The Relationship between Care Workers' Exposure to Dementia-Related Aggressive Behavior and Occupational Stress in Japan: A Mixed-Methods

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ABSTRACT

Title: The Relationship between Care Workers' Exposure to Dementia-Related Aggressive Behavior and Occupational Stress in Japan: A Mixed-Methods

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Aggressive behaviors (ABs) related to dementia among older adults have been associated with increased occupational stress among care workers (CWs) in the US and other Western countries and may contribute to staff turnover. However, few studies related to this issue have been done in Japan, where care worker reaction to ABs might be different because of cultural and customary differences in how care is provided for older adults.

This mixed-methods, cross-sectional study developed a Japanese version of the Exposure to Disruptive Behavior scale, and examined mediating and moderating effects on the relationship between frequency of exposure to ABs and occupational stress from exposure to ABs using the Cohen-Mansfield model. Care workers in 10 nursing homes in the northern and western areas of Japan were recruited as participants for this study.

The translated Japanese version of the EDB scale showed strong internal consistency, reliability, and preliminary evidence for construct validity. The translated scale was administered to 137 care workers employed in dementia special care units in Japan. The major findings were that care workers with higher exposure to AB had higher levels of job burnout and intention to resign. On the other hand, caring for dependents (a child or an older adult) did not affect the level of response to ABs. In responses to the

three open-ended questions, the majority of the participants stated that ABs were a result of residents' stress from dementia or a result of interactions with unskilled care workers. Approximately one-fourth of the participants responded that Japanese values such as *chu* and *joge* influenced their work with residents with AB. Moreover, about one-third of the participants indicated that ABs influenced the quality of care they provided positively, while about one-fifth of the participants indicated that those behaviors influenced quality of care negatively.

Findings from this study may be used to develop culturally relevant training and educational interventions targeted at reducing ABs in individuals with dementia and reducing occupational stress from exposure to ABs.

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Chapter 1

INTRODUCTION

The Japanese have the world's longest life expectancy at birth and, in 2012, the number of people over 65 years old reached 24.1% of the total population (The Cabinet Office, 2013). Government statistics estimated the number of older adults with dementia who need help or assistance at 2.1 million in 2010, and that number is expected to increase to 3.2 million in 2025 (Ministry of Health, Labor and Welfare, 2006). Although there is an increasing demand for care of older adults, nursing care facilities in Japan face shortages of care workers (CWs) and can find it difficult to retain current caregivers. Because of the heavy workload related to caring for physically and cognitively impaired older adults, caregivers in Japanese nursing care facilities have a high rate of intention to leave their jobs (Niki, 2010).

Aggressive behaviors related to dementia among older adults have been associated with increased occupational stress among direct care workers in the US and other western countries (Astrom et al., 2004; Cubit, & Farrell, 2006; Evers, Tomic, & Brouwers, 2001; Gates, Fitzwater, & Meyer, 1999; Rodney, 2000) and may contribute to staff turnover (Cooler, 1996; Earthy, MacCourt, & Mitchell, 2008; Heine, 1986). However, few studies related to this issue have been done in Japan, where caregiver reaction to aggressive behaviors might be different because of cultural and customary differences in how care is provided for older adults (Yamamoto & Wallhagen, 1997).

There are customs and values that are unique to Japanese culture. One of these is *chu* (loyalty), which is a type of obligation in which respect is given to one who has a

higher rank or position. The concept of *chu* is related to *on*, in which a person does all that they can for a person who has given them favor (such as money or assistance). In present-day Japanese society, the awareness of *chu* is not as strong as it used to be. However, many Japanese still have loyalty to their company and sacrifice themselves by working without sparing themselves (Yamakuse, 2011).

The concept of *chu* is strongly influenced by the concept of *joge* (hierarchy). A typical example of *joge* is the concept of *me-ue* and *me-shita*, in which a younger person (*me-shita*) respects an older person (*me-ue*). The younger person pays the proper respect to the older person, while the older person in turn feels an obligation to take care of the younger person (Yamakuse, 2011). These concepts can come into play in the nursing home setting in Japan, and may affect the relationship between residents and CWs in ways that are not seen in Western settings.

Caring for older adults with dementia can be burdensome for CWs, especially when an elderly person exhibits aggressive behavior (e.g., hitting, pushing, biting, name-calling, etc) (Kunik et al., 2010; Morgan, Stewart, D'Arcy, Forbes, & Lawson, 2005; Ryden, Bossenmaier, & McLachlan, 1991; Zimmerman et al., 2005). Since aggressive behavior occurs most often while CWs are assisting older adults in activities of daily living (Astrom et al., 2004; Gates et al., 1999; Middleton, Stewart, & Richardson, 1999; Ryden, et al., 1991), CWs are frequent targets of aggressive behaviors. As a result, aggressive behavior has been associated with CWs' stress, emotional exhaustion (Astrom et al., 2004; Gate et al., 1999; Rodney, 2000), burden (Allen et al., 2003), reduced job satisfaction (Cubit & Farrell, 2006), and increased staff turnover (Cooler, 1996; Earthy et al., 2008; Heine, 1986).

Cohen-Mansfield (1995) proposed a framework for understanding dementia-related stress among staff who work in long-term care. This model suggests that CWs who have more exposure to dementia-related aggression may experience increased occupational stress and job burnout—exacerbating the shortage of CWs for people with dementia. Cohen-Mansfield, however, postulates that stress may be mitigated by the CWs' individual resources (e.g., knowledge and experience). Because there have been very few investigations of dementia-related aggressive behaviors in Japan, there is little evidence as to the contribution of aggressive behavior to occupational stress among CWs in Japanese nursing homes and as to whether aggressive behavior is associated with CWs' job burnout and reduced job satisfaction.

Purpose of the Study

The purpose of the proposed research is to develop a Japanese version of the Exposure to Disruptive Behavior scale and to examine the relationship between CW frequency of exposure to dementia-related aggressive behavior and their occupational stress, job burnout, and intention to resign. Care workers will be recruited as participants for this study because they provide the majority of direct care for residents in nursing homes in Japan.

The study addressed the following three specific aims.

Specific aim 1: To translate the Exposure to Disruptive Behavior Scale into Japanese and establish preliminary evidence for reliability and validity.

Specific aim 2: a) To test the mediating effect of occupational stress (stress from exposure to aggressive behavior) on the relationship between frequency of exposure to aggressive behaviors and three work outcomes—job burnout, job satisfaction, and

intention to resign, and b) To test the moderating effects of individual stressors (having a child and taking care of a family member who needs help/assistance) and resources (education and experience) on the relationship between frequency of aggressive behaviors and occupational stress.

Hypothesis

1. Japanese care workers who have more frequency of exposure to aggressive behavior experience increased occupational stress, job burnout, and intention to resign, and reduced job satisfaction.
2. Japanese care workers who have more personal stressors (having a child and taking care of a family member who needs help/assistance) and who had fewer individual resources (education and experience) experience increased occupational stress.

Specific aim 3: To explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors.

Significance to Nursing

The proportion of older adults in the population is increasing in both the US and Japan. With the increased size of this population, the number of people with dementia is also increasing. Although there is a rising demand for care of older adults with dementia, increased staff turnover is a significant issue in nursing homes.

Aggressive behavior is one of the challenging issues facing CWs in nursing homes, and many CWs have reported that caring for residents with aggressive behaviors is burdensome (Kunik et al., 2010; Morgan et al., 2005; Ryden et al., 1991; Zimmerman et al., 2005). In addition, aggressive behavior has been associated with CWs' stress and

emotional exhaustion (Astrom et al., 2004; Gate et al., 1999; Rodney, 2000), and with increased staff turnover (Cooler, 1996; Earthy et al., 2008; Heine, 1986) in the U.S. This study is significant to support the need for continued exploration and development of strategies to reduce occupational stresses from aggressive behaviors by residents with dementia for CWs in nursing homes.

Implications for Japanese Nursing

Even though less research into problematic behaviors related to dementia has been carried out in Japan than in Western countries, Japanese researchers have begun determining the prevalence, correlates, and consequences of aggressive behaviors. Some research has reported relationships between aggressive behavior and negative impacts on CWs, such as stress and burden (Koshitani, 2008; Miyamoto, Tachimori, & Ito, 2010). However, only a few studies have clearly defined aggressive behaviors (Hirata, 2003) or used validated scales to measure the behaviors (Miyamoto et al., 2010; Schreiner, 2001). In addition, no studies have been conducted using a valid measurement to identify the relationship between dementia-related aggression and occupational stress. Therefore, the proposed study will build on this earlier research by translating a reliable and validated measurement of occupational stress and then use that instrument to explore the relationships between CW frequency of exposure to dementia-related aggressive behaviors, occupational stress, job burnout, job satisfaction, and intention to resign.

Previous Japanese researchers reported that problematic behaviors (including aggression) had significant correlations with higher CW burden (Miyamoto et al., 2010). In addition, job satisfaction of CWs who had experienced violence from residents with dementia was found to be lower than it was among caregivers who did not experience

violence (Koshitani, 2008). Moreover, those caregivers with experience of violence who reported stress tended to have higher intention to resign (Koshitani, 2008). On the other hand, some research suggests that the CWs' psychological wellness and intention to resign may be related to their understanding of what causes violence by residents with dementia (Koshitani, 2008).

Based on prior research in Western countries, it is likely that CWs who are better trained or have more experience do a better job of managing dementia-related problematic behaviors (Hagen, & Sayers, 1995; Josefsson, Sonde, & Wahlin, 2007) and increase their job satisfaction (Zimmerman et al., 2005). If better management of aggressive behavior increases CWs' job satisfaction, it may also decrease their intention to resign—both outcomes that might decrease the turnover of CWs for older adults with dementia in Japan.

There have been no intervention studies focused on diminishing specific dementia-related aggressive behaviors in Japan. The aim 1 of this study is to develop a Japanese translation of the Exposure to Disruptive Behavior scale. The aim 2 is to examine whether occupational stress from exposure to aggressive behaviors influence individual work outcomes (job burnout, job satisfaction, and intention to resign) and to examine whether individual stressors and resources increase or decrease the relationship between frequency of exposure to aggressive behavior and occupational stress. The aim 3 is to explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors. If this study finds that occupational stress from exposure to aggressive behavior influence individual work outcomes and that Japanese care workers have cultural influenced beliefs and explanations of aggressive behaviors, educational

intervention study for Japanese care workers will be planned. The translated scale will then be used to measure the effect of the education intervention intended to help CWs understand what causes aggressive behaviors and teach them how to better manage those behaviors. It is hoped that by exploring CWs' understanding of aggressive behaviors it may be possible to eventually develop interventions that will help to reduce those behaviors. This fits in with the long-term goal of my research, which is to improve the overall quality of care for older adults with dementia in Japan.

Chapter 2

LITERATURE REVIEW AND FRAMEWORK

Introduction

This chapter provides background in six areas that are important for this study. The first part of the literature review provides definitions related to aggressive behavior. The second part deals with prevalence of aggressive behavior in Western countries. The third and fourth parts address correlates and consequences of aggressive behavior in Western countries. The fifth part is about the prevalence of aggressive behavior in Japan. The last part addresses correlates and impact of aggressive behavior on CWs in Japan. This chapter also includes a conceptual framework related to stress of aggressive behavior and job burnout in long-term care for CWs.

CINAHL, Ovid MEDLINE (1946 to October Week 1 2013), and PsychINFO (1806 to October Week 3 2013) were searched using the key words "aggression," "dementia," "nursing care," and "nursing home." The search using the key words "aggression," "dementia," and "nursing care" yielded 87 articles in CINAHL, 36 articles in Ovid MEDLINE, and 13 articles in PsychINFO. The search using the key words "aggression," "dementia," and "nursing homes" yielded 127 articles in CINAHL, 106 articles in Ovid MEDLINE, and 57 articles in PsychINFO. Those articles were combined, and then articles that were not written in English and duplicate articles were excluded. The initial search yielded total of 167 articles from the three databases. Exclusion criteria eliminated articles that dealt with "elder mistreatment/maltreatment," "elder abuse," "family/spousal caregiver," "book review," and "not research based." The titles and

abstracts were screened for exclusion criteria. After deleting articles that met the exclusion criteria, 67 articles remained.

A search was also done in the Japanese databases CiNii and Ichushi using the period from 1983 to 2013. For Ichushi, a search using the keywords “aggression,” “dementia,” and “care” found 51 articles. A second Ichushi search using the keywords “the aged,” “dementia,” and “violent action” yielded 44 articles. The keyword used for the CiNii search was “aggression"; this search found 89 articles. When searching both databases, articles focused on “family/spousal caregiver,” “aggression among young population,” and “psychiatric disease” were excluded. The searches also excluded duplicates and articles that were not research based. Consequently, 10 articles related to aggressive behaviors or violent actions among older adults with dementia were chosen from the Japanese databases.

Definition of Aggressive Behavior

While there are many studies related to aggressive behavior among older adults with dementia, there is no consistent definition of the behavior in the clinical and research literature. Because many studies use a definition of aggression that includes other behavioral symptoms such as agitation or disruptive behaviors, much of the research on dementia-related aggressive behavior is difficult to evaluate.

