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What activities individuals with intellectual disabilities do for fun: exploration into self-care

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Participation in enjoyable activities is instrumental to improving individuals' quality of life. Previous studies have indicated engagement in community-based activities and physical exercise are beneficial to individuals with intellectual disabilities (ID). The purpose of this study was to understand, from their perceptions, fun activities in which individuals with ID engaged. One hundred and sixty-nine participants with ID provided 561 responses, which described what they do for fun. A multidisciplinary research team utilized a Consensual Qualitative Research (CQR) approach to differentiate responses into a list of categories that fit into six central domains. Domains (with frequency of responses) included: Community and Relationship Building Activities (130), Sports and Other Physical Activities (123), Technology and Gaming (105), Music and Other Preforming Arts (69), Mentally-Stimulating Activities (51), and Categories Outside of a Domain (82). These findings indicate that individuals with ID have a variety of interests. Our discussion, which reviews literature on individuals with and without ID, suggests similar leisure activity engagement among both groups. This literature also suggests individuals with ID experience similar benefits to their peers without ID when engaging in leisure activities. Our results provide a framework to explore self-care routines that can improve quality of life for individuals with ID.

Keywords: intellectual disability, leisure, self-care, quality of life, activities, well-being

Introduction

According to Skevington *et al.* (2004), the World Health Organization (WHO) defined quality of life (QOL) as, 'an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns'. In general, major contributors that influence one's QOL include perceived purpose in life (Kim *et al.* 2019), material life and social life (Ouyang *et al.* 2019), and interpersonal supports. The perception of one's own QOL has a major impact on an individual's overall well-being (Ouyang *et al.* 2019). The WHO has additionally developed a QOL measure that specifically assesses perceived needs and concerns of individuals with a disability, which are essentially transferable to their previously developed general model of QOL (Power and Green 2010). For individuals with physical disabilities, the perceived lack of meaning in their lives due to physiological impairments directly affects their life satisfaction and are reflections of the importance of an individual's QOL (Kim *et al.* 2019).

Dating back to the 1970s, programs attempting to improve the QOL of individuals with ID incorporated: additional community services, housing accommodations, and improved staffing services (Bigby and Beadle-Brown 2018). Bigby and Beadle-Brown (2018) identified QOL improvements as inadequate due to not encapsulating additional criteria that may directly affect an individual's QOL. Bigby and Beadle-Brown (2018) also concluded that most research focuses on objective factors (defined by measures such as frequency of occurrence of activities) rather than subjective factors (such as lived experiences) failing to draw attention to perceived physical well-being, perceived emotional well-being, and social relationships. Impact an area of life has on an individual's perception of life satisfaction depends on the importance placed on it (Bertelli *et al.* 2019).

Recent assessments of QOL for individuals with ID reiterate current practices as inadequate, having used too many of the previous objective criteria for

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determining an individual's life satisfaction (Clark *et al.* 2017). According to Morisse *et al.* (2013), future assessments on QOL for individuals with ID need to use the same criteria as for individuals without ID. Results of their study found that emotional well-being, social inclusion, and interpersonal relations were the top choices of activities for both individuals with ID and those without ID. Activities that could promote positive outcomes can include technology use, physical fitness, and community-based activities. These activities can ultimately lead to QOL improvement in individuals with ID (Morisse *et al.* 2013). In addition, Semmel *et al.* (2019) argued the importance of assessing adaptive skills in individuals with disabilities in order to improve their overall QOL. The types of beneficial activities provided by Morisse *et al.* (2013) are examples of activities that promote overall well-being (Colman *et al.* 2016).

Another component of the human experience that directly contributes to a high QOL is positive emotion (Silton *et al.* 2020), which is a core component of Positive Psychology (Dykens 2006). Dykens (2006) suggests that Positive Psychology focuses on what contributes to individuals' happiness, with positive emotion as a main indicator of happiness. Additionally, according to Silton *et al.* (2020), positive emotion leads to high quality health and psychological outcomes. According to this research, these positive outcomes lead to the facet of well-being within the WHO definition of QOL. Previous research has conveyed that engagement in leisure activities can result in positive emotions (Zhang *et al.* 2014) and overall positive QOL (Brajša-Žganec *et al.* 2011). Brajša-Žganec *et al.* (2011) additionally stated that high frequencies of participation in leisure activities result in improved QOL.

