

2-15-2023

**COVID-19 and Fall Rates in Older Adults: Longitudinal Study on the Impact of COVID-19 on Geriatric Fall Rates in a Care Facility**

Britton Holman

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**COVID-19 and Fall Rates in Older Adults: Longitudinal Study on the Impact of COVID-19 on Geriatric Fall Rates in a Care Facility**

**by**

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Presented to the Faculty of the

Graduate School of Clinical Psychology

George Fox University

in partial fulfillment

of the requirements for the degree of

Doctor of Psychology

in Clinical Psychology

Newberg, Oregon

**Approval Page**

**COVID-19 and Fall Rates in Older Adults: Longitudinal Study on the Impact of COVID-19 on Geriatric Fall Rates in a Care Facility**

**by**

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has been approved

at the

Graduate School of Clinical Psychology

George Fox University

as a Dissertation for the PsyD degree

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February 15, 2023

**Abstract**

Falls in the geriatric population are continuing to increase around the world. Along with this, COVID-19 caused significant distress and changes in many older adult populations living in care facilities. Our study used archival data to determine if an association existed between fall rates at a specific care facility before COVID-19, during COVID-19, and during an outbreak of COVID-19 at the facility. An analysis of variance and Bonferroni's post-hoc analysis was conducted, which found falls tended to be lower during outbreaks at the facility compared to pre-COVID-19 times. Reasons for this finding may be due to restrictions on activities and social gatherings placed by the state and the care facility, which likely led to less opportunities to fall. The increase in risk factors stemming from these restrictions (e.g., loneliness, sedentary lifestyle) may lead to falls increasing as these restrictions lift. Implementation of strategies to prepare for this potential to lower risk factors will be important to consider for this facility.

*Keywords:* falls, fall rates, older adults, COVID-19, SARS-COV-2, assisted living, care facility, residential care facility

**Acknowledgements**

A special thank you to the specific care facility who provided data and for this county's health association for providing cases and deaths related to COVID-19.

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## **COVID-19 and Fall Rates in Older Adults: Longitudinal Study on the Impact of COVID-19 on Geriatric Fall Rates in a Care Facility**

### **Chapter 1**

The number of people who are entering into older adulthood is increasing in western nations (Abma et al., 2012). In the United States, it is becoming commonplace for many older adults to transition into a care facility as their needs rise (Fields et al., 2012). However, these care facilities, whether being nursing homes, assisted living facilities, or residential care facilities, have all been significantly impacted by the global pandemic, SARS-COV-2 (COVID-19; Zimmerman et al., 2022), requiring residents to socially distance, spend less time with the community, and consequently feel isolated (Cohen-Mansfield & Meschiany, 2022), which may lead to an increase in risk factors associated with falls (Ambrose, 2013). This study was designed to ask the question: “Are there more falls in an older-adult care facility during COVID 19 ‘lock down’ periods?”

#### **Falls in Older Adults**

Older adults (typically people 65 years and older) are more likely to die from a fall than any other injury-related death, accounting for 64 deaths out of every 100,000 older adults (Centers for Disease control and Prevention, 2020). “A fall is defined as an event which results in a person coming to rest inadvertently on the ground or floor or other lower level” (World Health Organization, 2021, par 1). Bergen et al. (2016) estimated a total of 29 million falls occurred by older adults in 2014. Of those who fell, 7 million required medical attention or had to restrict their activities, 2.8 million were taken in the emergency department for treatment, and 800,000 were hospitalized, and 27,000 died (Bergen et al., 2016). Older adult falls are predicted



to increase to 73 million falls per year with at least 12 million resulting in injuries by 2030. (Centers for Disease control and Prevention, 2020).

### **Risk Factors**

There are numerous risk factors associated with falls in older adults. Individual risk factors are specific traits that can relate to higher falls. These include age (Ambrose, 2013), gender (Jehu et al., 2021), decline in body strength (Ambrose, 2013; Carrasco et al., 2019; Kosma & Cardinal, 2016), and difficulties with gait and balance (Carrasco et al., 2019; Fernandez et al., 2019). Deficits in cognition (Biaxinho et al., 2019; Ambrose, 2013), hearing (Criter & Honaker, 2016), and vision (Ehrlich et al., 2018) are also highly associated with falls. Several medications can increase risk for falls, including psychotropic (e.g., antidepressants, antipsychotics, and benzodiazepines) and cardiovascular (e.g., digoxin, diuretics, and anti-arrhythmic) medications (Ambrose, 2013). Chronic diseases, and medications associated with them, can also increase an older adult's fall risk (Carrasco et al., 2019). Neurodegenerative diseases, such as dementia or conditions that impact stability or gait increases older adult's overall risk of falling (Ambrose, 2013; Carrasco et al., 2019).