Aggressive behavior by older adults with dementia is often categorized as a part of the behavioral and psychological symptoms of dementia (BPSD), including depression, anxiety, agitation, aggression, abnormal vocalization, wandering, overactivity, loss of sexual inhibition, eating and sleeping disturbances, and apathy (Finkel, Costa, & Silva, 1996). Brodaty et al. (2001) focused on behavioral disturbances using the concept of

BPSD and considered symptoms such as physical and verbal aggression, wandering, agitation, anxiety, and hallucinations to be manifestations of BPSD. Miyamoto et al., (2010) included a variety of problematic behaviors as BPSD (e. g., physical and verbal aggression, quarrelling with others, crying/screaming, noisy at night, and restlessness) and described aggression and screaming as disruptive behaviors. Consequently, the concept of BPSD seems to include very broad symptomatic and problematic behaviors.

Aggressive behavior has been defined as vocal and physical behaviors that could cause physical or psychological pain to another person, but without necessarily intending to injure the other person (Patterson, 1982). Aggression in dementia has also been defined as a crude act involving the unintentional exposure of a harmful stimulus to other people (Patel & Hope, 1993). Moreover, Ryden (1988) defined aggressive behavior as hostile actions targeted to others, objects, or the self, and measured aggression by three subscales: physically aggressive behavior (e.g., threatening gestures, pushing or shoving, and throwing an object), verbally aggressive behavior (e.g., hostile or accusatory language, verbal threats, and name calling), and sexually aggressive behavior (e.g., unwanted hugging, kissing, and touching body parts). The Ryden Aggression Scale (RAS) also enumerates 25 specific acts of aggression (Ryden, 1988). Despite all of these lists, definitions of aggressive behaviors are often considered to be either too narrow or too broad to assist researchers (Chrzescijanski, Moyle, & Creedy, 2007).

Cohen-Mansfield (2000) defines aggressive behavior as a part of, as well as an exacerbation of, agitation. Agitation was defined as improper verbal or physical expression by needy or confused individuals (Cohen-Mansfield & Billing, 1986) and classified as four syndromes:

(1) Physically non-aggressive (pace/aimless wandering, inappropriate dressing and/or disrobing, inappropriate eating or drinking, exit-seeking behaviors, handling things inappropriately, hiding things, hoarding things, performing repetitious mannerisms, general restlessness).

(2) Physically aggressive (spitting, kicking, biting, grabbing, hitting, pushing, throwing things, scratching, hurting oneself or others, tearing things or destroying property, falling intentionally, physical sexual advances).

(3) Verbally non-aggressive (attention-seeking behaviors, complaining, negativism, repetitive sentences or questions)

(4) Verbally aggressive (cursing, making strange noises, screaming, verbal sexual advances) (Cohen-Mansfield, 2009, p. 65).

Even though this definition includes nonaggressive behaviors (e. g., pacing, wandering, and hiding things), and inappropriate behaviors (e. g., taking off one's clothes in public) (Hawranik, Johnston, & Deatrich, 2008), several researchers (Peskind et al., 2005; Selbaek, Kirkevold, Sommer, & Engedal, 2008; Testad, Aasland, & Aarsland, 2007; Vance et al., 2003; Wood et al, 1999) use the concept of agitation and aggression interchangeably. Because agitation and aggression may have different impacts on a caregiver, it is necessary to clarify the definition of each behavior.

Algase et al. (1996) developed a conceptual framework of the Need-Driven Dementia-Compromised Behavior (NDB) model that considered aggressive behavior as one of three behavioral symptoms: physical aggression, wandering, and vocalizations. Those same three categories were identified as disruptive behavior by Cohen-Mansfield and associates. The term "disruptive behavior" reflects the caregiver's view of the

behavior rather than the way that the same behavior appears from the perspective of a person with cognitive impairment (Algase et al., 1996). In addition, agitated or aversive and aggressive behavior was described as disruptive behavior (Jackson et al., 1989) manifested by four dimensions: physical aggression, verbal aggression, agitation, and wandering (Mungas, Weiler, Franzi, & Henry, 1989). Disruptive behavior has been often used as an umbrella term to express behaviors such as wandering, resistance to care, general agitation, and aggression (Mungas et al., 1989). Moreover, Middleton et al. (1999) classified disruptive behavior into three categories: physical aggressive behavior, verbal aggressive behavior, and aversive behaviors.

Furthermore, some researchers describe aggressive behavior as physical resistance (e.g., hitting, kicking, biting, or grabbing) (Cooler, 1996); as violence such as physical violence (e.g., pinching hitting, or kicking) and sexual violence (e.g., harassment, or grabbing and pinching intimate parts) (Astrom et al., 2004); as violent behavior (Isaksson, Astron, Sandman, & Karlsson, 2009); as combative behavior (slapping, shoving/pushing, pulling hair, squeezing/hanging on tight, or sexual touching) (Morgan et al., 2012); or as physically and verbally abusive symptoms (Volicer, & Frijters, 2009).

It is obvious that there is much overlap between the definitions of agitation, aggression, and disruptive behavior, with each concept sharing mutual themes and behaviors (DeYoung, Just, & Harrison, 2002). Those interchangeable uses of multiple terms to describe behavioral symptoms in dementia are problematic because each symptom can be associated with different levels of negative feelings for formal caregivers (Miyamoto et al., 2010).

This difficulty is also found in Japanese research, where researchers have not always used the term "aggression" consistently. For example, some Japanese researchers have used the term "aggressive behavior" while others have used the term "violent action," and both groups have done so without defining the behavior(s) being described. Moreover, Nakamura (2010) held that aggressive behavior and agitation were similar behaviors, both including physical violence (e.g., kicking and pushing), verbal violence (e.g., scolding and yelling), and sexual violence. As a result, it is hard to know whether all of those researchers investigated the same phenomenon. In this study, aggressive behavior is defined as verbal or physical hostile actions that an individual takes in order to protect herself or himself; to express his or her feelings; or to express his or her needs.

Prevalence of Aggressive Behavior (AB) in Western Countries

AB Prevalence Based on Cross-Sectional Studies.

Nursing staff in long-term care facilities or nursing homes reported in questionnaires that anywhere between 15% and 77% of residents with dementia exhibited aggressive behaviors (Brodaty et al., 2001; Isaksson et al., 2009; Josefsson et al., 2007; Lachs et al., 2012; Marx, Cohen-Mansfield, & Werner, 1990; Rolland et al., 2009). Even though some researchers reported that their participants experienced physical aggression (ranging from 11% to 68% of participants) (Beck, Baldwin, Modlin, & Lewis, 1990; Marx et al., 1990; Menon et al., 2001) more than verbal or sexual aggression, others reported only about physical aggression (ranging from 32% to 57% of participants) (Isaksson, Graneheim, Astrom, & Karlsson, 2011; Kolanski, & Garr, 1999; Pulsford, Duxbury, & Hadi, 2011; Zuidema, Jonghe, Verhey, & Koopmans, 2009); reported about aggressive behavior (ranging from 15% to 77% of participants) without breaking that

behavior out into categories (Brodaty et al., 2001; Isaksson et al., 2009; Josefsson et al., 2007; Rolland et al., 2009); reported a mean of 4.93 (*SD* = 4.96) incidents of aggressive behaviors over the 144-hour period among 83 nursing assistants (NAs) (Morgan et al., 2012); or focused on aggressive behavior while showering (37% of participants) (Whall et al, 2008).

The prevalence of aggressive behaviors based on the cross-sectional studies varied greatly, ranging between 15% and 77%. This difference may be due to varying concepts of aggressive behavior used in the studies and to the different scales used to measure that behavior.

AB Prevalence Based on Observational Studies.

Approximately 86% to 98% of residents with dementia in nursing homes exhibited aggressive behaviors at times when residents were observed and counted by nursing staff (Chrzescijanski et al., 2007; Ryden et al., 1991). Although three studies (Bridges-Pariet, Knopman, & Thompson, 1994; Hagen & Sayers, 1995; Ryden et al., 1991) have used the Ryden Aggression Scale (RAS), researchers focused on different aspects of the behaviors. Ryden et al. (1991) reported that 50.8% of the residents exhibited physical aggression, 47.6% of them exhibited verbal aggression, and 4% of them exhibited sexual aggression during 24-hour observations over seven days. In contrast, Bridges-Pariet et al. (1994) and Hagen and Sayers (1995) focused on only physical aggression. Using continuous recording by a technological instrument and RAS for six months (two hours a day for four days during a one-week period), Bridges-Pariet et al. (1994) reported that 65% of participants exhibited physical aggression. Hagen and

Sayers (1995) reported that a total of 275 incidents of physical aggression occurred over 16 days (an average of 17 incidents of physical aggression per 24-hour period).

Although these observational studies used the same scale (RAS), their methods (such as duration and focus on different aspects of aggressive behavior) and settings were different. These differences make it hard to compare the prevalence of aggressive behaviors among those studies.

AB Prevalence by Place and Work Shift.

About half of aggressive behaviors (40% to 53%) (Malone, Thompson, & Goodwin, 1993; Ryden et al., 1991) or more than half of the behaviors (65% to 77%) (Lachs et al., 2012; Morgan et al. 2012) occurred in a resident's room, and 18% of the behaviors occurred in a dining/activity area (Ryden et al., 1991). While Ryden et al. (1991) reported that most aggressive behaviors occurred during the day shift, Malone et al. (1993) reported that the behaviors occurred almost equally during day shift (46.7%) and evening shift (50.0%). In addition, Lachs et al. (2012) and Morgan et al. (2012) reported that the behaviors occurred mostly during morning care. These contrasting findings may be a result of differences in the way that data was collected. Malone et al. (1993) collected data by reviewing all incident reports in a long-term facility, and Lachs et al. (2012) and Morgan et al. (2012) used a cross-sectional survey of certified nursing assistants (CNAs) or NAs. On the other hand, Ryden et al. (1991) collected data by observing residents of four nursing homes for 24 hours a day for seven days.

AB Prevalence by Staffing and CW Experience.

Prevalence of physically aggressive behavior was higher in wards that had a lower caregiver-to resident ratio when wards with high prevalence of physical aggression were

compared with wards with low prevalence of physical aggression in 10 nursing homes (Isaksson et al., 2009). In addition, CWs in the wards with high prevalence of physical aggression had less experience working with older adults than CWs in the wards with low prevalence of physical aggression (Isaksson et al., 2009). Tak, Sweeney, Alterman, Baron, & Calvert (2010) also found that CWs who had less than12 months of experience tended to report higher incidence of physically aggressive behavior than CWs who had either 12 months of experience or more than 12 months of experience. Consequently, prevalence of physical aggression may be influenced by lower staffing and lower levels of CW experience. On the other hand, Morgan et al. (2012) found that there was not a significant relationship between number of AB incidents and work experience.

Correlates of Aggressive Behavior in Western Countries

A number of factors have been correlated with increased aggressive behavior in residents with dementia.

Neurological Damage.

One possible factor in why residents with dementia become aggressive is the disease process itself (Beck et al., 1990; Morgan et al. 2012; Middleton et al., 1999). For some individuals, aggressive behavior may occur as dementia proceeds to the middle stage of the illness, during which neurological damage occurs (as cited in Pulsford & Duxbury, 2006). Residents with moderate or severe dementia manifested aggressive behavior more often than residents with mild dementia (Heeren et al., 2003; Menon et al., 2001; Zuidema et al., 2009). In the middle stage of the illness, an individual may become anxious, hostile, and emotionally unstable, and have a tendency to engage in verbal and physical aggression (DeYoung et al., 2002).

Physiological Changes and Psychological Symptoms.

Aggressive behavior is related to low levels of serotonin (Algase et al., 1996; Mintzer, 2001), testosterone levels (Orengo, Kunik, Molinari, Wristers, & Yudofsky, 2002), and reduced blood supply in certain parts of the brain (Hirono, Mega, Dinov, Mishkin, & Cummings, 2000). The behavior is also related to symptoms of depression (Heeren et al., 2003; Leonard, Tinetti, Allore, & Drickamer, 2006; Majic et al., 2012; Menon et al., 2001; Talerico, Evans, & Strumpf, 2002; Volicer, & Frijters, 2009); delusions and hallucinations (Leonardet al., 2006); and psychotropic use (Isaksson et al., 2011; Ryden et al., 1991; Talerico et al., 2002; Zeisei et al., 2003).

Physical Symptoms and Impairment.

Presence of pain in older adults with dementia is correlated with aggressive behavior (Husebo, Ballard, Sandvik, Nilsen, & Aarsland, 2011; Volicer, & Frijters, 2009). If a resident with dementia is in pain, he or she is more likely to resist care aggressively (Miller, Rader, Hiatt, & Smith, 2005; Volicer, & Frijters, 2009). In addition, treatment of pain significantly helped to decrease neuropsychiatric symptoms such as aggression (Husebo et al., 2011). However, a longitudinal study found no significant difference in aggressive behavior related to pain when patients who developed aggression were compared with patients who did not develop aggression (Kunik et al., 2010).

Aggressive behavior is associated with constipation (Leonard et al., 2006). Also, older adults with dementia are more likely to become aggressive if their communication is impaired (Isaksson et al., 2011; Talerico et al., 2002; Tunis, Edell, Adams, & Kennedy, 2002) or their physical functioning is impaired (Algase et al., 1996; Brodaty et al., 2001; Kirkevold, Sandvik, & Engeldal, 2004; Menon et al., 2001).

Gender.