Zhang *et al.* (2014) defined leisure as activities, outside of daily living tasks and work, in which individuals participate for enjoyment and development of positive well-being. According to this definition and the data gathered from the study, engagement in leisure activities can facilitate positive emotion, resulting in improvement of one's QOL (Brajša-Žganec *et al.* 2011; Zhang *et al.* 2014). Dykens (2006) described focusing on the present as a route to happiness. Dykens (2006) suggested present happiness consists of positive emotions (for individuals with and without ID) based off sensory pleasures such as eating ice cream, watching television, and partaking in human contact and interaction. These sensory pleasures that facilitate positive emotions and overall well-being may also be leisure activities. The WHO model for QOL emphasizes factors associated with physical health, psychological health, social relationships, and the environment as major contributors to one's QOL (Skevington *et al.* 2004). According to Skevington *et al.* (2004), within the environmental category, the WHO highlighted recreation and leisure activities as instrumental to one's QOL. Other models of QOL, such as the Functional Living Index and Ferrans and Power's Quality of Life Index, also included recreation or leisure (Lavdaniti and Tsitsis 2015).

In previous research, parental figures indicated their children with ID prefer a wide variety of leisure activities, such as visiting family, drawing, sports, exercise, and singing (Dolva *et al.* 2014). Additionally, existing research has linked engagement in leisure activities to an improved QOL. Mihaila *et al.* (2017) found that a combination of leisure activities resulted in positive outcomes in psychological well-being among adolescents and young adults with Down Syndrome. Additionally, for individuals with ID, a leisure activity (e.g. listening to music) has influence on social connectedness and well-being (Hassan *et al.* 2012). Previous research has conveyed a large variety of leisure activities that promote overall well-being and a healthy lifestyle (Brajša-Žganec *et al.* 2011). Engagement in such leisure activities could appear as self-care practices (Schellhammer 2020).

Self-care has become an encouraged practice among all individuals for maintaining a healthy balance in their lives (Lindsay *et al.* 2013; Colman *et al.* 2016). Barbara Schellhammer (2020) claimed that self-care confronts the internal discomfort and distress that we may feel at times and labeled these negative feelings as the 'stranger within us.' According to Schellhammer (2020), early philosophers, such as Plato and Socrates, vocalized the importance of self-care and had similar views on maintaining a life of equilibrium as grappling unexpected chaos that arises in an individual's life in order to find peace within themselves. The connection between self-care and QOL dates back to Plato and Socrates. According to Schellhammer (2020), these philosophers viewed self-care as activities influential in one's pursuit of the 'good life'. This still holds true in the 21st century in that individuals may use these balancing practices to cope with disruptions in their lives, thus possibly improving their overall QOL. These disruptions may require a need for stabilization to aid in recovery and reach the 'good life'. Individuals recover from emotional distress by engaging in healthy preferred activities (Coffey *et al.* 2019). Coffey *et al.* (2019) describe the term recovery as, 'regaining mental health to the maximum extent possible and achieving the best possible QOL lived as independently as possible.' Recovery relates directly to self-care in that individuals use self-care activities to improve their overall well-being, thus positively impacting their QOL. Previous research has suggested leisure activities are multidimensional and creative as well as, used to improve the 'self' that Schellhammer (2020) emphasized (Brajša-Žganec *et al.* 2011). Additionally, according to Brajša-Žganec *et al.* (2011) and Ayala *et al.*'s

(2017), intentional engagement in leisure activities may constitute self-care practices. Although previous research has presented a variety of definitions for self-care, we chose to operationalize the term as multidimensional, creative, and intentional activities used for the development or healing of the self.

Recent research (Albuquerque and Carvalho 2020; Durbin *et al.* 2017) assessing individuals with ID has revealed that one of their unmet needs is self-care. With that said, there has been little research around self-care and individuals with disabilities (Lindsay *et al.* 2013). Previous research has identified leisure activities as beneficial, specifically for physical health and overall well-being in individuals with and without ID (Armila *et al.* 2018). Leisure activities, such as videogames, contribute to cognitive improvements for individuals with and without ID (Jiménez *et al.* 2015). In addition, although self-care is an important contributor to our overall well-being, individuals need to assess whether they are using their self-care practices effectively.