External risk factors for falling including any environmental elements in their dwellings and in the community around them (Ambrose, 2013). risk factors inside one's dwelling include rugs (Ambrose, 2013; Keglovits et al., 2020), debris on the floor, and walking on hardwood or slippery floors without proper footwear (Ambrose, 2013; National Institute on Aging, 2022a). Falls in the home typically occur where people are most active, including the bedroom, kitchen bathroom, basement, and driveway, and they are most common when transitioning from carpeted or hardwood floors to rugs (Keglovits et al., 2020). Even with the prevalence of indoor falls, older adults are more likely to fall outdoors (Li et al, 2006) Community risk factors include high

rates of crime (Lee et al., 2017; Keglovits et al., 2020; Ogliari et al., 2022), snowy or icy surfaces (Keglovits et al., 2020), and poor maintenance of streets (Lee et al., 2017).

There are also several mental health and fear-related considerations that can be risk factors for falling. Depression (Ambrose, 2013) and low self-efficacy (Kosma & Cardinal, 2016) are two examples of these. Depression's association with fall risk may be due to a decline in focus or a decline in medication adherence (Park et al., 2020) as people who have less medication adherence have higher risk of falling (Berry et al., 2010). While depression and anxiety tend to be comorbid, anxiety does not predict falls in older adults (Creighton et al., 2018). Older adults who are afraid of falling are more likely to restrict physical activities and experience depression, which are significant risk factors for falling (Painter et al., 2012)

### **Fall Prevention**

Several things can help mitigate risk factors within older adults. Kosma & Cardinal (2016) found some of the best predictors of fall reduction was fostering more physical activity, followed by the person's current stage of change, and their self-efficacy. Other preventative measures include adjusting one's home environment and behavior around typical activities. For one's dwelling, removing trip hazards (e.g., unsecured rugs, objects on the floor, loose cables in walkways), equipping handlebars in areas where one has to sit to stand or changes elevation (e.g., bathroom, bedroom, any stairs), and making lights easily accessible (e.g., night lights, flashlight on nightstand, etc.) can help reduce fall risk (National Institute on Aging, 2022b). Some other behavior changes that can help reduce falls include using assistive walking tools when having unsteady gait (e.g., walkers, canes), avoiding slippery or uneven ground, engaging in positive sleep habits, wearing nonskid shoes, and slowing down when transitioning one's body (e.g., sit to standing, walking up or down stairs, etc.; National Institute on Aging, 2022a).

While behavior changes can help reduce the risk of falls, motivating older adults to engage in such strategies is more complex. For instance, education alone is not associated with behavior change to lower fall risks in older adults. However, when combining education with a familiar or interactive activity, older adults are more likely to both retain and engage in fall preventative behavior (Ong et al., 2021). Multiple other studies conducted showed the Lifestyle-integrated Functional Exercise Program, led to better balance (Hu et al., 2021; Szanton et al., 2020), few older adults living in the community participate in these programs due to factors such as lack of access (Stevens et al., 2009) and low motivation (Kosma & Cardinal, 2016). However, advertising and setting these classes in churches can significantly increase participation (Currie et al., 2018).

### **COVID-19 Pandemic**

COVID-19 has had a global impact on the geriatric population, especially those living in assisted living facilities or nursing homes. The geriatric population as a whole account for roughly 75 % of those who died from COVID-19 between 2020 and 2022 in the United States (Centers for Disease Control and Prevention, 2023). In Canada, older adults living in assisted living accounted for roughly 43% of deaths related to COVID-19 in the beginning of the pandemic (Hsu, 2020). Due to the fear of exposing a vulnerable population to COVID-19, care facilities for the geriatric population in the United States implemented a wide range of policies to try to mitigate exposure. These included delivering meals to residents to their rooms instead of offering the dining space, requiring residents to wear face coverings, closing common areas, organizing socially distanced gatherings (i.e., virtual gatherings, outside gatherings, etc.), and many more. Not all facilities implemented these practices, especially those that primarily served dementia patients (Zimmerman et al., 2022). Facilities who serve a more primarily dementia-

based population also seemed to be at greater risk for infection and outbreaks, likely due to a combination of facility policy and residents' ability to adhere to the policy (Bayer et al., 2022).

While these policies likely helped slow the spread of COVID-19 in many ways, they also likely had an indirect negative impact on care facility residents' physical and mental health. The closure of many events and activities likely led to an increase in sedentary lifestyle, which can lead to many health difficulties that are risk factors for falling (Ambrose, 2013). The decrease in social engagement and connection with others can likely have an impact on mental health. A care facility in the Netherlands implemented a visitor ban to lower risk of COVID-19 infection and spread, which significantly impacted their residents' wellbeing. Residents overall showed an increase of loneliness and depression, along with reported behavioral and mood problems. The residents who were most impacted were individuals who did not have cognitive impairment (Van der Roest et al., 2020). Cohen-Mansfield and Meschiany (2022) analyzed data from 52 long-term care facilities across Israel that showed facilities that implemented more policies that isolated residents without providing an alternative way to connect with others had a significant increase in psychotropic medication needed and reported behavioral problems for their residents.

### **Current Research**

There have been many studies done surrounding COVID-19 in care facilities and risk factors for falls within care facilities. However, there seems to be no studies looking at both variables. Our hypotheses for this study are as follows:

H1: Total falls would increase when COVID-19 cases in the county were higher.