There is a correlation between gender and aggressive behavior. Male residents with dementia were more likely to exhibit physically aggressive behavior than female residents (Isaksson et al., 2011; Marx et al. 1990; Menon et al., 2001; Zuidema et al., 2009). However, a retrospective study that reviewed incident reports found no significant gender difference (Malone et al., 1993). A cross-sectional study using a questionnaire also found no significant correlation between gender and aggressive behaviors (Lachs et al., 2012).

Others.

Other possible factors in why residents with dementia become aggressive are disorientation (Isaksson et al., 2011; Menon et al., 2001); anxiety (Zeisei et al., 2003); homesickness (Beck et al., 1990); and residents' failure to understand their situation and wanting to use the last remaining possibility to express themselves (Zeller, Dassen, Kok, Needham, & Halfens, 2011). Some CWs stated that aggressive behavior was often unprovoked (Chrzescijanski et al., 2007; Gates et al., 1999), even though their nursing directors mentioned that the behavior would sometimes be predictable (Gates et al., 1999). Hispanic and African-American residents were less likely to become aggressive than were Caucasian residents. In addition, age and education were not significantly correlated with aggressive behaviors (Lachs et al., 2012).

Trigger of Aggressive Behavior

Most aggressive behaviors were directed toward CWs when they were assisting residents' activities of daily living (ADL) such as bathing, using the toilet, dressing, or feeding (Astrom, et al., 2004; Beck et al., 1990; Bridges-Pariet et al., 1994; Cooler, 1996;

Gates et al., 1999; Hagen, & Sayers, 1995; Isaksson et al., 2011; Morgan et al. 2012; Pulsford et al., 2011; Ryden et al., 1991). Aggressive behavior was considered to be a response to touch or intrusion of personal space that occurred as part of caregiving (Ryden et al, 1991; Zeller et al., 2011). A resident may become aggressive when another person is not able to meet his or her needs or goals (Algase et al., 1996; Astrom et al., 2004; Beck et al., 1990; Morgan et al. 2012). In addition, residents who are physically restrained are more likely to become aggressive (Chang, Huang, Lin, & Lin, 2010; Chrzescijanski et al., 2007; Talerico et al., 2002).

Residents with dementia may become aggressive because of a CW's lack of competence (Skovdahl, Kihlgren, & Kihlgren, 2003); because of lack of thoughtfulness by or fear of other residents (Zeller et al., 2011); or because of a caregiver's assumption that the person with dementia has unimpaired physical and mental ability, and the failure of caregivers to adequately explain their actions (Stokes, 2004). Furthermore, inadequate staffing (Beck et al., 1990; Zeisei et al., 2003) and working under pressure (Zeller et al., 2011) are also related to the occurrence of aggressive behavior. If CWs work overtime or do not have sufficient time to take care of residents, there is an increased likelihood that they will experience injuries as the result of residents' aggression (Tak et al., 2010). In addition, a resident with dementia may become aggressive for self-protection when she or he is suspicious of or afraid of a caregiver (Stokes, 2004).

Whether these aggressive behaviors are caused by factors related to the person with dementia, to the approach used by caregivers, or to a combination of both, it is likely that a CW's lack of preparedness or education and how busy they are while on the job can trigger dementia-related aggressive behaviors.

Consequences of Aggressive Behavior in Western Countries

A number of consequences have been associated with aggressive behaviors in person with dementia and their direct care workers. Because taking care of older adults with dementia-related aggressive behavior can be highly frustrating, these older adults tend to get institutionalized (Cooler, 1996; Haupt & Kurz, 1993; Kunik et al., 2010). Since older adults with dementia often resist getting care or act aggressively toward caregivers in nursing homes, their behaviors sometimes result in harm to others and can cause injuries to caregivers (Middleton et al., 1999; Tak et al., 2010), including nurses (Astrom et al., 2004; Hagen & Sayers, 1995; Scott, Ryan, James, & Mitchell, 2011). About half of CWs in nursing homes who had experienced aggressive incidents reported having fears for their personal safety (Astrom et al., 2004; Middleton et al., 1999; Scott et al., 2011). In addition, care workers who experienced aggression from residents with dementia described feeling hurt, angry, frustrated, sad, a lack of respect, violated, or shocked (Gates et al. 1999); or they reported that they felt powerless (Astrom et al., 2004; Skovdahl et al., 2003) or experienced feelings of inadequacy or resignation (Astrom et al., 2004; Earthy et al., 2008). Persistent aggression has been associated with emotional exhaustion among CWs (Evers, Tomic, & Brouwers, 2002) as well as with CWs' mental health problems, including burden (Allen et al., 2003; Haupt, & Kurz, 1993; Kunik et al., 2010), distress (Middleton et al., 1999; Wood et al., 1999), and stress (Bright, 1986; Cooler, 1996; Earthy et al., 2008; Rodney, 2000) Those feelings negatively affect care workers' sense of personal accomplishment (Evers et al., 2002).

Besides the negative effect that dementia-related aggressive behaviors have on CWs (Astrom et al., 2004; Evers et al., 2002; Gates et al. 1999; Middleton et al., 1999;

Rodney, 2000; Talerico et al., 2002), these behaviors have also been correlated with increased intention to resign (Astrom, et al., 2004; Earthy et al., 2008) and higher turnover rates among CWs (Cooler, 1996; Heine, 1986). In addition, caregivers who experience aggressive behaviors are more likely to rely on pharmacological treatment or isolation, and they may ignore or give no answer when residents need help or make requests (Astrom, et al., 2004). Furthermore, a CW who feels lack of competence to take care of aggressive residents tends to be afraid of the residents and withdraw (Skovdahl et al., 2003). As a result, aggressive behavior has been negatively associated with the quality of care for older adults with dementia in nursing homes (Ryden & Feldt, 1992).

Perception of Aggressive Behavior Among Care Workers

Many CWs in Western countries fail to report the incidence of aggressive behaviors because they think that acceptance of these behaviors is a part of their job (Gates et al., 1999). CWs on special care units (SCUs) for residents with dementia tend to understand that aggressive behaviors come from the disease and realize that the behaviors are not directed at the caregivers personally (Middleton et al., 1999). Even though studies have found that there is more exposure to aggressive behaviors on SCUs than on traditional long-term care units (TUs), the distress related to the behaviors reported by CWs was less on SCUs than TUs (Middleton et al., 1999; Morgan et al., 2005).

CWs who are older tend to report less stress regarding aggressive behaviors (Zimmerman et al., 2005). In addition, CWs who have between six months and two years of experience working with residents with dementia report more stress than do CWs who have more than two years experience (Zimmerman et al., 2005). Moreover, CWs who have more education or who do a better job of managing residents' aggression (Hagen, &

Sayers, 1995; Josefsson et al., 2007) are more satisfied with their jobs (Zimmerman et al., 2005).

The results of these studies in Western countries may not be applicable to Japan because of cultural and customary differences in the care of older people (Yamamoto & Wallhagen, 1997). Because of the emphasis on respect for elders in Japanese culture, CWs in Japan may interpret and respond differently to aggressive behavior than their Western counterparts. Research that explores the impact of exposure to aggressive behaviors is needed in order to understand whether it contributes to stress and job burnout among CWs in Japan.

Prevalence of Aggressive Behavior in Older Japanese with Dementia

In Japan, aggressive behavior among older adults with dementia occurs most often during daytime hours (Hirata, 2003), while care workers (CWs) are assisting residents in activities of daily living (ADL) such as bathing and using the toilet (Hirata, 2003; Nakamura, 2010; Schreiner, 2001). In six nursing homes in Japan, Schreiner (2001) conducted a study using trained staff (six nurses, nine care workers, and one occupational therapist) who observed residents for two weeks using the Cohen-Mansfield Agitation Inventory (CMAI). She found that 45% of persons with dementia in nursing homes exhibited aggressive behaviors (29.2% for physical aggression and 39.4% for verbal aggression). Hirata (2003) collected data from patient charts and interviewed nurses and nursing assistants for four weeks at a special care unit for dementia in a hospital (average daily census = 40), and then used the Ryden Aggression Scale to measure the types and frequency of the aggressive behaviors that occurred. She found that, on average, aggressive behaviors occurred 1.7 times a day on the unit (59.6% for

physical aggression, 31.9% for verbal aggression, and 2.1% for sexual aggression). Koshitani (2007) surveyed CWs in group homes and nursing homes, and also surveyed nurses and CWs in long-term care facilities (Koshitani, 2008). She reported that 60.1% of CWs in group homes experienced violence (89.6% for physical violence, 47.9% for verbal violence, and 19.4% for sexual violence). Approximately 84% of CWs in nursing homes experienced violence (95.3% for physical violence, 55.1% for verbal violence, and 26.8% for sexual violence). The CWs in nursing homes had more experience of violence than CWs in group homes (Koshitani, 2007). In addition, over 67% of nurses and CWs in long-term care facilities experienced violence by their residents (91.7% for physical violence, 31.1% for verbal violence, and 18.9% for sexual violence) (Koshitani, 2008).

Men were significantly more likely to exhibit physically aggressive behavior (Nakamura, 2010; Schreiner, 2001). While Schreiner (2001) found no gender difference for exhibiting verbally aggressive behavior, Nakamura (2010) stated that women were more likely to be verbally aggressive.

Prior research has focused on both the incidence and prevalence of aggressive behaviors in older adults with dementia (Koshitani, 2008; Schreiner, 2001), as well as CWs' exposure to aggression (Hirata, 2003). Unfortunately, the differing unit of analysis in these studies makes it difficult to determine how the prevalence of aggressive behaviors translates to the exposure of CWs to these behaviors. This study focused on the exposure of CWs to aggressive behaviors in general, rather than the incidence or prevalence of aggressive behaviors in specific residents with dementia.

Correlates and Impact of Aggressive Behavior on CWs in Japan

Physically aggressive behavior had significant association with the severity of dementia (Hamuro et al., 2007; Schreiner, 2001), and varied greatly according to patients' levels of activities of daily living (Schreiner, 2001). The possible reasons for aggressive behaviors reported by CWs were dementia-related symptoms, residents' awareness of their own dementia; residents' feelings that caregivers do not listen or explain what they are doing; caregivers' lack of sympathy (Miyazaki, 2007); expression of unpleasant feelings (Miyazaki, 2007; Nakamura, 2010); resistance to or refusal of care (Hirata, 2003; Nakamura, 2010); and anger triggered by invasion of personal space and undesirable approach by caregivers, and expression of loneliness or anxiety (Nakamura, 2010). In a retrospective study, Mitani, Oota, and Komatu (2009) found that residents who experienced falls were more likely to become aggressive than residents who did not fall.

Even though dementia-related aggression is one of the main physical and emotional risks to health care providers in Western countries, there have been very few investigations into how aggressive behaviors by older adults with dementia affect CWs in Japan. One exception is a post-marketing survey of the use of a medication for Alzheimer's disease on 252 patients of caregivers and the impact on the level of caregiver burden. Tanaka et al. (2008) examined whether medication reduced behavioral and psychological symptoms of dementia (BPSD) (such as hallucinations/delusions, wandering, and aggression), and determined how caregivers' nursing burden had changed 12 weeks after the treatment. The researchers used a chi-square test for the analysis to compare the frequency of caregivers' burden, which were "No burden," "Burden decreased," "Burden unchanged," and "Burden increased." They found that the treatment

improved BPSD and consequently lowered caregivers' burden ($p < 0.01$). Because the researchers asked the participants about aggressive behavior as a single, undifferentiated behavior, however, it is hard to tell exactly which aggressive behaviors were being described or how those behaviors changed. In addition, the researchers' failure to provide information about the caregivers makes it difficult to determine whose burden was measured.

Some studies in Japan have examined the relationship between aggressive behavior and the impact of those behaviors on CWs. Disruptive behaviors such as aggression and screaming were found to have significant correlations with higher CW burden (Miyamoto et al., 2010). This study, however, measured BPSD using the Troublesome Behavior Scale, which only measures disruptive behavior, not aggressive behavior specifically. Therefore, it is not clear whether aggressive behaviors have a significant correlation with caregiver burden. Kawamura, Tsutsumi, and Ashikaga (2013) reported that care workers expressed anger (44.9%), resignation (27.6%), or feeling of guilt (10.4%) when they encountered aggressive behaviors by residents with dementia. Koshitani (2008) reported that CWs who experienced violence from residents with dementia had lower job satisfaction than did caregivers who did not experience violence. Of the CWs with experience of violence, 43.3% stated that the violence did not cause stress—most of the caregivers believed that violent behavior was a symptom of their residents' dementia. Nonetheless, those caregivers with experience of violence who reported stress tended to have higher intention to resign (Koshitani, 2008).

In a qualitative study that provides an initial indication of the relationship between dementia-related aggression and care workers' distress, Nakamura (2010) interviewed 12

CWs who all had more than three years of experience. The participants stated that they felt powerless and unable to provide proper care when residents exhibited aggressive behavior, using the following words to describe how they felt: deplorable, anger, empty, hurtful, helpless, and fearful. The CWs also reported that caring for residents with unpredictable aggressive behavior caused burnout and led caregivers to resign from their jobs. Furthermore, caregivers' lack of knowledge about how to care for residents who exhibited aggressive behavior caused them to experience a loss of confidence.