Research has supported that children and adolescents need to become adept in skills (such as self-care) in order to successfully transition into adulthood (Powers *et al.* 2018). An essential component that may help in development of these adult skills is the ability to make choices. There are numerous types of activities viewed as examples of self-care for individuals with ID. However, individuals with ID may not have the opportunity to engage in them if they are lacking autonomy. Previous research has found direct relationships between freedom to make one's own choice and overall QOL, with autonomy widely taught as influential to positive well-being. (Teshale *et al.* 2019). Unfortunately, adolescents struggle with attainment of autonomy and parents may view adolescent engagement in enjoyable activities as 'risk-taking' behaviors (Ruiz-Casares *et al.* 2012), especially in individuals with ID. Ruiz-Casares *et al.* (2012) reported 'risk-taking' is a way for adolescents to learn healthy decision-making while they develop and claimed that children feel empowered when provided autonomy by their parents and guardians.

Along with enjoying independence, individuals with ID may prefer having the same roles and responsibilities during activities as their peers (Hall 2017). Previous research, however, has supported the perception that individuals with disabilities are lacking freedom to make their own decisions (Wang and Dovidio 2011). Data has suggested an association between decisional autonomy and overall QOL in adults with disabilities (Teshale *et al.* 2019). According to Salt and Jahoda (2020), individuals with ID experience less decisional autonomy transitioning into adulthood than their peers without ID. For example, individuals with ID have less choice than their peers without ID when spending money and choosing when to go to bed. This lack of decisional autonomy has stemmed from a variety of circumstances, including the precedent that other people will make decisions for individuals with ID (Charnley *et al.* 2019; Salt and Jahoda 2020). Previous research has identified leisure activities as freely chosen activities (Dolva *et al.* 2014). The conflicting precedents that (1) individuals with ID may have decisions made for them, and (2) leisure activities are activities freely chosen by the individuals, highlights the need for additional research to examine decisional autonomy and engagement in leisure activities of individuals with ID.

This current study focused on the question, 'what activities do individuals with ID engage in for fun?'. Examination of this research question may identify activities worth including in self-care routines for individuals with ID in order to maintain an improved QOL. The majority of previous research in the area of leisure activities among individuals with ID has utilized survey instruments that list predetermined activities identified as expected leisure activities for this population. The problem with this is that it constrains responses to only those identified by researcher biases adherent to their beliefs about activities in which individuals with ID may engage. Our study advances research on ID, recording first-hand interests, based on free response answers primarily provided from participants themselves (questions always directed at the participant) that include perspectives on leisure activities. Research that identifies leisure activities in which individuals with ID engage may inform and aid individuals in clinical care settings who are struggling with their well-being, positive emotions, and self–care practices. Individuals with ID lack autonomy to engage in activities (Charnley *et al.* 2019; Salt and Jahoda 2020), and not bringing this research to clinical/care settings may risk these individuals not being able to freely express and participate in leisure activities that improve their overall QOL.

Methods

Participants

This study originally consisted of 180 participants, all of whom received services from the state of Pennsylvania or were on a waiting list to receive services. In order to receive intellectual disability services, all individuals must have a diagnosis signifying some level of intellectual disability before 22 years of age, a psychological evaluation (signed by a psychologist or psychiatrist) indicating a full-scale IQ of 70 or below, and a Functional Assessment of Needs completed. All 180 individuals participated in a survey conducted by two interviewers. Eleven individuals participated in the survey but did not answer responses needed for analysis of this study, thus resulting in a final sample of 169 individuals. All individuals were between the ages of 15 and 27 years, with a mean age of 21.02 (S.D. =

2.24) There were 91 males and 43 females, with 46 not having their gender specified. We ran a one sample chi-square analysis to determine whether there was a significant difference in number of male and female participants: $x^2_{(1)} = 16.0$, $p < 0.001$. All participants came from three counties in Southwestern Pennsylvania: Allegheny, Greene, and Washington counties.

Survey measure

The Independent Monitoring for Quality (IM4Q) Program is a program funded by the state of Pennsylvania for the purpose of improving QOL for individuals with ID. Chatham University collects, organizes, and analyzes information coming from Allegheny, Greene, and Washington counties. Participants completed a transition planning survey over the course of five years with some portions remaining the same and others annually revised. Questions on the transition survey revolved around: how participants would transition out of high school using their Individualized Education Plan, individuals involved in this process, and participants' involvement in activities outside of school. The survey consisted of multiple-choice answers and open-ended questions.

Survey procedure

The state of Pennsylvania randomly selected individuals from each of the counties to participate in a survey involving their QOL. Once selected, individuals from the Pennsylvania Office of Developmental Programs sent participants' identifying information to county representatives. County department representatives or their designee (such as supports coordinators) provided information regarding participants' preferences and ability to take the administered survey. Additionally, each representative or designee specified the best location for the survey as well as participants' contact information.