H2: The number of people who fell in a month would increase when COVID-19 cases in the community were higher.

## **Chapter 2**

### **Method**

#### **Participants**

Archival participant data of both census and fall rates were collected from a care facility located in Oregon. Archival data were organized by month, with an average participant count of 399 over 36 months. Participants included both fully independent residents living in apartments on campus and dependent residents living in apartments in the healthcare building. All participants were aged 63 years or older. Archival data did not include breakdown of demographic information, including exact ages, gender, or ethnicity. However, facility reports the majority of residents were White, religious, and women.

#### **Variables**

##### ***COVID-19 Numbers in County***

The total number of positive cases and deaths organized by month starting in March 2019 and ending June 2022 were provided by the county's health department with permission. Age ranges of people who were infected by COVID-19 were provided. No ethnicity information was provided.

##### ***COVID-19 Outbreaks in the Facility***

An Outbreak is defined as three or more positive cases in a facility that can be linked together (Oregon Health Authority, n.d.). Specific facility outbreak data gathered from the Oregon Health Authority weekly, biweekly, and monthly reports, which included total number of outbreaks, positive cases and deaths associated with the outbreaks, the dates of when these outbreaks began, and an approximation of when the outbreaks were no longer active.

### ***Fall Rates***

Fall rates were provided by the care facility, with data broken down by individual and total fall count from September 2019 to June 2022. Identifiable information (names) was removed after data were cleaned and corrected to remove double/invalid entries. No breakdown of demographic data or residential status (dependent or independent dwelling) were available.

### ***Census Data of Care Facility***

Census counts of the number of independent and dependent residents living at the facility were provided by the care facility. These data were separated by monthly census reports dating from September 2019 to June 2022. No demographic data were included, though care facility reports all individuals are aged 63 years and older.

### **Procedure**

Information was gathered from three organizations: the care facility, the local county's health department, and the Oregon Health Authority. Data included census data, COVID-19 cases and deaths in the county, COVID-19 cases and deaths at the care facility, total individuals who fell at the care facility, and total falls at the care facility for each month from August 2019 through July 2022. These data were compiled into a database. Fall rates were cleaned to remove double entries to provide an accurate participant number. Individuals who fell and total falls were converted into percentages of total census data for each month to account for fluctuating census data.

### ***Facility COVID-19 Guidelines***

The facility had multiple guidelines established to help eliminate the spread of COVID-19 during the start and middle of COVID-19, which only applied to the campus grounds and the main building. Independent residents living on campus would not be impacted by the no visitor

policy but would be impacted by the ancillary facilities being shut down, such as the exercise center and the community garden. All residents were required to wear facemasks outside their rooms or apartments. Meals were delivered to residents living inside the main building. Independent residents living outside the main building drove or walked to the building to pick up their meals. Social events were either virtual or took place outside, required masks, and were socially distanced. The facility strongly discouraged all social gatherings, including gathering in the lobby, gathering in an individual's room, or other. These guidelines began to change in the middle of 2021, though outbreak periods typically included an executive order by the state, requiring more restrictions to be put in place, including not allowing visitors, canceling all in person events/activities, and more frequent COVID-19 screenings throughout data period.

### **Chapter 3**

#### **Results**

Archival data from the facility was cleaned by locating and correcting spelling errors of individual names and merging entries of those people with the same name. Data was carefully overviewed and fall trends identified to reduce possibility of merging data for two different individuals with same name. An estimated 2% to 4% of entries needed to be corrected and merged. No fall data was excluded from the archival data. When analyzing census data, we noticed a significant decline in the number of people living at the facility during COVID-19 times,  $F(34) = 9.01$ ,  $p = 0.01$ , Cohen's  $d = 10.65$ ). We corrected for changing census numbers by using the percentages of people who fell and total falls in relation to the census data of that month (see Appendix 1 for raw data).

All data were organized by month and separated into three categories: (a) pre-COVID-19 periods (September 2019 to February 2020), (b) COVID-19 periods (March 2020 to June 2022,

excluding months with an active outbreak), (c) COVID-19 outbreaks (any month that included an active outbreak at the care facility; see Appendix 1 for raw data). We compared these groups using an analysis of variance and Bonferroni's post-hoc analysis.

### **Hypothesis 1**

We anticipated that total falls would increase when COVID-19 cases in the county and overall community increased. We found a significant difference in fall rates at the care facility when the three COVID-19 periods within the county were compared,  $F(34, 2) = 3.72, p = .04, \eta^2 = .19$ . Bonferroni's post hoc test indicated that pre-COVID-19 fall rates were statistically higher than COVID-19 fall rates during a COVID-19 outbreak periods ( $p = .03$ ), which was opposite of what we had predicted.

### **Hypothesis 2**

We also anticipated that the number of people who fell in a month would increase when COVID-19 cases in the community were higher. We found no statistical difference when comparing falls during pre-COVID-19 periods to falls during non-outbreak periods ( $p = .45$ ) and falls during non-outbreak periods to falls during outbreak periods ( $p = .36$ ). Furthermore, while the number of people who fell was statistically less than baseline during outbreak periods, overall fall rates within the care facility remained statistically the same across all three periods  $F(34,2) = 1.63 p = .21, \eta^2 = .09$ , indicating that while less people fell overall during COVID-19 outbreak periods, the people who did fall during outbreak periods tended to fall more overall.