Even though less research into problematic behaviors related to dementia has been carried out in Japan than in Western counties, Japanese researchers have begun to determine the prevalence, correlates, and consequences of aggressive behaviors. Some research reported relationships between aggressive behavior and negative impacts on care workers, such as stress and burnout (Koshitani, 2008; Miyamoto et al., 2010). However, only a few studies clearly defined aggressive behaviors (Hirata, 2003) or used validated scales to measure the behaviors (Miyamoto et al., 2010; Schreiner, 2001). In addition, no studies have been conducted using a valid measurement that can explore the relationship between dementia-related aggression and care workers' stress from aggressive behavior.

Conceptual Framework

Cohen-Mansfield (1995) proposed a framework for understanding dementia-related stress among staff who work in long-term care (Figure 1). In this model, occupational stress results from a combination of work-related and personal stressors. According to the model, the negative impact of these stressors can be mitigated by a combination of individual and work-related resources (e.g., coping skills and job training). If the personal and work-related stressors exceed the resources available to caregivers,

then occupational stress increases. This increased stress can have a negative impact on work (such as increased absenteeism and job turnover) and on the individual (such as job dissatisfaction, intent to leave, and depression).

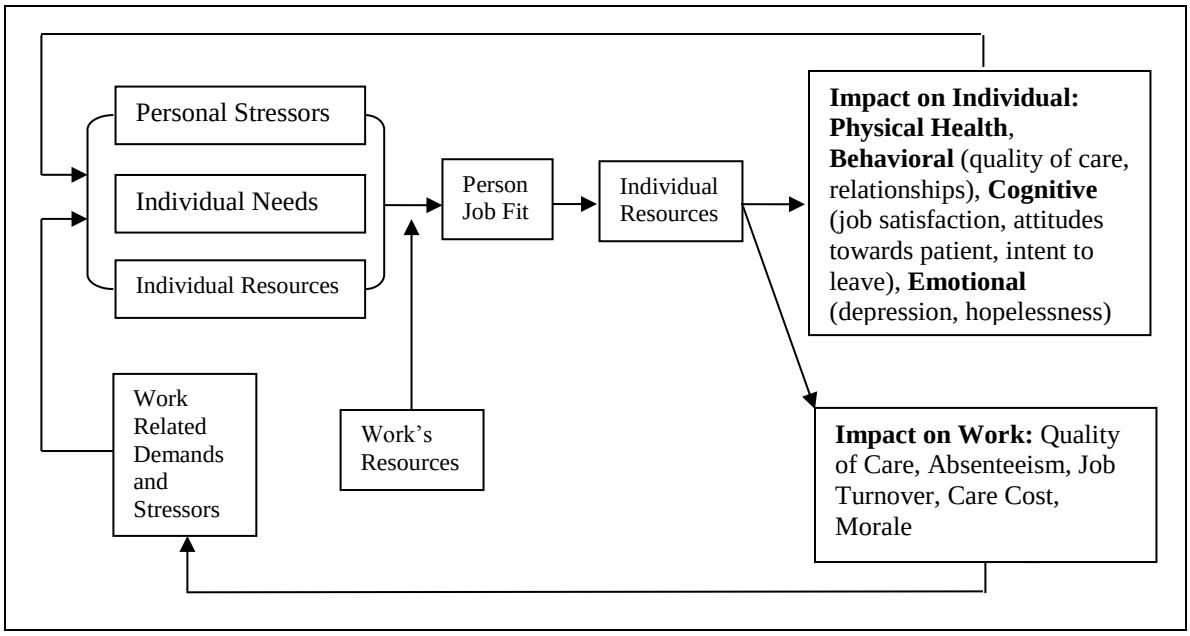


Figure 1. Stress in Nursing Home Staff *(Cohen-Mansfield, 1995)*

The Cohen-Mansfield model includes a level of detail that is beyond the scope of this study. However, a modified version of that framework was used to focus on the major concepts identified by Cohen-Mansfield (1995). For this study, it was hypothesized that occupational stress has a mediator effect on the relationship between frequency of exposure to aggressive behavior and individual work outcomes (job burnout, job satisfaction, and intention to resign). It was further hypothesized that occupational stress might be relieved by individual resources (e.g., education and experience), and that the stress might be increased by personal stressors (having a child and taking care of a family member) (Figure 2). This modified model hypothesizes that CWs who have more exposure to dementia-related aggression, who have fewer individual resources, or who have more personal stressors might experience increased occupational stress, job burnout,

intention to resign, and reduced job satisfaction. This model was used to examine the relationship between CWs' exposure to aggressive behavior (frequency of aggressive behavior), occupational stress, and individual work outcomes (job burnout, reduced work satisfaction, and intention to resign).

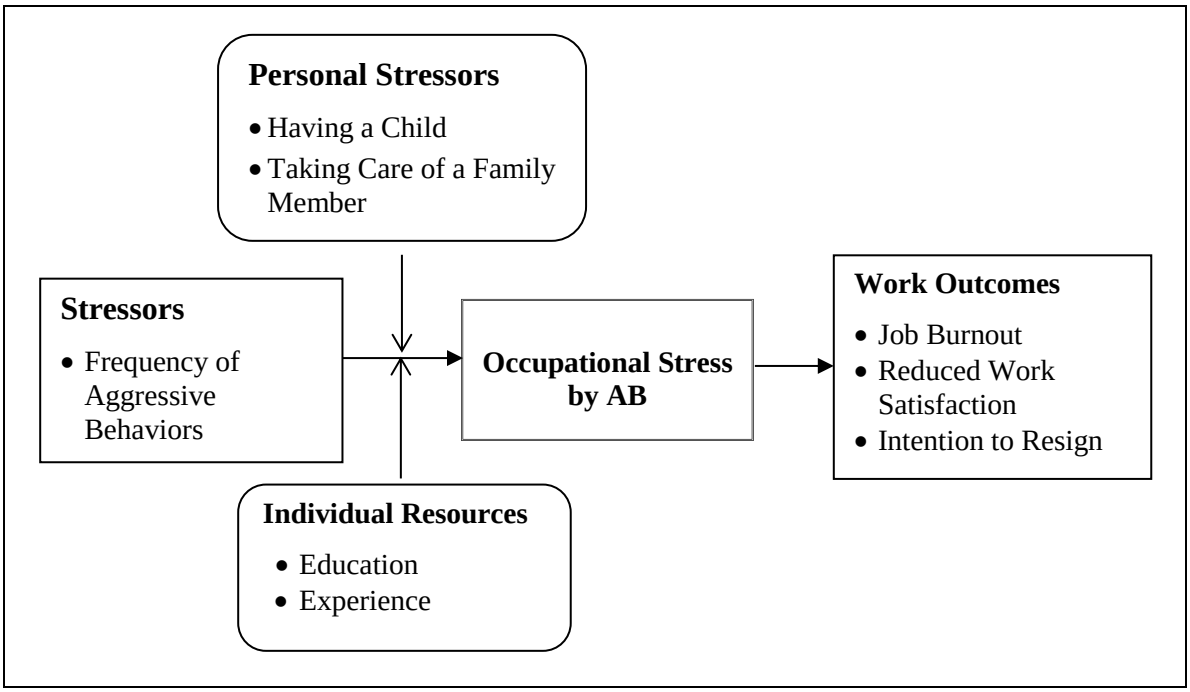


Figure 2. Occupational Stress in Long-Term Care (adapted from Cohen-Mansfield, 1995)

Term Definitions

Aggressive behavior is defined as hostile actions (verbal or physical) that an individual takes in order to protect himself or herself; to express his or her feelings; or to express his or her needs. *Occupational stress* is defined as a condition in which a worker interacts with some combination of factors that disrupt his or her psychological or physiological homeostasis at the workplace (as cited in Cohen-Mansfield, 1995). In this study, occupational stress refers to stress that results from exposure to aggressive behavior.

Conclusion

Even though many investigations regarding aggressive behaviors have been done in Western countries, the research on problematic behaviors related to dementia (such as aggressive behavior) is currently developing in Japan, and a variety of definitions and measurements are being used by researchers to describe the behavior.

Japanese researchers have begun to determine the prevalence, correlates, and consequences of aggressive behaviors. Some research reported relationships between aggressive behavior and negative impacts on formal caregivers, such as stress and burnout. However, only a few Japanese studies clearly defined aggressive behaviors or used validated scales to measure the behaviors. In addition, no studies have been conducted using a valid measurement that can explore the relationship between dementia-related aggression and occupational stress. Therefore, a study of the impact of aggressive behavior among older adults with dementia on care workers is needed to address the limitations of previous studies conducted in Japan.

Chapter 3

RESEARCH DESIGN AND METHODS

This chapter provides a comprehensive description of the research design and methods used in this study. The study design, setting, selection of sample, data collection, methods, ethical consideration and all procedures are included. In addition, the validity, reliability, and scoring methods for all measures used in this study are described. Data analyses are also explained.

Research Design

The proposed research was a descriptive, correlational study using cross-sectional design. Data were collected from care workers who were working in Japanese nursing homes. This study was reviewed and approved by the Institutional Review Board (IRB) of Oregon Health & Science University and the University of Shiga Prefecture, where the researcher works.

Setting.

This study was conducted in the special care units (SCUs) for residents with dementia in 10 nursing homes in the northern and western areas of Japan. The data were collected from February to March 2013.

Based on the standard promulgated by Japan's Ministry of Health, Labour and Welfare, the hiring ratio of residents to care workers should be three-to-one in nursing homes. Extrapolating from this standard, a care worker is in charge of 10 residents in a day shift. The dementia rank established by the ministry in 1993 assigns ranks from I through M. The rank M is defined as the most severe dementia, in which shows severe

mental disturbance and problematic behaviors that require special treatment. A special care unit for residents with dementia is one in which all residents in the unit are suffering with mild or severe dementia that exceeds III in the ministry's dementia ranking.

Sample

Convenience sampling was used to recruit 137 care workers (CWs) (Nakahira, Moyle, Creedy, & Hitomi, 2009; Soper, 2006) in 10 nursing homes. CWs who met the following inclusion criteria were eligible for this study:

(1) Provided direct care to residents with dementia.

(2) Had worked full-time as a care worker on the SCU in the facility for at least 3 months.

(3) Able to read and write Japanese.

Two kinds of care workers exist in Japan. One is a qualified care worker who completed a short course of training (Nakahira et al. 2009). Another kind is a certified care worker who has passed the national examination after three years of experience as a qualified care worker or after completion of training school (The Japan Association of Certified Care Workers, 2012). The total of 137 questionnaires were distributed to care workers in special care units in nursing homes.

Power Analysis

A total of 137 participants were recruited for this study. Because one of the instruments was being used for the first time in Japan, information about effect size was not available. Therefore, a medium effect size (0.15) was used for the power analysis. Based on a power analysis where the effect size=0.15 and desired statistical power=0.80, a 0.0125 (0.05/4) level of statistical significance based on Bonforroni correction to p-

value for multiple measures (Bonferroni Correction, 2011; Shao, Chow, & Wang, 2008), and eight predictors (age, gender, facility, years of education, years of experience as a CW, number of children under 12 years old, number of family members to take care of [excluding children], and frequency of exposure to aggressive behavior), the minimum sample needed was 85 (Soper, 2006). Since an 87% response rate is typical for studies that used questionnaires in Japan (Nakahira et al., 2009), it was estimated that a sample of 120 potential subjects was needed to yield 96–105 valid responses. Ten nursing homes with 10 to 15 participants per SCU were used in order to recruit at least 120 participants.

Instrument and Data Collection Methods

The proposed study involved: (1) instrument translation with preliminary psychometric testing, and (2) administration of the survey with CWs. Four measurements and three qualitative questions were used in this study. One measurement was used for establishing the validity of the Exposure to Disruptive Behavior (EDB) scale (Aim 1). Four main measures were used to examine Aim 2. Three open-ended questions were used to examine Aim 3. The scoring methods, reliability, and validity of the scales are described below.

Instrument Translation

The Exposure to Disruptive Behavior (EDB) scale measures both frequency of disruptive behaviors including aggressive behaviors and level of occupational stress from disruptive behaviors. In this scale, respondents are asked how many times they have experienced 20 different aggressive and aversive behaviors within the previous year and how much stress those behaviors caused them. The EDB has demonstrated strong internal

consistency reliability with Cronbach's alpha coefficients of 0.93 to 0.95 (Middleton et al., 1999) and 0.92 to 0.94 (Morgan et al., 2005). There is no report of validity.

The EDB scale was translated into Japanese, using the guidelines for cross-cultural adaptation of self-report measures (Beaton, Bombardier, Guillemin, & Ferraz, 2000). This translation method was chosen in order to maximize the attainment of semantic and conceptual equivalence between the source and target questionnaires and the cross-cultural adaptation for the target questionnaire (Beaton et al., 2000). For this study, instrument translation was done in six stages.

Stage one. This stage was the initial translation. Two translators who were bicultural in US and Japanese culture and whose native language was Japanese independently translated the scale from English to Japanese. The first translator (T1) was knowledgeable about health care terminology and gerontological nursing; the second translator (T2) was knowledgeable about medical terminology and about the cultural and linguistic nuances of the target language (Japanese). They each translated the scale from English into Japanese (Beaton et al., 2000; Sousa, & Rojjanasrirat, 2010).