Two surveyors (part of Chatham's IM4Q team) administered the surveys. Potential surveyors consisted of enrolled students, individuals with disabilities, and individuals with an understanding of or training in ID. There was no requirement for potential surveyors to have prior expertise conducting surveys with individuals with ID. All surveyors received training on how to conduct these surveys to individuals with ID. Surveyors that knew a participant recused themselves from conducting that survey to avoid a conflict of interest. The beginning of the interview consisted of an overview of the survey process. Interviewers explained participants' right to refuse answering any question. When individuals were unable to provide answers on their own due to communication limitations, family members or others supporting the individual would provide answers to the questions. There was no time limit for the interview, and individuals had the option to review or change an answer.

Consensual qualitative research process

The question of particular importance for this study was, 'What do you do for fun?' We analyzed the variety of responses to this question, looking specifically for patterns of frequency in type of hobby or activity. An open-ended format allowed participants to respond freely with as many answers as they wanted to provide. This resulted in 561 responses.

The research team analyzed the data closely aligning with Hill et al.'s (1997) modified model for consensual qualitative research. The lead author organized these responses into a spreadsheet. From this spreadsheet using a summative consensual research approach, the lead author created a preliminary list of 98 categories based on the responses. The lead author then sent the preliminary list to the rest of an interdisciplinary research team consisting of five Chatham University graduate students and a professor. This interdisciplinary team included individuals from psychology and biology backgrounds that provided diverse perspectives. Each member of that team, following in the lead author's summative approach, independently analyzed the 98 categories and then create categories of their own. Some of the categories from each research member overlapped, while a variety were unique to each member. The interdisciplinary research team met together to condense the 98 categories into 38 categories. Table 1 contains all domains and categories with example responses from participants.

After the team agreed with the 38 categories, each team member individually reviewed each response to determine in which category each response best fit based on verbalized (i.e. manifest) content. The team met and reviewed each response. When differences in agreement occurred, the team discussed each person's rationale for placement in the category until there was consensual agreement. During this process, team members renamed and revised categories to best fit with the group of responses. Once there was agreement of all categories and where responses belonged within those categories, the team organized similar categories into six distinct domains (Community and Relationship Building Activities, Sports and Other Physical Activities, Technology and Gaming, Music and Other Performing Arts, Mentally-Stimulating Activities, and Categories Outside of a Domain).

After the interdisciplinary team created these domains and categories, the team reviewed each response again and made sure that each response fit within each given category and its domain. Once the interdisciplinary team determined that each response fit within its assigned category and domain, we ran a frequency analysis that examined the number of responses that fit with each category and domain.

Table 1. List of domains, categories, and examples of participant responses.

Domain	Category	Responses
Community and Relationship Building Activities	Entertainment Locations and Attractions	Gateway Clipper, Kennywood, parks, playground, beach, museums, saw the big duck at the point, zoo, casinos, Dave and Buster's
	Relationship-Oriented	birthday parties, Friendship Circle (volunteer), go to the Friendship Circle, geek nights, being with friends, go to friend's house, go on home visits, going out with aide and friends, being with boyfriend, having birthday parties at the bowling alley, likes socializing, movies with friends, parties, social events, socialize, take kids to the park, visit friends
	Shopping	shop/go shopping, go to malls/stores, go to the hockey cart going to flea markets, he goes to Waterworks mall
	Going Out to Eat	any response related to going out to eat
	Family-Oriented	being with/cuddling with/visiting/shopping with/talks to/walks with/going to (a member of the individual's family)
	Going to Movies, Concerts, and Shows	Benedum Center, Broadway show, concerts, movies, Pittsburgh Symphony
	Unspecified	community activities, go out/drinking, go to girl talk, goes to JCC, going out to clubs, hide and seek, interactive activities, visiting
	Church	any response related to church
Sports and Other Physical Activities	Other Sports/Unspecified Physical Activity	adapted sports, bounce around, fishing, go to the gym, golfs, he swings, ice skating, jump on the trampoline, kayak, likes sports, likes to run, loves to skate, paintball, participates in sports, physical activity (runs around), playing ball, sports, softball, Special Olympics, sporting events, tennis, top soccer league, watch wrestling
	Swimming	swimming, swimming (being in water)
	Hiking/Walking	walking, walks in the cold, hiking
	Bowling	any response related to bowling
	Basketball	basketball, he plays basketball
	Bicycling	any response related to riding a bike
	Baseball	Baldwin baseball games, baseball, Pirate games, play baseball
	Hockey	playing/watching hockey, Penguins games
Technology and Gaming	TV/Video Entertainment	Blue's Clues (TV), Disney movies, enjoys movies and TV, he watches tapes, PBS, videos, watch Barney, watch DVDs, watch home movies
	Gaming	bingo, plays games, computer games, games, he plays video games, Ipad games, likes playing games on Candy Crush, play games with staff, play the Wii, play Xbox 360, plays games on computer, plays video games, video games
	Unspecified Technology Use	likes working on computers, skyping on computer, updating computer programs, computers, goes on Facebook, Ipad, play on computers, Tablet, web surfing
Categories Outside of a Domain	Miscellaneous	activities, anything, attention, flashlights, getting dirty, have fun, he hangs around the house for fun, he likes to play, holiday stuff, mobility, plan activities for him to get out of the house, play in his room, playing with toys, travel
	Unspecified Outdoor Activities	go/play/run outdoors, picking flowers, roaming around family farm, working outdoors
	Food and Drink Oriented	bakes, bakes cookies, cooking, dinners (eating), Dunkin Donuts, have a drink, snack time
	Motor Transportation Interests	go carts, car rides, loves trains, model trains, motorcycle, riding the school bus, van rides, wants to ride on a motorcycle, work on cars