## **Chapter 4**

### **Discussion**

We set out to pilot a study to explore whether COVID-19 rates in the county and COVID-19 outbreaks at the facility would be associated with an increase in geriatric falls living



independently and dependently compared to fall rates before the pandemic. We anticipated this due to previous literature indicating an increase of depressive symptoms from COVID-19 restrictions placed on facilities (Van der Roest et al., 2020; Cohen-Mansfield & Meschiany, 2022) would then lead to an increase of falls due to depression being a significant fall risk (Ambrose, 2013; Creighton et al., 2018). Contrary to our hypotheses, we found people tended to fall less frequently when comparing COVID-19 outbreak periods and pre-COVID-19 periods. No differences were found when comparing pre-COVID-19 to COVID-19 periods and COVID-19 to COVID-19 outbreak periods.

One possible reason for these findings may be due to the number of restrictions placed on this care facility during the height of COVID-19, leading to less opportunity for residents to leave their rooms, which relates to how falls in older adults typically fall most when walking around (Gazibara et al., 2017). Because residents at this facility were less likely to leave their rooms during the COVID-19 and COVID-19 outbreak periods, residents likely were more sedentary and did not engage in actively walking. Most of these living areas, especially those most at risk for falls, have most fall hazards removed.

What was also unexpected was that while the percentage of people who fell declined, the percentage of total falls remained statistically the same (see Figure 1), though also tended to trend downward. This might indicate that while less people fell, the people who did fall during COVID-19 outbreak periods seemed to average more falls in general compared to pre-COVID-19 periods. This could be due to a wide variety of reasons. It may indicate that those who chose to leave their rooms consistently had an overall higher risk of falling. This risk could be due to an increase in depressive symptoms, less opportunities to maintain muscle mass from the closure of activities, or potentially another related or unrelated factor.

**Implications**

Implications of this study show an overall relationship between individuals who fell, COVID-19 rates in the county and in the facility, and potentially COVID-19-related policies. While falls have seemed to decrease compared pre- COVID-19 times, the potential long term risk factors that were inadvertently introduced by the protective measures may end up resulting in an overall increase in falls when restrictions begin to lift. Implementing and building strategies to promote exercise to rebuild muscle mass, reconnect socially, and engage in safe movement behavior, will be crucial to create a smooth transition for those impacted most by these restrictions. With much of this care facility's population reportedly being religious and church attenders, using DiGuseppi et al. (2014) and Clark et al (2011)'s work in partnering with churches to help promote and host these fall prevention programs could be key in this transition process. Also, just providing education classes on fall prevention is likely not going to be helpful, but tying fall prevention education with personally meaningful tasks may lead to better engagement in recommended fall-prevention behaviors (Ong et al., 2021).

**Future Research**

Future research should aim to use longitudinal data of care facilities to continue fostering understanding of this relationship between COVID-19, care facility regulations, and fall rates. Ideally, finding a facility which also consistently tracks cognitive health, mood, behavioral issues could account for other mediating factors that we were unable to do address in this study. Data should also separate individuals who may be living on the campus of the facility but not under the rules governed by their health center. Finally, research should be done to track fall rates as restrictions continue to lift, and potentially trial programs to help older adults transition back to normalcy.

**Limitations**

We had multiple limitations with our study. Due to using institutional data, we were unable to obtain any specific demographic data or specific health information regarding our participants. We also only had access to one institution's data, which has specific characteristics that are not shared across all types of institutions. We were unable to account for the quality of care provided, the facility's response to COVID-19, and the type of residents living in this facility.

Another limitation is the way the archival data received combined falls from independent and dependent residents without indicating the residents' living status. We were unable to determine if dependent residents living inside the main building were more impacted in general compared to those living outside of the main building. Additionally, falls in independent living are only self-reported, which means there could have been multiple falls not accounted for in our data, especially considering a high percentage of older adults who have minor falls tend to not report it to others (Bergen et al., 2016).

**Conclusion**

This study indicated a likely relationship between COVID-19 and fall rates. While the reason for this relationship is yet to be identified, this study may hopefully jump start future research to explore potential mediating or associated factors to explain this relationship.

**Research Note**

Due to the facility wanting to have its name kept confidential, the general location of the care facility, along with the name of the county it resides, was purposely left out of this article and reference page. If more specific information about our data is needed to conduct future research, please contact the lead author directly.