Stage two. This stage was a synthesis of the translations, created through discussions between the two translators and the investigator. They compared the translated versions of the EDB scale (T1 and T2) and discussed discrepancies or problematic wording. They then developed a single common translation of the EDB scale (T12). This process was documented in Japanese by the investigator (Beaton et al., 2000; Chinda, Jaturapatporn, Kirshen, & Udomsubpayakul, 2011; Sousa, & Rojjanasrirat, 2010).

Stage three. This stage was a back translation, in which a third and fourth translator individually translated T12 from Japanese back into English. Both translators were completely blinded to the original version of the EDB scale. The third translator was knowledgeable about health care terminology and gerontological nursing, and translated the EDB scale from Japanese into English (BT1). The fourth translator was not knowledgeable about medical terminology, but was knowledgeable about the cultural and linguistic nuances of the original language (English). The fourth translator also translated the scale from Japanese into English (BT2) (Beaton et al., 2000; Chinda et al., 2011; Sousa, & Rojjanasrirat, 2010).

Stage four. This stage involved an expert committee review. This translation committee was composed of the investigator and all four bilingual and bicultural translators. The translation committee reviewed all translations (T1, T2, T12, BT1, and BT2) and achieved consensus on any discrepancies. At the meeting, the translation committee developed a pre-final Japanese version of the EDB for field testing. The translation committee produced a written report (see Appendix A), in which the rationale for each decision was explained in Japanese (Beaton et al., 2000; Chinda et al., 2011; Sousa, & Rojjanasrirat, 2010). Before the pre-testing, the back-translated English version of the pre-final EDB scale (see Appendix B) was reviewed by the three dissertation committee members and a panel of PhD students using Content Validity Index (CVI), which is used as an early step to enhance the construct validity of a measurement (Polit, Beck, & Owen, 2007). All of the reviewers were native English speakers, and all were knowledgeable about gerontological nursing. The CVI is a 4-point scale, with 4 being the highest rating. Item CVI (I-CVI) is computed by dividing the number of raters who rated

the item a 3 or 4 by the total number of raters. Scores on the I-CVI can range from 0 to 1: higher numbers indicate high agreement regarding the item among the raters. Scale CVI (S-CVI) is computed by dividing the number of items that have an item CVI of .8 or more than .8 by the total number of items. A CVI of .8 means that 80% of the raters (i.e., 4 of 5 raters) agreed that the translated items were equivalent to the original items. The investigator also asked the reviewers to write comments or suggestions. Based on the scores of CVI and rater feedback, the four items of the pre-final of the EDB scale were revised.

Stage five. This stage was the pre-testing of the pre-final Japanese version of the EDB with ten CWs who did work similar to that done by the study participants. This pre-testing determined whether the Japanese version of the scale could be understood and completed by the pre-testers. Participants for the pre-testing were informed of the pre-test's risk (minimal) and asked to sign a waiver of signed consent. Each participant received a $10 gift card at the completion of the questionnaire as an appreciation for her/his time. After completing the questionnaire, each participant was interviewed to determine what they understood each item in the questionnaire to mean (Beaton et al., 2000). Although most of the pre-testers were able to understand all of the items, some of them asked about the meaning of one of the items. As a result of the questions, the investigator added a short explanation to that item.

Stage six. In this final stage, the translation committee members convened again to make a final decision as to whether the translated version of the scale was ready to be used in data collection. They reviewed the participant comments related to item meaning

and recommended final revisions. The translation committee decided upon the final version of the Japanese translation consensus (Chinda et al., 2011).

Survey Administration

Procedures. The researcher made initial contact with the administrators in Japanese nursing homes by phone, and made appointments for obtaining permission to conduct the study. The researcher then visited each facility and explained the purposes, procedures, benefits, and possible risks of the study. Each administrator who agreed to participate in this study was asked by the researcher to sign a consent form (see Appendix C).

After receiving permission to conduct the study from the administrators of nursing homes in Japan and obtaining approval of the University of Shiga Prefecture Institutional Review Board (see Appendix D) and the Oregon Health & Science University Institutional Review Board (see Appendix E), the researcher delivered the questionnaires to each facility. The researcher gave the questionnaires (along with envelopes and $10 gift cards for participating in the study) to the head nurse or the person in charge of the unit in order to ensure that only one questionnaire was distributed to each potential participant. The investigator also gave this individual an written explanation of the purposes, procedures, benefits, and possible risks of the study to the CWs who were potential participants. This included making sure that they understood that participation in the study was to be voluntary and that the participants' confidentiality would be protected. The researcher also explained that the questionnaire was self-administered and anonymous. Since the participants were the ones who filled out the questionnaires, returning a questionnaire was considered to be agreement to participate in the study.

Because of this, participants were not asked to sign consent forms. In addition, the researcher attached an explanation of the research as the first page of the questionnaire.

This procedure was repeated at each facility until at least 120 participants had been recruited. Each completed questionnaire was placed in a sealed envelope and returned to a secure box in each unit. The researcher took the completed questionnaires from the SCUs to her office about one week after the day when the questionnaires were delivered to each facility. In the end, a total of 134 surveys were returned by participants and collected by the researcher.

Measures.

Frequency of aggressive behaviors and occupational stress by aggressive behaviors. The Exposure to Disruptive Behavior Japanese version (EDBJ) measures both frequency of disruptive behaviors (aggressive and aversive behaviors) and occupational stress from these behaviors. In this scale, respondents are asked "How many times in the last year have you been physically or verbally assaulted by a resident on your unit?" and "How have you felt about each of these 20 behaviors when the behavior was directed at you?" The exposure to the 20 behaviors is rated on a six-point scale from *Never occurs* (1) to *More than once per shift* (6). Scores range from 20–120 with higher scores indicating greater exposure to aggressive behavior. The CW's occupational stress from the behaviors is rated on a four-point scale from *Not affected* (1) to *Extremely stressed* (4). Scores range from 20–80, with higher scores indicating higher stress from aggressive behavior. The EDBJ is a self-report questionnaire and takes less than ten minutes to complete. Preliminary psychometric testing of the EDBJ was conducted as part of this study.

Construct validity testing of the EDBJ. The validity of the EDBJ scale was tested with the Stressor Assessment Scale (SAS) for direct care workers in nursing homes (Yatomi, Nakatani, & Makita, 1991). The SAS has good demonstrated validity with CWs in long-term care facilities for older people. The instrument consists of 29 items with five subscales: conflict with their superior, conflict with residents, conflict with colleagues, burden from caring job, and burden from desk work job. Since this scale was being used to establish the validity of the EDB scale, only the subscale of conflict with residents was used for this study (Cronbach's $\alpha = 0.78$) (Onodera, Azechi, & Shimura, 2007). The subscale has six items and uses a three-point scale from *Not at all* (stressful) (1) to *Very stressful* (3). The maximum score is 18 points, with a higher score indicating higher stress (Onodera et al., 2007). Similar to the EDBJ, the subscale of conflict with residents measures how much stress direct care workers have felt when a resident was uncooperative or displayed problematic behavior. Therefore, it was expected that the correlation between the EDBJ and the SAS would be fairly high. It takes only a few minutes to complete the questions.

Job burnout. The Pines Burnout Measure (PBM) was originally developed, and its reliability and validity verified, by Pines (Doi, Munakata, Inaoka, Takahashi, & Kawano, 1991). It was translated into Japanese by Doi et al. (1991). The PBM Japanese version was used to measure burnout among CWs. The tool has 20 items that assess physical, psychological and mental exhaustion asking, "Have you felt like any of the following recently?" It uses a seven-point response scale (1- *Not at all*, 2- *Quite rare*, 3- *Rare*, 4- *Sometimes*, 5- *Very often*, 6- *Mostly*, and 7- *Always*). When a participant chooses from 5- *Very often* to 7- *Always* for negative descriptions such as "Tired" and

"Depressed," (items 1, 2, 4, 5, 7–17, 19, and 20), one point is added. Similarly, a participant who chooses from 1- *Not at all* to 3- *Rare* for positive descriptions such as "Having a good day" and "Happiness" (items 3, 6, and 18), has one point added. Total scores range from 0 to 20, with a score of more than five points indicating severe burnout. The PBM Japanese version has demonstrated strong internal consistency reliability with a Cronbach's alpha coefficient of 0.85 (Shiotani & Mima, 1998). Validity of this instrument has been verified (as cited in Doi et al., 1991).

Job satisfaction. Kahana's Measure of Job Satisfaction of formal caregivers has been translated into Japanese and modified to measure job satisfaction for Japanese CWs in nursing homes (Tojo & Maeda, 1985). The tool consists of three subscales: job contents, co-workers, and salary. Since the proposed study did not focus on satisfaction of co-workers or on salaries, only the subscale of job contents was used. Respondents are asked: Indicate whether the following statements describe how you feel about your job. The subscale of job contents has 11 items with dichotomous responses, *Yes* = 1 or *No* = 0. The maximum score is 11 points, with a higher score indicating higher job satisfaction. The subscale of job contents has a Cronbach's alpha coefficient of 0.67 (Shiotani & Mima, 1998). Validity of this instrument has not been reported.

Intention to resign. There was no scale to measure intention to resign in Japan. Koshitani (2008) used a question to ask her participants whether they wanted to resign because of residents' violence. For this study, the participants were asked the following question: Have you thought that you wanted to resign because of a resident's dementia-related aggressive behaviors? The scale uses dichotomous responses where Yes = 1 and No = 0 (Koshitani, 2008).

Individual demographic data. Participants were asked age (younger than 20, 20s, 30s, 40s, 50s, or 60s), gender, years of education (less than high school degree, high school or training school , or junior college or more), years of experience as a CW (less than 1 year, 1–5 years, 5–10 years, or more than 10 years), having a child (no child, one or more children under 12 years old, or one or more children 12 years old or older), and whether they take care of one or more family members who are older adults and need help/assistance. Age, years of education, and years of experience as a CW were asked categorically because it makes the question easy to answer and minimizes missing data. Being able to give a categorical response is especially important for Japanese women who are reluctant to answer with inexact age.

Open-ended questions. At the end, the participants were asked three open-ended questions:

1. What do you think causes a resident with dementia to become aggressive?
2. Do you think that traditional Japanese values such as *chu* and *joge* influence your work with residents with aggressive behavior? If so, how does it influence your work with them?
3. Do you think that aggressive behaviors influence quality of care for these residents? If so, how do the behaviors influence quality of care for them?

Ethical Considerations

This study was conducted after the Oregon Health & Science University Institutional Review Board approved it. Data sources were anonymous. Questionnaires were given a facility code known only to the researcher and participants' names did not appear on the questionnaire. Information on participants was kept confidential, and de-

identified data was stored in a locked file cabinet in the researcher's office and on a personal laptop that was password protected. Data were reported in an aggregated manner that prevented anyone from recognizing individual nursing homes. The original questionnaires will be retained for five years after completion of the study.

The participants were allowed to withdraw at any time while they were filling out the questionnaire. The participants reported no difficulties in filling out the questionnaire.

Analysis

Data were analyzed using SPSS software (v21.0, IBM, Chicago, IL). *P* values <.05 were considered statistically significant. Descriptive statistics were used to analyze demographic data and to inspect for missing data. Chi-square was used to compare frequency in each group for categorical variables. Internal consistency (Cronbach's coefficient alpha) was analyzed to provide evidence for reliability for each scale and subscale. Scale and subscale scores were then calculated for each respondent. The Pearson correlation coefficient was calculated to explore the relationships among scales and subscales.

Aim 1: Translate the Exposure to Disruptive Behavior Scale into Japanese and establish preliminary evidence for reliability and validity.

The EDB scale was developed by Middleton et al. (1999). Morgan et al., (2005) used the EDB to examine nursing aides' distress from disruptive behaviors both on SCUs and non-SCUs. Exploratory factor analysis is used to identify a set of latent constructs underlying a battery of measured variables. Although prior research on the EDB does not report on a factor analysis (Middleton et al., 1999; Morgan et al., 2005), the instrument contains items related to both aggressive and aversive behaviors. Therefore, an

exploratory factor analysis was performed to determine whether there are actually two different constructs in the instrument. One method to evaluate construct validity is to explore whether a theoretical relationship between two measures of the same construct is supported. Consequently, the construct validity for stress from exposure to aggressive behaviors in the EDB Japanese version (EDBJ-S) was examined with the Stressor Assessment Scale (SAS). In the EDBJ-S, a higher score indicates higher stress. A higher score in the SAS also indicates higher stress. If variables of the EDBJ-S positively relate to the SAS, the construct of the EDBJ-S and the construct of the SAS are considered the same. Therefore, this expected positive correlation contributes evidence of construct validity (DeVellis, 2003).

Aim 2-a: To test whether occupational stress (stress from exposure to aggressive behavior) mediates the relationship between frequency of exposure to aggressive behaviors and individual work outcomes (job burnout, job satisfaction, and intention to resign).