(*Continued*)

Table 1. (*Continued*).

Domain	Category	Responses
	Household Chores/Organizing	cut the grass, gardening, help around the house, lining up objects, rearranging things in drawers, sorting, sweeping, vacuum
	Individualized Personal Care	gets her nails done, lounge and relax, rock on the recliner, sit in chair and look through cards, sleep, time alone
	Animal-Oriented	likes her pets, play with animals, play with the cat, rides horses, walking dogs
	Camping	camping, going to camp
	Construction/Building Things	build with Lincoln Logs, builds Hot Wheels tracks, Legos, rebuilding things, she likes playing with blocks
Music and Other Performing Arts	Listening to Music	listening to music, listen to country music, listen to gospel music, listen to heavy metal music, rides in the car with music
	Dances/Dancing	ballet, dancing, go to dances, line dancing
	Unspecified Music	any type of musical activity, music, musical instruments, piano
	Other Performing Arts	acting class, attends theatre class, marching band, musicals
	Play/Composing Music	music (plays piano), play music (stringed music, keyboard), plays piano, writes music
	Singing	any response related to singing
Mentally-Stimulating Activities	Arts/Crafts/Creativity	arts and crafts, beading, coloring, crochet, does pottery plants, drawing, knits hats and scarves, makes bracelet bands and key chains, making jelly bracelets, painting
	Reading/Literacy Activities	library, look at/reads books, journaling, looking at magazines, teenage magazines, write poems
	Puzzles	any response related to puzzles
	School/Day Programs	school, buddy program at school, coming to her day program, UPMC vocational training center
	Sensory Activities	likes tactile simulation, sensory activities, stimulation, taking a bath

Results

Results from the frequency analysis reflected the number and percentage of individuals who provided a response that fit in that category. The domain with the largest number of responses was Community and Relationship Building Activities (130 responses), and the next largest was Sports and Other Physical Activities (123 responses). The domain with the smallest number of responses was Mentally-Stimulating Activities (51 responses). The category with the greatest number of responses was TV/Video Entertainment (54 responses), which sits within the Technology and Gaming domain. The frequency of individuals that had responses in this category was 32.0%. The Technology and Gaming domain had two of the top three frequencies, TV/Video Entertainment (32.0%) with 54 responses and Gaming (21.9%) with 37 responses. The second top category frequency was Other Sports/Unspecified Physical Activity (22.5%) with 38 responses. Table 2 contains the frequencies of all domains and categories.

Discussion

Findings from the current study indicated the most frequently mentioned activity domain among adolescents and young adults with ID is Community and Relationship Building Activities. This finding complements the perceived notion that individuals with ID engage in activities they find enjoyable in environments that facilitate interaction with others. Peer interaction is an important component to human development and can provide improved social outcomes for individuals with ID (Nijs *et al.* 2016). Social interactions between peers can facilitate the establishment and continuance of lasting friendships, which can be an instrumental factor in improving an individual's QOL. Having support systems in one's life, such as friends and family, can be a valuable aspect in producing positive outcomes for individuals with ID (Friedman and Rizzolo 2018). It is important to encourage individuals with ID to seek friendships as well as assist them in learning and utilizing the social tools necessary to maintain friendships. This result highlights an opportunity for future research into how to include individuals with ID in activities that promote relationships and community building.

