2013). In regards to gender, women consistently suffer from higher stress levels than men (American Psychological Association, 2017). When it comes to relationships between education and stress, a large-scale international study of 13,696 European adults found consistent associations between lower education and higher levels of stress across 16 European countries. (Lunau, Siegrist, Dragano, & Wahrendorf, 2015). Marital status is associated with stress levels: separated individuals experience the highest level, followed by the single, widowed, and those living with a partner or married (Lesage, Berjot, & Deschamps, 2012). In the contrast of contributions of these variables to perceived stress, their impact on happiness vary. Age and gender may have no or little influences, but individuals with higher education appear to be happier (Azizi, Mohamadian, Ghajarieah, & Direkvand-Moghadam, 2017; Mehrdadi, Sadeghian, Direkvand-Moghadam, & Hashemian, 2016). Divergent findings were shown regarding the links between marital status and happiness because some studies reported its relationships (e.g., Azizi et al., 2017), but others did not (e.g., Safari, 2010).

3. Results

Means and standard deviations for all measures are provided in Table 2. On average, the participants have been playing pickleball for approximately three years, and they play pickleball about nine hours per week. With regard to the feeling of authenticity, the result implies that the study participants aged over 65 years are likely to feel authentic when they are playing pickleball ($M = 4.97$, $SD = .93$, $Mdn = 5.25$). It means that pickleball may enable older adults to express themselves or aspects of their self-concept since authenticity inventory that we used in this study asked the participants in the pickleball tournament to indicate how much they agree with each item “right at this moment.” Generally, the participants do not feel stress ($M = 2.05$, $SD = .60$) and feel happy ($M = 8.70$, $SD = 1.09$).

Bivariate correlation coefficients of the study variables are shown in Table 3. Years playing pickleball was significantly correlated with hours playing pickleball per week ($r = .170$, $p < .05$),
and perceived stress was negatively related to happiness \((r = -0.455, p < .01)\). Authenticity was negatively correlated with perceived stress \((r = -0.373, p < .01)\) and positively correlated with happiness \((r = 0.203, p < .01)\). Two separate two-step hierarchical regression analyses were conducted to measure the unique contribution of authenticity to perceived stress and happiness among the study participants (see Table 4). Factors expected to contribute to perceived stress and happiness (i.e., demographic characteristics, frequency of playing pickleball and authenticity) were entered separately into the hierarchical regression model. Education accounted for 4.8% of the variance in perceived stress \((F = 2.398, p < .05)\) and 8.1% of the variance in happiness \((F = 4.134, p < .01)\). Authenticity added significantly to the model predicting an additional 10% of the variance in perceived stress \((F = 4.678, p < .001)\) and 2.3% of the variance in happiness \((F = 3.046, p < .01)\) among older adults. Specifically, education was negatively related to perceived stress and positively associated with happiness at both steps, which means that older adults who have higher education background are likely to feel less stress and feel happier. Moreover, feeling authentic was significantly associated with reduced stress level and increased level of happiness.

### 4. Discussion

The purpose of the present study was to explore the level of authenticity in playing pickleball and how feeling authentic while playing pickleball contributes to positive psychological functioning among older adults. We used perceived stress and happiness as the indicators of psychological functioning. Our findings showed that higher levels of authenticity were associated with higher levels of happiness and lower levels of perceived stress. Kernis (2003) characterized authenticity as the unobstructed operation of individuals’ true selves in their daily routines. Many psychologists place immense value on individuals behaving in line with their inclinations and explain that the balance between behaviors and inclinations plays a role in well-being and interpersonal functioning (e.g., Rogers, 1961). Based on this viewpoint, behaviors that do not closely correspond with individuals’ true selves result in reduced well-being and undermine interpersonal relationships, even if they are
performed well. In this respect, the older adults in the current study may act in accordance with their true selves when they engage in playing pickleball which should be highly regarded. Playing pickleball, meanwhile, may help older adults express themselves in accordance with their own values, desires, and emotions. While the causality was not uncovered as to whether older adults who feel authentic are likely to play pickleball or whether those individuals who play pickleball tend to feel authentic because they play pickleball, it is notable that the current study initially explored authenticity in pickleball players.