Bivariate correlations between the study variables were examined. A mediator effect could be examined if there is a significant direct relationship between the independent variable (frequency of exposure to aggressive behavior) and the outcome variables (individual work variables such as job burnout, job satisfaction, and intention to resign) (Bennett, 2000). A series of three multiple regression analyses were conducted to test the mediator effect with each of the three outcomes. Because intention to resign is a dichotomous variable, logistic regression was used for this analysis. In the first equation, the mediator (occupational stress) was regressed on the independent variable (frequency of aggressive behavior). In the second equation, each dependent variable (individual

work outcomes) was regressed on the independent variable (frequency of aggressive behavior). In the third equation, the dependent variable (individual work outcomes) was regressed on both the mediator (occupational stress) and the independent variable (frequency of aggressive behavior). If the independent variable (frequency of aggressive behavior) has no effect when the mediator (occupational stress) is controlled, the mediator (occupational stress) has a full mediated effect of the independent variable (frequency of aggressive behavior) on the dependent variables (job burnout, job satisfaction, and intention to resign) (Baron & Kenny, 1986). A full mediated effect indicates that the mediator (occupational stress) fully explains the relationship between the independent variable (frequency of aggressive behaviors) and the dependent variable (job burnout, job satisfaction, or intention to resign).

Aim 2-b: To test whether individual resources (education and experience) and individual stressors (having a child and taking care of a family member who needs help/assistance) moderate the relationship between frequency of exposure to aggressive behaviors and occupational stress.

Before examining moderator effects, categorical independent variables with more than two levels (job experience, education, and having a child) were dummy-coded to create new dichotomous variables. This was necessary because categorical variables with more than two levels cannot be entered directly into a regression model and be meaningfully interpreted (Stockburger, n. d.). Job experience was dummy-coded into two new variables with over 10 years experience as the reference category: Dummy 1 compared less than 5 years to over 10 years, and Dummy 2 compared 5–10 years to over 10 years. Education was also dummy-coded with junior college or more as the reference

category: Dummy 1 compared less than high school to junior college or more, and Dummy 2 compared high school or training school to junior college or more. Having a child was a binary variable (0 = *No* and 1 = *Yes*).

A moderator effect of four variables (job experience, education, having child, and taking care of a family member) on the relationship between the independent variable (frequency of aggressive behavior) and dependent variable (occupational stress) was tested using hierarchal multiple regression. In the first step, the independent variable (frequency of aggressive behavior) and moderator variable (either job experience, education, having a child, or taking care of a family member) were entered in Block 1, and then an interaction (independent variable times moderator) was entered in Block 2. If the interaction is significant, a moderator effect is present (Baron & Kenny, 1986).

Aim 3: Explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors.

The participants were asked three open-ended questions:

1. What do you think causes a resident with dementia to become aggressive?
2. Do you think that traditional Japanese values such as *chu* and *joge* influence your work with residents with aggressive behavior? If so, how does it influence your work with them?
3. Do you think that aggressive behaviors influence quality of care for these residents? If so, how do the behaviors influence quality of care for them?

The answers to those questions were analyzed using a qualitative content analysis, in which a researcher analyzed written verbal data that was directed toward summarizing

the informational contents of data categorized in a way that best applied the data (Sandelowski, 2000).

Chapter 4

RESULTS

This study was a mixed-methods cross-sectional study. The first aim of this study was to translate the Exposure to Disruptive Behavior (EDB) scale into Japanese and establish preliminary evidence for reliability and validity. The second aim was two-fold: a) To test whether occupational stress (stress from exposure to aggressive behavior) mediates the relationship between frequency of exposure to aggressive behaviors and individual work outcomes (job burnout, job satisfaction, and intention to resign), and b) to test whether individual resources (education and experience) and individual stressors (caring for a child or a family member) moderate the relationship between frequency of exposure to AB and occupational stress from AB. The third aim was to explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors. The result of the third aim is presented in the summary of responses to the open-ended questions with themes.

Sample

One hundred and thirty-seven potential participants were recruited to this mixed-methods study. The questionnaires were delivered to ten different facilities by the investigator. After participants completed the questionnaires at their work sites, 134 completed questionnaires were returned—a 97.8% response rate. Of these, 129 were considered valid and met the following inclusion criteria of (1) the care workers (CW) provided direct care to residents with dementia; (2) the CW worked full time (about 40

hours per week) on the special care units (SCUs) in the facility for at least 3 months; and (3) the CW was able to read and write Japanese.

Missing Data

Of the 134 questionnaires that were returned, five cases were excluded due to more than 40% missing data on outcome variables. One hundred and eight participants did not have missing data on any variable in this study. Twenty-one participants had missing responses on one or two instrument items. The amount of the missing data on those 21 cases ranged from 5% to 10%. Because of the small amount of missing data, the average score of each case was used to substitute for missing data in this study. The average scores were calculated by the total scores of the case divided by the numbers that the case answered. If a participant answered 18 out of 20 items, his/her total score on the scale was divided by 18. These average scores were used to analyze correlation and regression analyses. In the end, 129 participants had data sufficient for inclusion in this study (N = 129).

Preliminary Analysis

The data were examined at the univariate level, including means, standard deviations (*SD*), range, and distributions. There were no major concerns through these analyses including outliers.

Internal Consistency Reliability of Outcome Variables (PBMJ & KMJS)

Alpha reliabilities obtained with this sample were $\alpha = .93$ for the Pines Burnout Measure Japanese version (PBMJ), and $\alpha = .70$ for the Kahana's Measure of Job Satisfaction (KMJS) (see Table 4.1).

Table 4.1

Cronbach's Alpha Reliability, Range, Mean, Standard Deviation, and Skew for PBMJ and KMJS

Scales	α	Number of items	Scale scoring	Observed range	Mean	SD	Skew	N
PBMJ	.93	20	0–20	0–20	5.21	4.53	1.15	129
KMJS	.70	11	0–11	3–11	8.42	2.04	-.91	129

For all scales, higher scores represent higher levels of the construct measured. PBMJ = Pines Burnout Measure Japanese version; KMJS = Kahana's Measure of Job Satisfaction.

Descriptive Statistics

Demographic characteristics of the sample are presented in Table 4.2. Of the participants, 68.2% were female and 41.1% of them were in their thirties. About 16.3% of the participants had less than high school education and about half of the participants (48.1%) graduated from high school or training school. Forty-one percent of the participants had worked as a care worker for over ten years. Just over half (53.5%) had children and 28.7% of them had a child who was 12 years old or younger. About fifteen percent of the participants took care of older adults who needed help or assistance.

Table 4.2

Participant Demographic Characteristics (N = 129)

Participant characteristic	N (%)
Gender	
Female	88 (68.2)
Male	41 (31.8)
Age	
Under 30	31 (24.0)
30-39	53 (41.1)
40-49	22 (17.1)
50-59	15 (11.6)
Over 60	8 (6.2)
Education	
Less than High School Degree	21 (16.3)
High School or Training School	62 (48.1)
Junior College or More	46 (35.7)
Experience as CW	
Less than 1yr, less than 5yrs	36 (27.9)
5yrs – less than10yrs	40 (31.0)
Over 10yrs	53 (41.1)
Having a child	
No child	60 (46.5)
Child 12yrs old or younger	37 (28.7)
Child over 12yrs old	32 (24.8)
Taking care of a family member who is an older adult and needs help/assistance	
No	109 (84.5)
Yes	20 (15.5)

Frequency of Exposure to Aggressive Behavior (EDBJ-F)

The exposure to the 20 behaviors was rated on a six-point scale (1- *Never*, 2- *Once every few months*, 3- *Once a month*, 4- *Once a week*, 5- *More than once a week*,

and 6- *More than once each shift*). The behavior most frequently experienced by participants was "Repeatedly seeking attention" (*M* = 3.94). The other behaviors that participants frequently experienced were "Yelling or screaming at caregiver" (*M* = 3.84), "Pinching" (*M* =3.64), "Swearing at caregiver" (*M* =3.47), and "Complaining about care" (*M* =3.40) (see Table 4.3).

Table 4.3

Means of Frequency of AB and Degree of Stress

Items # and description	Mean of frequency of AB (N)	Mean of degree of stress (N)
1. Swearing at caregiver	3.47 (128)	2.20 (128)
2. Yelling or screaming at caregiver	3.84 (128)	2.43 (129)
3. Verbally threatening	2.46 (128)	1.80 (129)
4. Complaining about care	3.40 (128)	2.05 (129)
5. Repeatedly seeking attention	3.94 (125)	2.10 (129)
6. Throwing objects or food at caregiver	2.10 (128)	1.97 (129)
7. Interfering in staff work	2.30 (126)	1.84 (129)
8. No response to questions by caregiver	2.39 (127)	1.63 (129)
9. Pinching	3.64 (128)	2.43 (129)
10. Spitting on caregiver	1.80 (128)	2.16 (128)
11. Biting	2.81 (129)	2.42 (129)
12. Scratching	3.33 (129)	2.51 (129)
13. Threatening gesture	2.34 (128)	1.88 (129)
14. Punching	2.04 (129)	2.09 (129)
15. Slapping	2.00 (128)	2.07 (128)
16. Kicking	2.50 (129)	2.19 (129)
17. Fecal smearing	1.21 (129)	1.52 (128)
18. Sexual comments	1.80 (129)	1.67 (129)
19. Sexual behavior in front of caregiver	1.59 (129)	1.64 (129)
20. Touching caregiver sexually	1.69 (129)	1.73 (129)

Occupational Stress from Exposure to Aggressive Behavior (EDBJ-S)

Each care worker's occupational stress from the behaviors was rated on a four-point scale (1- *Not stressful*, 2- *A little stressful*, 3- *Stressful*, and 4- *Extremely stressful*). The behavior that the participants found to be the most stressful was "Scratching" (*M* = 2.51). The other behaviors that participants found to be stressful were "Pinching" (*M* =2.43), "Yelling or screaming at caregiver" (*M* = 2.43), "Biting" (*M* = 2.42), and "Swearing at caregiver" (*M* =2.20) (see Table 4.3). The most stressful behaviors were not always the most frequent behaviors.

Job Burnout (PBMJ)

A total score above five on the Pines Burnout scale is considered to be evidence of job burnout. The mean score of job burnout was 5.21 (*SD* = 4.53), with individual scores ranging from 0 to 20. About half of the participants (48.1%) scored five or greater than five on the PBMJ, indicating that they had job burnout.

Job Satisfaction (KMJS)

The maximum score of the Kahana's Measure of Job Satisfaction (KMSJ) is 11 points, with a higher score indicating higher job satisfaction. The mean of job satisfaction scores was 8.42 (*SD* = 2.04) with individual scores ranging from 3 to 11.

Intention to Resign

The participants were asked a dichotomous question: "Have you thought that you wanted to resign because of a resident's dementia-related aggressive behaviors?" Thirty-one percent of the participants (*n* = 40) answered "Yes" to the question.

Results of Specific Aims

Specific Aim 1

Translate the Exposure to Disruptive Behavior (EDB) scale into Japanese and establish preliminary evidence for reliability and validity.

After the original EDB was translated from English into Japanese and back-translated Japanese into English, this study used CVI to explore whether the content of the original EDB was appropriately translated in the pre-final of the EDB Japanese version (EDBJ). The CVI is a 4-point scale, with 4 being the highest. The results of item-level of CVI (I-CVI) were from 0.8 to 1.0 and overall scale CVI (S-CVI) was 1.0 (see Table 4.4). These results indicated that there was a high agreement between the content of the original EDB and the pre-final of the EDBJ.

Table 4.4

Content Validity Index for the EDBJ

Item #	Rater 1	Rater 2	Rater 3	Rater 4	Rater 5	I-CVI
1	3	3	2	3	3	0.8
2	4	4	4	4	3	1.0
3	3	4	3	2	3	0.8
4	4	4	3	4	4	1.0
5	4	4	4	4	4	1.0
6	4	4	4	4	4	1.0
7	4	4	3	4	4	1.0
8	4	4	4	4	4	1.0
9	3	4	4	4	4	1.0
10	4	4	4	4	4	1.0
11	3	4	4	4	4	1.0
12	3	4	4	4	4	1.0
13	4	4	3	4	4	1.0
14	3	4	4	4	4	1.0
15	3	4	4	4	4	1.0
16	4	4	4	4	4	1.0
17	3	3	2	4	4	0.8
18	3	3	1	3	3	0.8
19	3	4	3	3	4	1.0
20	2	4	3	4	4	0.8

Scale-CVI = 1.00

Based on the reviewers' feedback, and with the four translators' agreement, the investigator changed the subtle Japanese expression of four items (1, 18, 19, and 20) in order to clarify and translate their meanings.

The items changed were:

- In item 1, the expression “Shout abusive languages to caregiver (介護者をののしる)” was changed to “Swearing at caregiver (介護者を口汚くののしる).”
- In item 18, “Speak with obscene word (性的に不快な言葉を言う)” was changed to “Sexual comments (卑猥なことを言う).”
- In item 19, “Make sexually unpleasant behavior in front of caregiver (介護者の前で性的に不快な行動をする)” was changed to “Sexual behavior in front of caregiver (介護者の前で卑猥な行動をする).”
- In item 20, “Touch caregiver in a sexually unpleasant manner (性的に不快な方法で介護者を触る)” was changed to “Touching caregiver sexually (卑猥な方法で介護者を触る).”

After the four items were revised, the pre-final Japanese version of the EDB was pre-tested by ten care workers who do work similar to that done by the study participants. While the pre-testers were able to understand all of the items, some of them asked about the meaning of item 8, “No response to questions by caregiver (介護者の問いかけに返事をしない).” Therefore, the investigator added a short explanation of “ignore (無視する).” The investigator reported the results of the pre-test and the final changes to the EDB Japanese version to the dissertation chair and the translation committee members. The translation committee decided on the final Japanese version of the EDB by consensus (Chinda et al., 2011) (see Appendix F).