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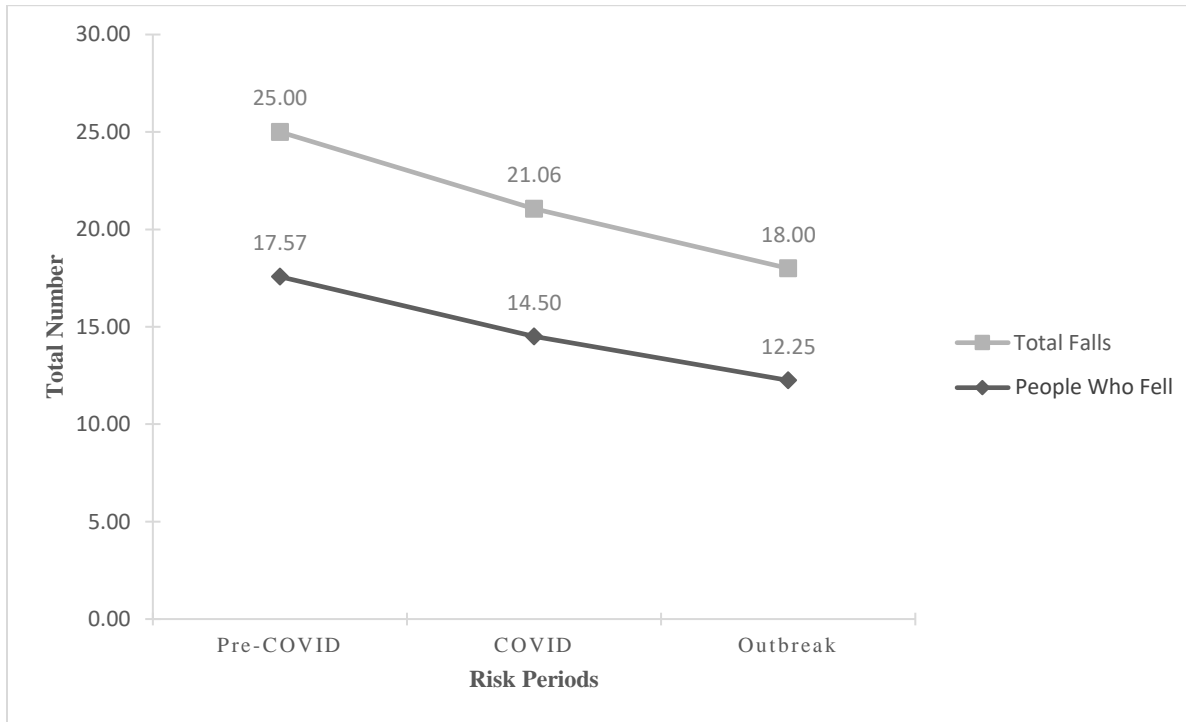
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**Figure 1**

*Differences in Means Across People Who Fell and Total Falls*



*Note.* Total Falls = average number of falls in a month during the respective risk period; People Who Fell = average number of individuals who had at least one fall in a month during the respective risk period. Mean differences between Pre-COVID-19 and Outbreak periods are significant for Total Falls but not in People Who Fell, though both are trending in the same direction.

## Appendix A

## Raw Data for Census and Fall Rates

Year/month	Risk period*	Total census	People who fell	% People who fell	Total falls	% Total falls
08/2019	0	427.64	19	0.04	23	0.05
09/2019	0	427.23	17	0.04	23	0.05
10/2019	0	422.7	18	0.04	34	0.08
11/2019	0	420.17	23	0.05	29	0.07
12/2019	0	420.03	16	0.04	25	0.06
01/2020	0	418.39	17	0.04	23	0.05
02/2020	0	417.17	13	0.03	18	0.04
03/2020	1	416.45	15	0.04	27	0.06
04/2020	1	413.4	15	0.04	24	0.06
05/2020	1	408.03	21	0.05	32	0.08
06/2020	1	405.66	16	0.04	26	0.06
07/2020	1	404.51	11	0.03	14	0.03
08/2020	1	405.35	20	0.05	26	0.06
09/2020	1	405.37	16	0.04	21	0.05
10/2020	1	404.26	13	0.03	20	0.05
11/2020	1	401.83	8	0.02	12	0.03
12/2020	2	399.19	15	0.04	17	0.04
01/2021	2	394.38	11	0.03	17	0.04
02/2021	2	390.35	11	0.03	12	0.03
03/2021	2	389.09	12	0.03	13	0.03
04/2021	1	386.9	10	0.03	10	0.03
05/2021	1	388.29	13	0.03	16	0.04
06/2021	1	392.86	11	0.03	19	0.05
07/2021	1	389.55	20	0.05	26	0.07
08/2021	2	387	10	0.03	14	0.04

Year/month	Risk period*	Total census	People who fell	% People who fell	Total falls	% Total falls
09/2021	2	385.64	11	0.03	17	0.04
10/2021	2	385.55	17	0.04	28	0.07
11/2021	2	383.33	15	0.04	31	0.08
12/2021	1	382.35	14	0.04	23	0.06
01/2022	2	378.65	12	0.03	17	0.04
02/2022	2	376.61	8	0.02	8	0.02
03/2022	2	377.68	12	0.03	19	0.05
04/2022	1	377.77	15	0.04	18	0.05
05/2022	1	384.22	14	0.04	23	0.06
06/2022	2	395.04	13	0.03	23	0.06

*Note:* Percentages of both total falls and people who fell are based off the total census data.