Feeling authentic, as mentioned earlier, has been regarded as a significant factor contributing to well-being (Pruchno & Meeks, 2004; Wood et al., 2008). Consistent with past studies, the results of the present study appeared to show that authenticity was significantly associated with reduced perceived stress as well as greater happiness among older adults. Supporting previous research showing the inverse relationship between authenticity and stress (e.g., Aggarwal et al., 2014; Ryan et al., 2005; Wood et al., 2008), the current study suggested feelings of authenticity while playing pickleball could be a feasible and effective tool in regard to managing perceived stress among older adults. The congruence of older adults’ behaviors and their inclinations might stem from playing pickleball, which, in turn, might lead to lower stress levels, indicating that a potential benefit of playing pickleball is that it is a stress reliever among older adults.

While the pursuit of happiness has been regarded as a significant goal for most people, little research has been conducted to investigate the sources of happiness (Lyubomirsky, Sheldon, & Schkade, 2005; Tkach & Lyubomirsky, 2006). According to Lyubomirsky et al. (2005), the three main determinants of happiness are genetic tendencies, intentional activity, and circumstances. In other words, 50% of the happiness level of each individual is genetically determined; 10% of happiness is influenced by circumstances and one’s situation in life; and the remaining 40% is explained via intentional activity, which can be managed by individuals. The authors suggested that volitional efforts can potentially provide increased long-term happiness.

Of the various types of activities, physical activity or sports has been shown to be one of the strongest happiness boosting interventions (Khazaee-pool et al., 2015; Seligman, 2002). The finding from the previous study was consistent with the results of our study, which showed that engaging in pickleball with feeling of authenticity may be a happiness-inducing strategy. It can be potentially presumed that older adults’ active participation in pickleball comes from their self-concordant desires and values, given the higher level of authenticity, which is positively associated with happiness. Thus, our findings confirmed the importance of feeling authentic and playing pickleball as a high-potential avenue by which to enhance happiness among older adults.

This study showed that experiencing authenticity during leisure involvement, particularly pickleball, may contribute to the participants’ positive psychological functioning. From this result, two noteworthy implications for leisure service providers for older adults can be offered: (a) pickleball might be one of the vehicles by which to experience authenticity and (b) authenticity could be a vital determinant of stress coping and happiness. As such, leisure service providers may focus on developing and providing more optimized environments for pickleball participants so that they can experience higher levels of authenticity as well as may encourage older adults to try playing pickleball. According to Ishimura and Kodama (2009), individuals are more likely to feel authentic when they are in a flow state. Individuals experience flow state when perception of skill and perceptions of difficulty of an activity is balanced (Csikszentmihalyi, 1975). Thus, leisure service providers could strive to match the challenge levels of the leisure activities and the levels of participants’ skill levels. In recreation settings, taking the task demand and skill levels of participants into account will facilitate experiencing authenticity. A number of large pickleball competitions offer the option of playing in age groups and skill divisions. Continuing to diversify tournament skill levels for the participants will help them better enjoy their games.

In addition, Murray (2011) stated that authenticity is one of the crucial attributes of serious leisure, which drives leisure participants to reach self-actualization. Since socializing could be a vital element by which to encourage leisure participants to become involved in leisure seriously (e.g., Lee & Payne, 2015),
leisure service programs could strengthen their social characteristics in order to create environments in which to experience authenticity. As Swisher (2017) noted, the growth of pickleball has been ascribed to the camaraderie that occurs between generations. Emphasizing such intergenerational social experiences will not only develop positive attitudes between generations, but also lay foundations for lifelong learning opportunities for older adults. Powers, Gray, and Garver (2013) showed an empirical finding of positive changes in undergraduate’s attitudes toward older adults after experiencing an intergenerational fitness program. Also, Narushima, Liu, and Diestelkamp’s (2018) meanings of lifelong learning found that older adults’ satisfaction related to engaging in continuing education programs was derived from the synergetic association between the individual and the social aspects of his or her learning. Having intergenerational social experiences through pickleball as a vehicle for lifelong learning, thus, may be one of the facilitators to allow older adults to engage in leisure seriously, which, in turn, allows them to experience authenticity.