Both individuals with and without ID perceive social interaction as beneficial and enjoyable (Johnson *et al.* 2012). Assisting in the access of social interactions for individuals with ID could provide a foundation for

Table 2. Frequencies of domains and categories of preferred activities of individuals with intellectual disabilities.

Domain Category	# of responses	% of people
Community and Relationship Building Activities	**130**	
Entertainment Locations and Attractions	28	16.6%
Relationship-Oriented	26	15.4%
Shopping	22	13.0%
Going out to Eat	19	11.2%
Family-Oriented	14	8.3%
Going to Movies, Concerts, and Shows	11	6.5%
Unspecified	9	5.3%
Church	3	1.8%
Sports and Other Physical Activities	**123**	
Other Sports/Unspecified Physical Activity	38	22.5%
Swimming	32	18.9%
Hiking/Walking	12	7.1%
Bowling	12	7.1%
Basketball	9	5.3%
Bicycling	9	5.3%
Baseball	7	4.1%
Hockey	4	2.4%
Technology/Gaming	**105**	
TV/Video Entertainment	54	32.0%
Gaming	37	21.9%
Unspecified Technology Use/Other	14	8.3%
Categories Outside of a Domain	**82**	
Miscellaneous	19	11.2%
Unspecified Outdoor Activities	11	6.5%
Food and Drink Oriented	11	6.5%
Motor Transportation Interests	10	5.9%
Household Chores/Organizing	8	4.7%
Individualized Personal Care	8	4.7%
Animal-Oriented	5	3.0%
Camping	5	3.0%
Construction/Building Things	5	3.0%
Music and Other Performing Arts	**69**	
Listening to Music	28	16.6%
Dances/Dancing	18	10.7%
Unspecified Music	12	7.1%
Other Performing Arts	4	2.4%
Play/Composing Music	4	2.4%
Singing	3	1.7%
Mentally-Stimulating Activities	**51**	
Arts/Crafts/Creativity	19	11.2%
Reading/Literacy Activities	12	7.1%
Puzzles	9	5.3%
School/Day Program	6	3.6%
Sensory Activities	5	3.0%

decreasing difficulties that individuals with ID previously had (Johnson *et al.* 2012). According to Sullivan *et al.* (2013), individuals with ID have not had the same opportunities to form close relationships as their peers without an intellectual disability. This lack of relationships could be due to insufficient choice making opportunities around self-care activities. A struggle for individuals with ID that could develop into adulthood is dependence due to low freedoms as a child (Nielsen 2017). Children with ID may have fewer freedoms growing up than children without an intellectual disability. Even before individuals begin to develop friendships in their communities, however, families could help individuals with ID develop social interaction skills. Skills used from these interactions could be instrumental to help individuals with ID develop their behavioral habits and translate directly to how they socialize with their peers.

Another domain with a high frequency of responses is Sports and Other Physical Activities. These results convey that individuals with ID have an interest to stay physically active regardless of whether the activities involve individual or team progression. It is important to note that the top category within the Sports and Other Physical Activity domain is a nonspecific category. There was a wide variety of physical activities included in this grouping that did not fit into a specific category. This knowledge highlights participation in wide diversity of leisure activities among individuals with ID. Team-based physical activities have a positive impact on individuals in general (Hassan *et al.* 2012). Other studies, for example, have supported that organized sport and physical exercise are also beneficial for QOL for individuals with ID (Perez-Cruzado and Cuesta-Vargas 2016). Special Olympics is one example of support for individuals with ID through use of

community and physical activities. Special Olympics has become increasingly popular, not only for physical milestones, but also as an activity that promotes positive outcomes. According to Harada and Siperstein (2009), the most often named motivational reason for participating in Special Olympics was Fun/Enjoyment. With benefits already stemming from organizations such as Special Olympics and other sporting entities, there is much to gain from involvement of individuals with ID in all sports (Armila *et al.* 2018). Unfortunately, previous research has found that there is a lack of focus on inclusion of individuals with ID in sporting activities, predominantly when pairing them with their peers without an intellectual disability (Hassan *et al.* 2012). One option for increasing participation in sports is to open up additional intramural sporting leagues for both individuals with ID and individuals without ID. This could provide them not only with a consistent physical activity schedule but also allow them to work as a team with their peers, both with an intellectual disability and without an intellectual disability. Future research tailored to finding how sports can specifically benefit individuals with ID is necessary. An additional consideration regarding engagement in a sport is whether the individual actively engaged in the sport or watched the activity. Although participants identified what they did for leisure, they did not always indicate the level of participation they exhibited in these activities (e.g. bowling, skating).