\*0 = Pre-COVID-19 Period; 1 = COVID-19 Period; 2 = Outbreak Period

Appendix B

Curriculum Vitae

**BRITTON HOLMAN**  
 DOCTORAL CANDIDATE OF CLINICAL PSYCHOLOGY

✉ [BHOLMAN16@GEORGEFOX.EDU](mailto:BHOLMAN16@GEORGEFOX.EDU)  
 ☎ (360) 269-1309  
 🔗 [LINKEDIN.COM/IN/BRITTON-HOLMAN](https://www.linkedin.com/in/britton-holman)

**EDUCATION**

**DOCTOR OF CLINICAL PSYCHOLOGY (PENDING)**

- George Fox University
- Expected Graduation Date: June 2023

**MASTER OF ARTS IN CLINICAL PSYCHOLOGY**

- George Fox University
- Graduation Date: May 2020

**BACHELOR OF ARTS IN PSYCHOLOGY**

- George Fox University
- Graduation Date: April 2018

**ASSOCIATE OF FINE ARTS (MUSIC)**

- Centralia Community College
- Graduation Date: June 2009

**CLINICAL EXPERIENCE**

**BEHAVIORAL HEALTH CONSULTANT INTERN • COMMUNITY HEALTH OF CENTRAL WASHINGTON • JUNE 2021 – PRESENT • SUPERVISORS: STEVEN OLMER, PSYD; DAVID BAUMAN, PSYD**

- Provided BHC services across a rotation of three different clinics from Community Health of Central Washington
- Provided services to a diverse patient population across the lifespan with a wide range of health conditions and difficulties
- Worked closely with other healthcare professionals to provide holistic care to patients
- Engaged in group supervision to discuss clinical work and receive didactic trainings

**BEHAVIORAL HEALTH CONSULTANT TRAINEE • LANCASTER MEDICAL CENTER; SALUD MEDICAL CENTER; LANCASTER BEVERLY CLINIC; PACIFIC PEDS CLINIC AUGUST 2020 – MAY 2021 • SUPERVISORS: LOLA WHITE, PSYD; JESSICA BEEGHLY, PHD**

- Provided BHC services across a rotation of four different clinics within the Yakima Valley Farm Workers Clinic system
- Provided therapeutic services to patients across the lifespan with a wide range of both medical and mental health difficulties
- Worked primarily with the Latinx population using both live and over-the-phone interpretative services when needed
- Conducted assessment services to individuals who needed diagnostic clarification
- Consulted with other medical professionals to provide holistic care to patients
- Engaged in group supervision across multiple clinics to discuss cases and receive didactic trainings

**BEHAVIORAL HEALTH SPECIALIST • FRIENDSVIEW RETIREMENT COMMUNITY AUGUST 2020 – JULY 2021 • SUPERVISORS: KENNETH LOGAN, PSYD; KATHRYN SAUNDERS, LMSW, CSWA**

- Provided therapy services for residents ages 65 and older
- Administered assessments to residents with cognitive difficulties, including emergency dementia assessments and general wellness assessments

- Provided therapy services using Acceptance and Commitment Therapy
- Developed the behavioral health model for better integration with the Friendsview system to provide more holistic care
- Engaged in treatment planning alongside the interdisciplinary team to provide better care to residents
- Provided professional consultation and psychoeducation to Friendsview staff as needed for resident support

**BEHAVIORAL HEALTH CONSULTANT • BEHAVIORAL HEALTH CRISIS CONSULTATION TEAM • JULY 2020 – PRESENT • SUPERVISORS: LUANN FOSTER, PSYD; WILLIAM BUHROW, PSYD; MARY PETERSON, PHD**

- Conducted risk assessments on patients at Willamette Valley Medical Center (up until 10/15/21) and Providence Newberg Medical Center who were showing suicidal ideation, homicidal ideation, psychosis, cognitive problems, or who were demonstrating an inability to care for themselves
- Worked with patients across the lifespan with a wide variety of diagnoses, including bipolar disorders, schizophrenia and other related thought disorders, depressive disorders, anxiety disorders, posttraumatic stress disorder, conduct disorders, neurocognitive disorders, and personality disorders
- Worked with patients in crisis, helping them and their support system safety plan and get connected to outpatient services
- Assessed whether the patient was safe to return home, needed respite care, or hospitalization
- Provided consultation to ED staff on recommendations and treatment plan
- Communicated with acute treatment hospitals to help find potential placements for patients who were needing hospitalization

**THERAPIST • BEHAVIORAL HEALTH CENTER • AUGUST 2019 – PRESENT SUPERVISORS: JOEL GREGOR, PSYD; CATHERINE WALLACE, MA; SILVIA RAMIREZ, MA**

- Provided therapy for clients with a wide range of presenting problems, including Posttraumatic Stress Disorder, Traumatic Brain Injury, and Personality Disorders.
- Provided treatment and services through Person Centered Therapy, Acceptance and Commitment Therapy, and Polyvagal Theory
- Maintained own client schedule
- Provided support in program development and basic technical support, including redesigning the intake process and SOAP note writing process