This study has several limitations. First, we recruited the study participants only in one national pickleball tournament in a Southern state in the United States. Although this tournament is known as one of the biggest pickleball tournaments in the world, future researchers should consider visiting multiple tournaments in order to estimate the characteristics of the entire population of pickleball players. Second, the current study limited itself to participants from one international-level pickleball tournament. Across the United States, over two million people play pickleball at different levels and events that include informal matches, organized local/regional events, statewide events, national events, and international events. Different levels of sports involvement and competition have significant relationships with different types of sports participation motivations (e.g., de Andrade, Salguero, Gonzalez-Boto, & Marquez, 2008; White & Duda, 1994). Different types of motivation may influence the level of authenticity of each participant. Future studies may need to examine pickleball players at different levels in order to fully comprehend the relationship between playing pickleball and the participants’ levels of authenticity.

With regard to the measurements of the current study, it should be noted that a single item was used to assess overall happiness. The item was a simple measure of happiness, and may capture a small facet of happiness. Future studies should consider using more sophisticated assessments of happiness. In terms of measuring the level of authenticity among pickleball players, it should be more clearly assessed using the reference group (i.e., the general population in a similar age group to the participants in the current study). Furthermore, as Murray (2011) pointed out, authenticity can be an essential serious leisure attribute. Engaging in serious leisure provides a number of personal and social benefits (e.g., self-enrichment, personal fulfillment, self-expression, developing friendship). Therefore, it is important for future studies to investigate the role of authenticity for serious leisure pursuits.

Conflict of interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Informed consent was obtained from all individual participants included in the study.
Acknowledgements

The authors would like to thank Spirit Promotions and the Minto US Open Pickleball Championships for assistance in collecting the data. This work was supported by the Yonsei University Future-leading Research Initiative of 2018 (2018-22-0103).

References

Aggarwal, N. T., Wilson, R. S., Beck, T. L., Rajan, K. B., C.F.M.De Leon, & Evans, D. A. (2014). Perceived stress and change in cognitive function among adults aged 65 and older. Psychosomatic Medicine, 76(1), 80–85. http://dx.doi.org/10.1097/PSY.000000000000016

American Psychological Association (2017). Stress in America: The state of our nation. Retrieved September 22, 2018 from http://https://www.apa.org/news/releases/stress/2017/state-nation.pdf.

Ashforth, B. E., & Tomiuk, M. A. (2000). Emotional labour and authenticity: Views from service agents. In S. Fineman (Ed.), Emotion in organizations (2nd edn.). London: Sage.

Abdel-Khalek, A. M. (2006). Measuring happiness with a single-item scale. Social Behavior and Personality: An International Journal, 34(2), 139–150. http://dx.doi.org/10.2224/sbp.2006.34.2.139

Azizi, M., Mohamadian, F., Ghasarieh, M., & Direkvand-Moghadam, A. (2017). The effect of individual factors, socioeconomic and social participation on individual happiness: A cross-sectional study. Journal of Clinical and Diagnostic Research, 11(6), VC01–VC04. http://dx.doi.org/10.7860/JCDR/2017/24658.9982

Barkas, S. (2015 February 13). Forever young, senior athletes compete in Palm Desert. Retrieved September 14, 2018 from http://www.desertsun.com/story/news/2015/02/13/palm-desert-senior-games-international-sports-festival-pickleball/23386813/.

Butz, M. Y. (2016 October 14). Pickleball has many health benefits. Retrieved September 14, 2018 from http://www.thenorthwestern.com/story/life/2016/10/14/pickleball-has-many-health-benefits/91869824/.

Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. San Francisco: Jossey-Bass.

Cohen, E. (2010). Tourism, leisure and authenticity. Tourism Recreation Research, 35(1), 67–73.

Cohen, S., & Janicki-Deverts, D. (2012). Who’s stressed? Distribution of psychological stress in the United States in probability samples from 1983, 2006, and 2009. Journal of Applied Social Psychology, 42(6), 1320–1334.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 355–396.