Besides relationship and community building and sports and physical activity, technology and gaming is a frequent categorical response. This finding is consistent with previous research that suggests video games are growing in popularity for individuals of all ages (Nyman and Teten 2018). For some individuals with ID, having videogames as a consistent activity may improve their QOL. This could be especially true as an end-of-day activity to assist individuals in relaxing after engaging in other numerous activities. Videogames could also act as an opportunity to bring individuals with ID together with their peers to promote relationship building. Future research could explore which specific types of videogames (genres) individuals with ID most prefer.

Our results convey that video games are also a favored leisure activity for individuals with ID. Video games have become an increasingly popular leisure activity for children and young adults (Jiménez *et al.* 2015). Previous research also recognizes videogames as beneficial for developing motor and cognitive skills outside of the entertainment-focused commercial video game genre (Jiménez *et al.* 2015; Lau *et al.* 2020). The genre of video games known as active video games (also known as exergames) has increased in popularity. Individuals with ID have recently used these types of video games (which incorporate body movement in game play) to improve motor functions (Jiménez *et al.* 2015; Lau *et al.* 2020). Additionally, Jiménez *et al.* (2015) explored the pairing of mentally stimulating and visually stimulating aspects of gaming in a genre called Edugames, where individuals learn different life skills while playing the games. This could expand in future research to distinguish which types of games help with specific daily-life activities. In respect to Edugames, researchers have found that problem-solving opportunities provide all individuals with life skills to navigate daily living (Cote *et al.* 2010). According to Cote *et al.* (2010), however, these problem-solving opportunities have not been readily adaptable for individuals with ID. Providing problem-solving opportunities through sports and team activities, video-educational games, and everyday life scenarios could allow individuals with ID to obtain skills associated with daily living while engaging in activities that they enjoy.

One important place where individuals with ID develop skills and engage in activities is their school environment, which also provides an opportunity for enhancement of relationships. In fact, participation in extracurricular school activities is beneficial for individuals because it helps build relationships, develop fine and gross motor skills, and provide mental stimulation (Shields *et al.* 2014). This is especially true for individuals with ID, but, unfortunately, they do not take part in out-of-school activities on a regular basis (Shields *et al.* 2014). Individuals with ID enjoy schoolwork and mentally stimulating activities similarly to their peers without ID, but often are in exclusive environments (separate from peers without ID), which can deter their experiences (Doyle and Giangreco 2013). According to Doyle and Giangreco (2013), there are several ways for schools to make a classroom inclusive for individuals with ID. These include implementations such as recognizing disability as a sign of diversity rather than an impairment and making sure individuals with and without ID share the same educational experiences. This in turn will provide a safe environment for individuals with ID to engage in these beneficial mentally stimulating activities that they enjoy while also building peer relationships. Research has demonstrated support that most individuals with disabilities occasionally avoid problem-solving activities that could prove beneficial for them in the future (e.g. Floyd and Olsen 2017). It is important for families and community members to encourage individuals with ID to engage in interactional activities that include problem solving so they can develop communication skills that will help improve their QOL in the future.

Music and Other Performing Arts was another domain identified in our study as a frequently identified leisure activity for individuals with ID. Hooper *et al.* (2010) proposed that music found to be calming to individuals without ID could also be beneficial

interventions for individuals with ID. Unfortunately, according to Hooper *et al.* (2010), individuals with ID have a limited amount of freedom in music choice. Future research could explore what types of music individuals with ID prefer. Another area of future research involving music could be having individuals with ID choose from a wide selection of emotion categories to describe how specific music makes them feel. In a study conducted by Hooper *et al.* (2010), researchers provided participants only two choices of music ('chilled out' and 'move about'). Future research could explore preferred lists of music or music categories provided to individuals with ID. Implementing these choice-type activities could bring new light to how individuals with ID can integrate music into their daily lives and provide decisional autonomy.