**PRE-PRACTICUM THERAPIST • GEORGE FOX UNIVERSITY FEBRUARY 2019 – APRIL 2019 • SUPERVISORS: GLENA ANDREWS, PHD; CHRISTABEL LEONCE, MA**

- Conducted clinical intake simulated therapy with two undergraduate student volunteers
- Provided services using the Person-Centered Therapy modality
- All sessions were video recorded and reviewed by a clinical supervisor

## **MENTOR/SUPERVISION EXPERIENCE**

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### **MENTOR/SUPERVISION OF SECOND YEAR PSYD STUDENTS • GEORGE FOX UNIVERSITY • SEPTEMBER 2021 – PRESENT**

- Provided mentorship and support to second-year students engaging in clinical work
- Engaged in supporting mentees for program questions and concerns
- Supported mentees with providing a safe space for them to process life-related events impacting their scholastic and clinical work.

### **MENTOR/SUPERVISION OF FIRST YEAR PSYD STUDENTS • GEORGE FOX UNIVERSITY • AUGUST 2019 – MAY, 2020**

- Provided feedback to general inquiries regarding life as a doctoral student
- Provided counsel in doctoral students' professional development and navigating expectations of the program

## **OTHER WORK EXPERIENCE**

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### **RAPID RESPONSE TECH TEAM SUPERVISOR • GEORGE FOX UNIVERSITY JANUARY 2021 – MAY 2021**

- Designed a program to provide on-call technical support for faculty teaching classes during the semester of hybrid learning.
- Provided technical consultation work for faculty who wanted to increase the quality of their classroom experience
- Provided training for other team members on how to solve basic technical issues that arise.

### **MYZONE LEADERSHIP CLASS INSTRUCTOR • NEWBERG CHRISTIAN CHURCH JANUARY 2018 – JULY 2019**

- Taught a leadership class to select 8<sup>th</sup> grade students to help foster and develop applicable leadership and life skills.
- Oversaw an event developed by the leadership class (MyZone Benefit Dinner).
- Mentored returning high school students, helping them adjust to a volunteer position at MyZone.

### **ONLINE ADMINISTRATOR • TOLEDO FIRST BAPTIST CHURCH SEPTEMBER 2016 – SEPTEMBER 2018**

- Maintained the integrity, security, and quality of the Toledo First Baptist Website through updates and redesigns of existing content.

### **RESIDENT INTERN • TOLEDO FIRST BAPTIST CHURCH SEPTEMBER 2015 – SEPTEMBER 2016**

- Mentored participants of Young Adult Ministry
- Served as Kids and Youth Camp worship team leader and technical support
- Served as a member of the Sunday Morning and Wednesday Night worship teams
- Led worship on select Sunday mornings and Wednesday night
- Worked with and mentored youth in the Youth Ministry program
- Served as primary technical support for secretarial and pastoral staff

- Designed and maintained the church's website

**MAJOR SALES ASSOCIATE • COSTCO WHOLESALE  
APRIL 2012 – SEPTEMBER 2015**

- Assisted members with a wide range of technology questions
- Designed presentations for upper management for important corporate meetings
- Selected to help with a variety of projects for upper management, including photographing a department before a large move and creating a map of the warehouse for inventory
- Crossed trained in several departments to provide help where needed

**MEDIA DESIGNER • TOLEDO FIRST BAPTIST CHURCH  
SEPTEMBER 2009 – SEPTEMBER 2015**

- Designed graphics and PowerPoint Presentations for Sunday Morning Services

**PROJECT EXPERIENCE**

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**ADMINISTRATIVE**

- 2019 - Designed, with another intern therapist, a new intake document and process for the George Fox Behavioral Health Center
- 2018 - Developed curriculum for the MyZone Leadership Program
- 2015 - Designed and built a website for Toledo First Baptist Church
- 2014 - Directed, filmed, and edited five videos for the Toledo First Baptist Church Youth Camp Program Team
- 2014 - Designed a large-scale presentation for Lacey Costco's Perspective Meeting

**CONSULTATION**

- 2022 - Provided initial consultation to the leadership team of the Pacific Northwest Quaker Women's Theology Conference and provided a technical plan to run their 2022 conference virtually from multiple locations
- 2022 - Supported and consulted for George Fox Graduate School of Clinical Psychology in the second virtual interview, using prior work/established system from the 2021 interview experience while managing a small team who supported other aspects of the interview process.
- 2021 - Provided consultation services to the Oregon Psychological Association to establish and run their 2021 conference. Consultation services included technical/software support, speaker support, administrative support, and media support before and during the conference.
- 2021 - Consulted and helped design the George Fox Graduate School of Clinical Psychology virtual interview experience, which allowed the school to foster better connection and interaction with the perspective students
- 2020 - Created and presented a feasibility document to Friendsview Retirement Community on determining on legal, ethical, and practical applications of establishing a daycare facility on their campus.