Dandashi, D. (2017, November 15). New pickleball courts to open in Taylor on Saturday. Statesman. Retrieved November 18, 2017 from http://www.statesman.com/news/local/new-outdoor-pickleball-courts-open-taylor-saturday/w2eXrU2Oki3wBXV6ABmGYO/.

Davies, B. (2017, June 23). New outdoor pickleball courts opening at Springfield’s Meadow Park. The Register Guard. Retrieved November 18, 2017 from http://registerguard.com/rp/news/local/35679680-75/new-outdoor-pickleball-courts-opening-at-springfields-meadow-park.html.csp.

de Andrade, A., Salguero, A., Gonzalez-Boto, R., & Marquez, S. (2008). The relationship of participation motivation to goal orientations and perceived physical ability in Brazilian swimmers. Psicologia, 51, 151–169.

Deci, E., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. Berlin, Germany: Springer Science and Business Media.

Deci, E. L., & Ryan, R. M. (2012).Motivation, personality, and development within embedded social contexts: An overview of self-determination theoryRyan, R. M. (Eds.), Oxford handbook of human motivation (pp. 85–107). Oxford, UK: Oxford University Press.

Diener, E., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. Applied Psychology: Health and Well-Being, 3(1), 1–43.

Gelman, A., & Hill, J. (2007). Data analysis using regression and multilevel/hierarchical models. New York, NY: Cambridge University Press.

Goldman, B. M., & Kernis, M. H. (2002). The role of authenticity in healthy psychological functioning and subjective well-being. Annals of the American Psychotherapy Association, 5(6), 18–20.

Harter, S. (1999). Symbolic interaction revisited: Potential liabilities for the self-constructed in the crucible of interpersonal relationships. Merrill-Palmer Quarterly, 45, 677–703.

Harter, S. (2002). Authenticity. In C. R. Snyder, & S. J. Lopez (Eds.), Handbook of positive psychology (pp. 382–394). New York: Oxford University Press.

Ishimura, I., & Kodama, M. (2009). Flow experiences in everyday activities of Japanese college students: Autotelic people and time management. Japanese Psychological Research, 51(1), 47–54.

Iwasaki, Y. (2007). Leisure and quality of life in an international and multicultural context: What are major pathways linking leisure to quality of life?. Social Indicators Research, 82, 233–264.