Exploratory Factor Analysis. Exploratory factor analysis was examined on EDBJ-F (frequency of aggressive behavior) and EDBJ-S (stress from aggressive behavior) to identify a set of latent constructs underlying a battery of measured variables. The analysis identified three factors on both of the scales. On EDBJ-F, 10 items (items 6, 9, 10, 11, 12, 13, 14, 15, 16, and 17) loaded on Factor 1; three items (items 18, 19, and 20) loaded on Factor 2; and seven items (items 1, 2, 3, 4, 5, 7, and 8) loaded on Factor 3. The factor correlation between Factor 1 and 2 on EDBJ-F was .34; between Factor 1 and 3 on EDBJ-F was .52; and between Factor 2 and 3 on EDBJ-F was .32 (see Table 4.5).

Table 4.5

Factor Correlations on EDBJ-F

	Factor 1	Factor 2	Factor 3
Factor 1	--		
Factor 2	.34	--	
Factor 3	.52	.32	--

On EDBJ-S, seven items (items 9, 10, 11, 12, 14, 15, and 16) loaded on Factor 1; four items (items 17, 18, 19, and 20) loaded on Factor 2; and nine items (items 1, 2, 3, 4, 5, 6, 7, 8, and 13) loaded on Factor 3. The factor correlation between Factor 1 and 2 on EDBJ-S was .46; between Factor 1 and 3 on EDBSJ-S was .67; and between Factor 2 and 3 on EDBSJ-S was .55 (see Table 4.6).

Table 4.6

Factor Correlations on EDBJ-S

	Factor 1	Factor 2	Factor 3
Factor 1	--		
Factor 2	.46	--	
Factor 3	.67	.55	--

The factor correlations between Factor 1 and 3 on both of EDBJ-F and EDBJ-S and the correlation between Factor 2 and 3 on EDBJ-S were .52 or more than .52, which means that those factors highly correlate with each other. Consequently, the results of exploratory factor analysis suggest there is one major factor in both of the scales. When used in English, the EDB scale was used as a single scale with one factor. The results of the factor analysis of the EDB Japanese version suggest that it too can be used as a single scale with one factor.

Reliability and validity. Alpha reliabilities obtained with this sample were α = .92 for the EDBJ-F, α = .94 for the EDBJ-S, and α = .94 for the entirety of the EDBJ (see Table 4.7). All of these are considered to be very good reliabilities (DeVellis, 2003). The means of inter-item correlation were .57 (range: .29–.72) for the EDBJ-F, and .63 (range: .42–.78) for the EDBJ-S. The alpha for the scale does not change significantly if any items are deleted.

Table 4.7

Cronbach's Alpha Reliability, Range, Mean, Standard Deviation, and Skew for EDBJ

Variable	α	Number of Items	Range	Observed Range	Mean	*SD*	Skew	*N*
EDBJ-F (frequency of AB)	.92	20	20–120	20–99	50.23	18.88	.54	129
EDBJ-S (stress from AB)	.94	20	20–80	20–80	40.24	14.00	.58	129
Total of EDBJ	.94	40	--	--	--	--	--	--

The construct validity for the EDBJ-F and the EDBJ-S was examined with the subscale of conflict with residents using the Stressor Assessment Scale (SAS) (α = .77 with this sample). The variables of the EDBJ-F positively related to the variables of the SAS (r = .27, p = .002). Also, the variables of the EDBJ-S positively related to the variables of the SAS (r = .49, p < .0001) (see Figure 4.8). Therefore, the expected pattern and the significant correlation between the scales contribute to the evidence of construct validity (DeVellis, 2003).

Consequently, there is evidence for reliability and validity for the EDBJ.

Table 4.8

Hypothesized and Observed Relationships Among EDBJ and SAS Variables

	SAS	
Variable	Hypothesized	Observed
EDBJ-F	+	+ (r = .27, p = .002)
EDBJ-S	++	+ (r = .49, p < .001)

Specific Aim 2-a

Test whether occupational stress (stress from exposure to aggressive behavior) mediates the relation between frequency of exposure to aggressive behaviors and individual work outcomes (job burnout, job satisfaction, and intention to resign).

Assumptions assessed before the analysis.

Correlations among predictor variables and outcome variables. Pearson correlations among predictor variables and outcome variables were assessed (see Table 4.9). There were significant correlations between AB and stress ($r = .48$, $p < .001$); AB and job burnout ($r = .32$, $p < .001$); AB and job satisfaction ($r = -.21$, $p = .02$); AB and intention to resign ($r = .25$, $p < .01$); stress and job burnout ($r = .41$, $p < .001$); stress and job satisfaction ($r = -.23$, $p < .01$); and stress and intention to resign ($r = .32$, $p < .001$).

Table 4.9

Summary of Correlations Among Predictor and Outcome Variables (N = 129)

Predictor	Stress	Burnout	Satisfaction	Resigning[a]
AB	.48***	.32***	-.21**	.25**
Stress	--	.41***	-.23**	.32***

Note. AB = Frequency of exposure to aggressive behavior; Stress = Stress from exposure to aggressive behavior; Burnout = Job burnout; Satisfaction = Job satisfaction; Resigning = Intention to resign.

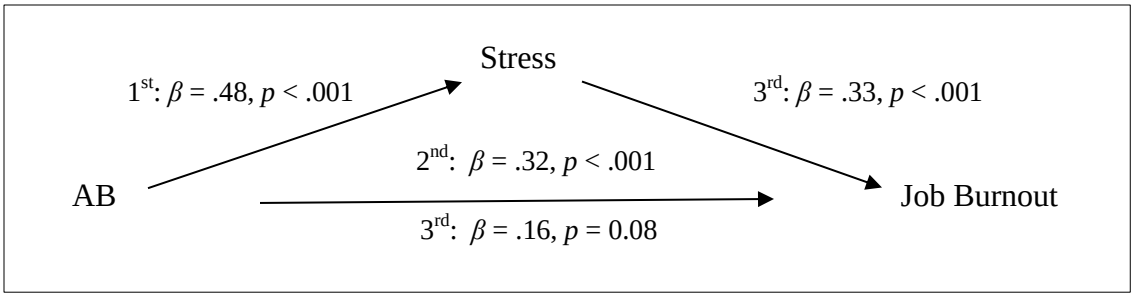
[a] $n = 130$.

* $p < .05$. ** $p < =.01$. *** $p < .001$.

Mediator effect of stress from exposure to aggressive behaviors. Hypothesis 1: Japanese care workers who have more frequency of exposure to aggressive behavior experience increased occupational stress, job burnout, and intention to resign, and reduced job satisfaction.

Dependent variable—Job burnout. In the first equation, the mediator (occupational stress from exposure to AB) was regressed on the independent variable (frequency of AB). There was a significant relationship between frequency of AB and stress ($\beta = .48$, $p < .001$). Frequency of AB explained 23.0% of the variance in stress, $R^2 = .23$, F (1, 127) = 37.18, $p < .001$. In the second equation, the dependent variable (job burnout) was regressed on the independent variable (frequency of AB). There was a significant relationship between frequency of AB and job burnout ($\beta = .32$, $p < .001$). Frequency of AB explained 10.1% of the variance in job burnout, $R^2 = .10$, F (1, 127) = 14.26, $p < .001$. In the third equation, the dependent variable (burnout) was regressed on both the mediator (occupational stress) and the independent variable (frequency of AB). While there was a significant relationship between occupational stress and job burnout ($\beta = .33$, $p < .001$), there was not a significant relationship between frequency of AB and job burnout ($\beta = .16$, $p = .08$). The hypothesized mediator, occupational stress, explained 9.4% of the variance in job burnout, and the variance in job burnout explained by frequency of aggressive behavior was reduced from 10% in the second equation to 2.4% in the third equation. In the final equation, the independent variable (frequency of AB) had no effect on the dependent variable (job burnout) when the mediator (stress) was controlled. Therefore, the model was considered to be fully mediated (see Figure 3),

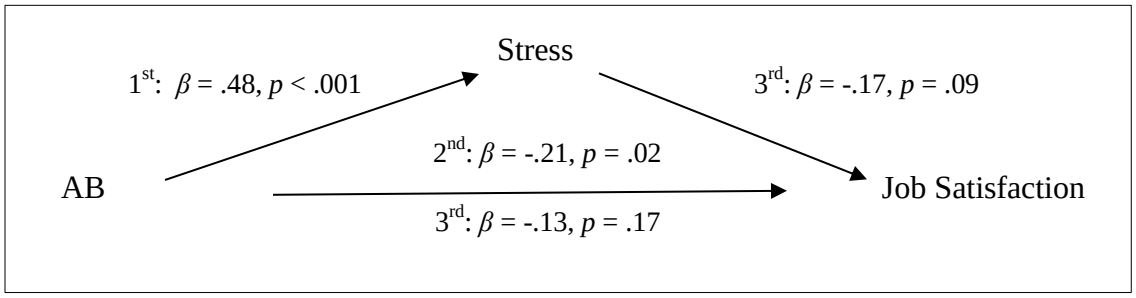
indicating that the mediator (occupational stress) fully explains the relationship between the independent variable (frequency of AB) and the outcome variable (job burnout).



Note. AB = Frequency of exposure to aggressive behavior; Stress = Occupational stress from exposure to aggressive behavior.

Figure 3. Model of Mediator Effect on Job Burnout

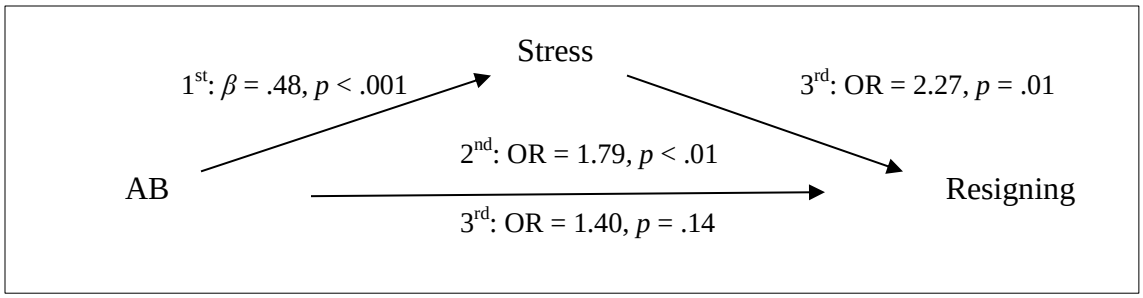
Dependent variable—Job satisfaction. Again in the first equation, the mediator (occupational stress) was regressed on the independent variable (frequency of AB) (β = .48, p < .001). In the second equation, the dependent variable (job satisfaction) was regressed on the independent variable (frequency of AB). There was a significant inverse relationship between frequency of AB and job satisfaction (β = -.21, p = .02). In the third equation, the dependent variable (job satisfaction) was regressed on both the mediator (occupational stress) and the independent variable (frequency of AB). There was not a significant relationship between occupational stress and job satisfaction (β = -.17, p = .09). The final equation did not meet the requirement for a mediator effect: The hypothesized mediator (occupational stress) did not explain the relationship between the independent variable (frequency of AB) and the outcome variable (job satisfaction) (see Figure 4).



Note. AB = Frequency of exposure to aggressive behavior; Stress = Occupational stress from exposure to aggressive behavior.

Figure 4. Model of Mediator Effect on Job Satisfaction

Dependent variable—Intention to resign. Again in the first equation, the mediator (occupational stress) was regressed on the independent variable (frequency of AB) (β = .48, p < .001). In the second equation, the dependent variable (intention to resign) was regressed on the independent variable (frequency of AB). There was a significant relationship between frequency of AB and intention to resign (OR = 1.79, p < .01). In the third equation, the dependent variable (intention to resign) was regressed on both the mediator (occupational stress) and the independent variable (frequency of AB). While there was a significant relationship between occupational stress and intention to resign (OR = 2.27, p = .01), frequency of AB was not related to intention to resign (OR = 1.40, p = .14). The variance in intention to resign explained by frequency of aggressive behavior was added to the model by additional of occupational stress from 5.2% to 9.4% in the third equation. In the final equation, the independent variable (frequency of AB) had no effect on the dependent variable when the mediator was controlled. Therefore, the model was considered to be a fully mediated model (see Figure 5), indicating that the mediator (occupational stress) fully explains the relationship between the independent variable (frequency of AB) and the outcome variable (intention to resign).



Note. AB = Frequency of exposure to aggressive behavior; Stress = Occupational stress from exposure to aggressive behavior; Resigning = Intention to resign.

Figure 5. Model of Mediator Effect on Intention to Resign

Specific Aim 2-b

Test whether individual resources (education and experience) and individual stressors (having a child and taking care of a family member) moderate the relation between frequency of exposure to AB and occupational stress from AB.

Assumptions assessed before the analysis.

***Multicollinearity*.** High correlations between predictors (> .85) make it difficult to know how important each of variables is in the model (Munro, 2005). Therefore, Pearson correlations among predictor variables (having a child, taking care of a family member who is an older adult and needs help/assistance, and frequency of AB) were assessed for multicollinearity (see Table 4.10). Having a child was re-coded into two categories (*Yes* and *No*). The highest correlation in this study was the negative correlation between taking care of a family member and having a child (r = -.15, p = .09). Therefore, multicollinearity was not considered a problem for this study.