## RESEARCH EXPERIENCE

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### POSTER PRESENTATIONS

- 2020 – **Presented a poster at the International Neuropsychological Society (INS) 2020 July Virtual Event.**  
Holman, B., van Asselt, A., Richards, A., & Andrews, G. (2020, July 1-2). *Social Engagement: A Longitudinal Study of Children with Dysgenesis of the Corpus Callosum* [Poster Presentation]. INS 2020 July Virtual Event.

## COLLOQUIUMS AND GRAND ROUNDS

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### PRESENTATION AND PRESENTORS

- 2021 - **Erotic Transcendence: Integrating Faith with What's New in Sex Research**  
*Elisabeth Esmiol Wilson, PhD*
- 2021 - **Gender Diverse Clients: Therapy and Intervention Readiness Assessments**  
*Chloe Ackerman, PsyD*
- 2021 - **Saying 'Yes' to Your Embodied Life: An Invitation for Psychotherapists**  
*Janelle Kwee, PhD*
- 2020 - **Complex PTSD: Advanced case conceptualization, assessment, and treatment approaches in trauma populations**  
*Jason Steward, PhD*
- 2020 - **What is My (Our) Role? – Examining the role of neuropsychology within the pediatric cancer setting**  
*Justin Lee, PhD*
- 2019 - **Intercultural Communication**  
*Cheryl Forster, PsyD*
- 2019 - **Promoting Forgiveness**  
*Everett Worthington Jr., PhD*
- 2019 - **Foundations of Relationships Therapy-The Gottman Model**  
*Douglas Marlow, PhD*
- 2019 - **Opportunities in Forensic Psychology**  
*Diomaris Safi, PsyD & Alex Millkey, PsyD*
- 2018 - **Old Pain in New Brains**  
*Scott Pengelly, PhD*
- 2018 - **Spiritual Formation and The Life of a Psychologist: Looking Closer at Soul-Care**  
*Lisa Graham McMinn, PhD & Mark McMinn, PhD*

## SKILLS AND COMPETENCIES

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### CLINICAL

- **Psychological Test Competencies:**
  - **Attention**
    - Neuropsychological Assessment Battery Attention Module (NAB-A)
  - **Personality**
    - Minnesota Multiphasic Personality Inventory | Second Edition (MMPI-2)

- Minnesota Multiphasic Personality Inventory Restructured Format (MMPI-2 RF)
- 16 Personality Factors Questionnaire (16PF)
- Personality Assessment Inventory (PAI)
- Millon Clinical Multiaxial Inventory | Third Edition (MCMI-3)
- **Intelligence/Cognitive**
  - Wechsler Adult Intelligence Scale | Fourth Edition (WAIS-IV)
  - Wechsler Intelligence Scale for Children | Fifth Edition (WISC-V)
  - Comprehensive Test of Nonverbal Intelligence | Second Edition (C-TONI)
- **Neuropsychological**
  - Neuropsychological Assessment Battery (NAB)
  - Repeatable Battery for the Assessment of Neuropsychological Status (RBANS)
- **Achievement**
  - Wechsler Individual Achievement Test | Third Edition (WIAT-III).
- **Memory**
  - Wechsler Memory Scale | Fourth Edition (WMS-IV)
  - California Verbal Learning Test | Second Edition (CVLT-II)
- **Effort**
  - Test of Memory Malingering (TOMM)
- **Language**
  - Boston Naming Test (BNT)
- **Motor**
  - Grooved Pegboard Test (GPT)
- **Executive Functions**
  - Delis-Kaplan Executive Function System (D-KEFS)
  - Wisconsin Card Sorting Test (WCST)
- **Visuospatial**
  - Rey Complex Figure Test (RCFT)
- **Screeners**
  - Neuropsychological Assessment Battery Screener (NAB-Screener)
  - Mini Mental Health Exam 2nd Edition (MMSE-2)
  - Montreal Cognitive Assessment (MoCA)
  - Saint Louis University Mental Status Exam (SLUMS)
  - Columbia Suicide Severity Rating Scale (CSSRS)
- **Primary Theoretical Orientations:**
  - Acceptance and Commitment Therapy (ACT)
  - Person Centered Therapy (PCT)

## COMPUTER SOFTWARE

- **Production/Word Processing Software:** Word, PowerPoint, Publisher, Sonar, Adobe Premiere, Adobe Photoshop, & Wordpress
- **Electronic Health Record Systems:** EPIC, PointClickCare, Titanium, TherapyNotes, Allscripts

## **PROFESSIONAL TRAININGS AND AFFILIATIONS**

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**CLINICAL TEAM 2018-2019: BILL BURROW, PSYD • 2019-2020: LUANN FOSTER, PSYD • 2020-2021: KRISTY KNOWS HIS GUN, PSYD • 2021-2022: MARK THOMAS, PSYD**

- Presented 3 cases each year to six peers and a licensed clinical psychologist.
- Consulted with clinical team on possible treatment outcomes
- Collaborated with other group members on case conceptualization
- Examined multicultural aspects to case presentations

### **OTHER TRAININGS**

- **Risk Assessment Training (Provided by Luann Foster, PsyD)**
- **CPR/AED Certification**

### **AFFILIATIONS**

- **American Psychological Association**
- **Collaborative Family Healthcare Association**