A major finding that this study highlights is the wide variety of leisure activities in which individuals with ID engage. Just as individuals without ID may hold diverse interests in leisure, the results from this study suggest similar ideas of heterogeneity. The general population may hold preconceptions regarding leisure activities of individuals with ID. Foucault suggested an idea of 'otherness' among groups of individuals deemed different in a social context (Connelly 1985), which is relevant to our study. In a context of 'otherness', the social world may hold a view that all individuals with ID prefer similar leisure activities without uniqueness. Based on this heterogeneity, future research could focus on similar prompts ('what do you do for fun') but compare responses of both individuals with and without ID.

It is important to note that some people may have increased difficulty engaging in leisure activities, even if they have a desire to engage in them. Severity of intellectual disability is a factor in the engagement of leisure activities (Charnley *et al.* 2019). According to Charnley *et al.* (2019), participation in and accessibility to leisure activities may depend on severity of ID. Some individuals may find alternative ways of meeting their desires or may need accommodations to participate in specific leisure activities. Future research needs to explore how type of disability affects choice and frequency of activities.

One area that we did not assess in the current study was level of intellectual disability. This may be important because recent research (Albuquerque and Carvalho 2020) revealed that level of intellectual disability appears to impact the number of unmet needs of individuals. Albuquerque and Carvalho (2020), however, focused only on older adults, so it is unclear if this relates to individuals with ID in general and whether this also relates to self-care needs. Future research needs to evaluate this. Other variables that we did not assess included educational facility or school years of the participants and socioeconomic status. Although random selection of participants likely increased external validity and generalizability of our results, future studies could explore impact of educational variables. Additionally, our one sample chi-square analysis indicated a statistically significant difference in the number of males compared to females. Future research needs to explore whether there are differences in leisure activities based on gender.

Additionally, we did not explore differences between active and passive activities. According to Williams *et al.* (2014), active leisure activities involve some form of physical movement whereas passive leisure activities do not involve significant movement. Although our results convey that individuals with ID engage in both active and passive leisure activities, future research could examine differences in frequency between active and passive leisure activities for individuals with ID.

Future research may need to explore same aged cohorts simultaneously to determine whether these comparisons are accurate. Relatedly, we analyzed all our participants together even though ages ranged between 15 and 27 years. This range of age encompasses a large change in developmental processes that included graduating from high school, potentially becoming an independent adult, and seeking partnership opportunities. Previous research has indicated that adolescents and young adults with developmental disabilities prefer similar in-home, out-of-home, and relationship building leisure activities with high frequency (Badia *et al.* 2013). Badia *et al.* (2013) indicated that the major changes in leisure participation as one with developmental disabilities ages are decreased frequency in participation and narrowed variety in activities that they choose. Future research could examine whether types of leisure activities change as individuals attain independence as they age. Additionally, research needs to identify differences in leisure activity preference between adolescents and young adults with ID.

Caregivers and healthcare providers can develop schedules that integrate leisure activities of individuals with ID. Research has supported that decisional autonomy relates positively to an improved QOL for individuals with physical disabilities (Teshale *et al.* 2019). Our research suggests additional need for future exploration into autonomy and self-care for individuals with ID. Additionally, although we did not differentiate between participants who answered for themselves or had others answer for them, future research needs to address whether responses about leisure activities change based on this variable. Future research may also want to explore effect of communication limitations on leisure activities.

Overall results from our study reveal engagement found through participant responses as fun activities align closely with activities that previous research has deemed as leisure activities (Brajša-Žganec *et al.* 2011). Many of these activities discussed could lead to

increased opportunities for autonomy and improved QOL. The activities recognized by participants as leisure and recreational activities are instrumental to their overall well-being according to the WHO's model of QOL (2004). Implementing activities into routines may promote an improved QOL for individuals with ID and may help improve their self-care. According to Schellhammer (2020) and Ayala *et al.* (2017), multidimensional and creative activities can be contributors to one's self-care when implemented intentionally. Future studies also need to explore what the term self-care means to individuals with ID. There needs to be future exploration on self-care for adolescents with disabilities (Lindsay *et al.* 2013) on activities centered around being enjoyable in addition to focusing primarily on self-sufficiency (Tarazi *et al.* 2007). When placing an emphasis on what individuals with ID enjoy doing for fun, we can begin to understand what activities individuals with ID may want to add into their daily routines. However, we need to move towards a future in which individuals with ID have opportunities to engage in activities they prefer.

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