Kane, D. (2015 October 21). Food for thought: The evolution and growth of pickleball. Retrieved September 15, 2018 from http://www.tennis.com/your-game/2015/10/food-thought-evolution-and-growth-pickleball/56634/.
Kernis, M. H. (2003). Toward a conceptualization of optimal self-esteem. Psychological Inquiry, 14(1), 1–26.
Kernis, M. H., & Goldman, B. M. (2005). Authenticity, social motivation, and psychological adjustment. In J. P. Forgas, & K. D. Williams (Eds.), Social motivation: Conscious and unconscious processes. New York: Cambridge University Press.
Kernis, M. H., & Goldman, B. M. (2006). A multicomponent conceptualization of authenticity: Theory and research. Advances in Experimental Social Psychology, 38, 283–357. http://dx.doi.org/10.1016/S0065-2601(06)38006-9
Khazaee-pool, M., Sadeghi, R., Majlessi, F., & Rahimi Foroushani, A. (2015). Effects of physical exercise programme on happiness among older people. Journal of Psychiatric and Mental Health Nursing, 22(1), 47–57. http://dx.doi.org/10.1111/jpm.12168
Kraus, M. W., Chen, S., & Keltner, D. (2011). The power to be me: Power elevates self-concept consistency and authenticity. Journal of Experimental Social Psychology, 47(5), 974–980. http://dx.doi.org/10.1016/j.jesp.2011.03.017
Lee, C., & Payne, L. L. (2015). Exploring the relationship between different types of serious leisure and successful aging. Activities, Adaptation and Aging, 39(1), 1–18. http://dx.doi.org/10.1080/01924788.2015.994415
Lesage, F. X., Berjot, S., & Deschamps, F. (2012). Psychometric properties of the French versions of the Perceived Stress Scale. International Journal of Occupational Medicine and Environmental Health, 25(2), 178–184. http://dx.doi.org/10.2478/s13382-012-0024-8
Lunau, T., Siegrist, J., Dragano, N., & Wahrrendorf, M. (2015). The association between education and work stress: Does the policy context matter?. PLoS One, 10(3). http://dx.doi.org/10.1371/journal.pone.0121573
Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. Review of General Psychology, 9(2), 111–131. http://dx.doi.org/10.1037/1089-2680.9.2.111
Mannell, R. C. (2007). Health, well-being and leisure. World Leisure Journal, 49, 114–128.
Marley, K. (2017, June 28). Pickleball: the fastest growing sport in America: This hybrid racket sport will give you a workout. Community Health. Retrieved September 8, 2017 from http://www.communityhealthmagazine.com/community/new_york/ontario/pickleball-the-fastest-growing-sport-in-america/article_7e2bb28-5c28-11e7-97d5-13c608868deb.html.
Mehrdadi, A., Sadeghian, S., Direkvand-Moghadam, A., & Hashemian, A. (2016). Factors affecting happiness: A cross-sectional study in the Iranian youth. Journal of Clinical and Diagnostic Research, 10(5), VC01–VC03. http://dx.doi.org/10.7860/JCDR/2016/17970.7729
Murray, D. (2011). Home brewing and serious leisure an empirical evaluation (Master’s thesis). Alabama: Auburn University.
Narushima, M., Liu, J., & Diestelkamp, N. (2018). I learn, therefore I am: A phenomenological analysis of meanings of lifelong learning for vulnerable older adults. The Gerontologist, 58(4), 696–705. http://dx.doi.org/10.1093/geront/gnx044
Newby, J. (2017, April 17). Older adults gravitate to pickleball. USA Today. Retrieved September 8, 2017 from http://www.usatoday.com/story/sports/outdoors/breathe/2017/04/17/older-adults-gravitate-pickleball/100311912/.
Powers, M., Gray, M., & Garver, K. (2013). Attitudes toward older adults: Results from a fitness-based intergenerational learning experience. Journal of Intergenerational Relationships, 11(1), 50–61. http://dx.doi.org/10.1080/15350770.2013.755067
Pruchno, R. A., & Meeks, S. (2004). Health-related stress, affect, and depressive symptoms experienced by caregiving mothers of adults with a developmental disability. Psychology and Aging, 19(3), 394–401. http://dx.doi.org/10.1037/0882-7974.19.3.394
Rogers, C. R. (1961). On becoming a person. Boston, MA: Houghton Mifflin.
Rowe, J. W., & Kahn, R. L. (1997). Successful aging. The Gerontologist, 37(4), 433–440.
Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68–78.
Ryan, R. M., & Deci, E. L. (2004). Autonomy is no illusion: Self-determination theory and the empirical study of authenticity, awareness, and will. In J. Greenberg, S. L. Koole, & T. Pyszczynski (Eds.), Handbook of experimental existential psychology (pp. 455–485). New York City, NY: The Guilford Press.
Ryan, R. M., LaGuardia, J. G., & Rawsthorne, L. J. (2005). Self-complexity and the authenticity of self-aspects: Effects on well being and resilience to stressful events. North American Journal of Psychology, 7(3), 431–448.
Ryu, J., Yang, H., A.C.H.Kim, Kim, K. M., & Heo, J. (2018). Understanding pickleball as a new leisure pursuit among older adults. Educational Gerontology, 44(2–3), 128–138.
Safari, S. H. (2010). Happiness and its relation with university students-demographic factors. Journal of Modern Industrial/Organizational Psychology, 1(2), 79–87.
Seligman, M. E. (2002). Authentic happiness. New York: Free Press.
Sheldon, K. M., Ryan, R. M., Rawsthorne, L. J., & Ilardi, B. (1997). Trait self and true self: Cross-role variation in the Big-Five personality traits and its relations with psychological authenticity and subjective well-being. Journal of Personality and Social Psychology, 73(6), 1380–1393.
Simmons, S. (2017, March 17). US Open Pickleball Championship April 2017 in East Naples Florida. Retrieved September 16, 2018 from http://https://www.eastnaplesmerchantsassoc.com/us-open-pickleball-championship-april-2017-east-naples-florida/.