Table 4.10

Summary of Correlations Among Predictor Variables (N = 129)

Variable	1	2	3
1. Child	--		
2. Care	-.15	--	
3. AB	.10	-.02	--

Note. Child = Having a child; Care = Taking care of a family member who is an older adult and needs help/assistance; AB = Frequency of aggressive behavior.

Correlations among predictor variables and outcome variable. Pearson correlations among predictor variables and the outcome variable were assessed (see Table 4.11). There was a significant correlation between AB and occupational stress ($r = .48$, $p < .001$).

Table 4.11

Summary of Correlations Among Predictor and Outcome Variables (N = 129)

Predictor	Stress
Child	.11
Care	.07
AB	.48***

Note. Child = Having a child; Care = Having a family member (older adult) who needs help/assistance; AB = Frequency of exposure to aggressive behavior; Stress = Occupational stress from exposure to aggressive behavior.

*** $p < .001$.

Relationships among categorical variables and outcome variables. A one-way analysis of variance was conducted to evaluate the relationship among categorical variables (education, and experience) and outcome variable (occupational stress from exposure to AB) (data not shown). There were no significant relationships among

predictor variables (having a child, education, and experience) and the outcome variable (occupational stress from exposure to AB) ($p > .05$). Participants who had no child experienced higher stress from exposure to aggressive behavior (M =2.11) than participants who had an older child (over 12 years old) (M =1.76, p = .06) and participants who had a younger child (12years old or younger) (M =2.09, p = .12). In addition, participants who had more than 10 years experience had more stress from exposure to aggressive behavior (M =2.14) than participants who had less than five years experience (M =1.84, p = .12) and participants who had five to ten years experience (M =2.01, p = .66).

Mediator effect of stress from exposure to aggressive behaviors. Hypothesis 2: Japanese care workers who have more personal stressors (having a child and taking care of a family member who needs help/assistance) and who had fewer individual resources (education and experience) increased occupational stress.

Having a child as moderator. In the first step, the independent variable (frequency of aggressive behavior) and moderator variable (having a child) were entered in Block 1, and then an interaction (frequency of aggressive behavior times having a child) was entered in Block 2. The interaction was not significant (p = .09), indicating that having a child does not moderate the relationship between frequency of aggressive behavior and occupational stress.

Taking care of a family member who needs help/assistance as moderator. In the first step, the independent variable (frequency of aggressive behavior) and moderator variable (taking care of a family member) were entered in Block 1, and then an interaction (frequency of aggressive behavior times taking care of a family member) was

entered in Block 2. The interaction was not significant (p = .53), indicating that caring for elderly family member does not moderate the relationship between frequency of aggressive behavior and occupational stress.

Education as moderator. A variable of education was done using dummy coding. In the first step, the independent variable (frequency of aggressive behavior) and moderator variable (education) were entered in Block 1, and then an interaction (frequency of aggressive behavior times education) was entered in Block 2. The interaction was not significant (p = .81), indicating that education does not moderate the relationship between frequency of aggressive behavior and occupational stress.

Experience as moderator. A variable of experience was done using dummy coding. In the first step, the independent variable (frequency of aggressive behavior) and moderator variable (experience) were entered in Block 1, and then an interaction (frequency of aggressive behavior times experience) was entered in Block 2. The interaction was not significant (p = .74), indicating that experience does not moderate the relationship between frequency of aggressive behavior and occupational stress.

Specific Aim 3

To explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors.

The participants were asked three open-ended questions. The investigator analyzed written verbal data using qualitative descriptive approach. She summarized the informational contents of data and arranged the summary in major categories reflecting the major themes (Sandelowski, 2000). After the analysis was done, the findings were verified by a Japanese researcher who was a qualitative expert.

Question 1. What do you think causes a resident with dementia to become aggressive? One hundred and seventeen participants responded to this question. Some participants offered multiple responses, thereby generating a total of 220 responses. One hundred and seven responses indicated that the participants believed that aggressive behaviors came from residents' stress from dementia. Seventy-five responses held that residents' aggressive behaviors were due to care workers. Twenty-one responses were about environment. The major responses to question 1 are presented in Table 4.12.

Table 4.12

Summary of the Answers for Open-Ended Question 1

1. What do you think causes a resident with dementia to become aggressive?	*N*=117(%)
Resident stress from dementia	
Not able to verbally express their wishes /thoughts/feelings because of cognitive/ physical impairment	24(20.5)
Self-protecting and fearful because they can't understand what is happening	24(20.5)
Not able to do what they want to do because of physical impairment or failure to understand their physical disability	15(12.8)
Symptoms from dementia (e.g., not able to understand the situation or losing control of self)	12(10.3)
Stress from living in the nursing home (e.g., noisiness and rules)	11(9.4)
Loneliness or sadness	7(6.0)
Being in poor health (e.g., pain, sleeplessness, or fatigue)	5(4.3)
Dissatisfaction with care that a care worker provides	4(3.4)
Bad family relationship (e.g., a family member doesn't visit)	3(2.6)
Dissatisfaction with living in the nursing home (e.g., doesn't want to live there, and wants to live with family)	2(1.7)
Unskilled care workers interactions	
Staff's bad reaction/response (e.g., using bad words, disrespectful)	22(18.8)
Not trying to understand what a resident wants to do	16(13.7)
Carrying out an activity that a resident doesn't want to be involved in	16(13.7)
Interrupting a resident's activity	9(7.7)
Lack of explanation or providing care without a resident's permission	5(4.3)
Providing inappropriate care (e.g., improper assessment)	3(2.6)
Hurried pace when providing care to a resident	2(1.7)
Too much assistance with activities that the resident can handle by him/herself	2(1.7)
Non-supportive environment	
Uneasiness because of unfamiliar living situation	13(11.1)
Other residents' actions or shouting	5(4.3)
Noisiness by other residents or staff (e.g., at shift change)	3(2.6)
Resident pre-morbid personality	
Existing aggressive personality tendency	4(3.4)
Personal lived experience prior to the onset of dementia	4(3.4)

Note. Some participants offered more than one response to each of the open-ended items.

Question 2. Do you think that traditional Japanese values such as *chu* and *joge* influence your work with residents with aggressive behavior? If so, how does it influence your work with them? One hundred and ten participants responded to this question. Thirty-two participants said, "Yes, the values influence my work," and three of them said, "No." One participant commented that it was natural that a younger person respects an older person. In addition, seven participants commented that they respected older people and 10 participants commented that they respected elderly people as individuals who had had many experiences in life. Even though seventy-five out of 110 participants did not say either "Yes" or "No," they still made comments regarding the question. The major comments of question 2 are presented in Table 4.13.

Table 4.13

Summary of the Answers for Open-Ended Question 2

2. Do you think traditional Japanese values such as *chu* and *joge* influence your work with residents with aggressive behavior? If so, how does it influence your work with them?	*N*=110(%)
Spending more time listening or talking to the resident	32(29.1)
Leaving the resident alone for a while, then approaching again later	19(17.3)
Leaving the resident alone and monitoring for falls or injuries	16(14.5)
Asking other staff for a relief to take care of the resident or ask other staff to help	12(10.9)
Thinking about why the resident became aggressive	11(10.0)
Apologizing to the resident	10(9.0)
Being patient because it is my job	5(4.5)
Changing the topic to calm the resident down	4(3.6)
Making efforts to ensure that the resident understands that I won't hurt him/her	3(2.7)
Trying to understand the resident	3(2.7)
Trying or thinking of alternative approaches	3(2.7)
Distracting the resident's mind off his/her feeling (e.g., anger)	3(2.7)
Sympathizing with the resident	3(2.7)
Stopping care activities in respect of the resident's wishes	2(1.8)
Explaining the care activities that I am doing	2(1.8)

Note. Some participants offered more than one response to each of the open-ended items.

Some participants were not influenced by the values, answering either "Just ignoring the abusive words (n = 4)," or "Sometimes respond back emotionally (n = 3)."

Question 3. Do you think that aggressive behaviors influence quality of care for these residents? If so, how do the behaviors influence quality of care for them? One hundred and seven participants responded to this question. Forty-seven responses indicated that aggressive behaviors influenced quality of care positively, while 30 answers indicated that those behaviors influenced quality of care negatively. Thirty participants responded that quality of care was not influenced by aggressive behaviors. However, four of these participants indicated that they had negative feelings (e.g., feeling stress, unpleasant feelings, or paying more attention) regarding aggressive behaviors. The major comments of question 3 are presented in Table 4.14.

Table 4.14

Summary of the Answers for Open-Ended Question 3

3. Do you think that aggressive behaviors influence quality of care for these residents? If so, how do the behaviors influence quality of care for them?	*N*=107(%)
Perceived positive influences	
Assessing/thinking of an alternative approaches to prevent the resident from becoming aggressive	23(21.5)
Making efforts to understand the resident	7(6.5)
Talking to/approaching the resident in a gentle manner	4(3.7)
Making efforts to build trust	2(1.9)
Providing care that the resident wants to have done	2(1.9)
Perceived negative influences	
Avoiding the resident	14(13.1)
Spending a shorter amount of time when providing care to a resident	5(4.7)
Feeling awkward when taking care of the resident (e.g., fear)	3(2.8)
Speaking roughly or being cold (e.g., flat affect) to the resident	3(2.8)
Not providing care in a gentle manner to the resident	2(1.9)
Carelessness when taking care of the resident	2(1.9)
Perceived to not be influences	
Just doing the best care for the resident	13(12.1)
Making efforts not to change attitude toward the resident	8(7.5)

Note. Some participants offered more than one response to each of the open-ended items.

In summary, 107 of the participants thought that a resident becomes aggressive because of dementia (e.g., not able to verbally express their wishes/thought, or self-protecting and fearful because they can't understand what is happening). Seventy-five of the participants thought that the causes of residents' aggressiveness came from care workers (e.g., bad reaction/response, or not trying to understand what a resident wants to do). Approximately, one-fourth of the participants responded that Japanese values such as *chu* and *joge* influenced their work with residents with aggressive behavior. Seventeen

participants commented either that they respected older people or that they respected elderly people as persons who had had many experiences in life.

Forty-seven responses indicated that aggressive behaviors influenced quality of care positively, while 30 responses indicated that those behaviors influenced quality of care negatively. Even though 30 participants responded that quality of care was not influenced by aggressive behaviors, four of these participants indicated that they had negative feelings such as feeling stress, or having unpleasant feelings regarding aggressive behaviors.

Chapter 5

DISCUSSION

This chapter begins with a review of the Exposure to Disruptive Behavior scale Japanese Version and of the conceptual model that guided this study, followed by a discussion of the major findings of the analysis. Research implications will be discussed, along with the strengths and limitations of this study.

Review of the Exposure to Disruptive Behavior Japanese Version

The Exposure to Disruptive Behavior (EDB) scale was developed by Middleton et al. (1999) to measure frequency of exposure to disruptive behaviors (including aggressive and aversive behaviors) and occupational stress from those behaviors. In this scale, respondents are asked how many times they have experienced 20 different aggressive and aversive behaviors within the previous year, and how much stress those behaviors caused them.

For this study, the EDB English version was translated into Japanese by four Japanese translators. Since English has words that do not exist in Japanese (such as "swearing"), the four translators chose words with the closest meaning in Japanese. After the EDB was back-translated into English, Content Validity Index (CVI) was used to explore whether the content of the original EDB scale was appropriately translated in the pre-final of the Japanese version of the EDB (EDBJ). The results of CVI indicated that there was a high agreement between the content of the original EDB and the pre-final of the EDBJ. The EDB English version has demonstrated strong internal consistency reliability, with Cronbach's alpha coefficients of 0.93 to 0.95 (Middleton et al., 1999) and

0.92 to 0.94 (Morgan et al., 2005). Similarly, the EDB Japanese version has strong internal consistency reliability, with Cronbach's alpha coefficients of 0.92 to 0.94. Furthermore, this study established preliminary evidence for construct validity of the Japanese version of the EDB based on correlations consisted with hypothesized relationships with another scale.

As stated earlier, each of the two scales in the EDB consists of 20items, and each of those items is composed of different aggressive or aversive behaviors. In the preliminary analysis, exploratory factor analysis was examined on frequency of exposure to aggressive behavior in the EDBJ (EDBJ-F) and occupational stress from exposure to aggressive behaviors in the EDBJ (EDBJ-S) to identify a set of latent constructs underlying a battery of measured variables. Even though the analysis identified three factors on both of the scales, the factor correlations were high between Factor 1 and 3 on EDBJ-F; between Factor 1 and 3 on EDBJ-S; and between Factor 2 and 3 on EDBJ-S. Therefore, data analysis in this study was done as a single scale including aggressive and aversive behaviors.

One finding of this study was that the behaviors that the participants found to be the most stressful were "Scratching" (M = 2.51), and then "Pinching" (M =2.43), "Yelling or screaming at caregiver" (M = 2.43), "Biting" (M = 2.42), and "Swearing at caregiver" (M =2.20). These were all considered aggressive behaviors. The behavior that was most frequently experienced by participants was "Repeatedly seeking attention" (M = 3.94), which is not considered aggressive behavior. Those results indicate that the most stressful behavior is not the most frequent behavior. Those findings indicated that both

aggressive and aversive behaviors were experienced and caused some stress for the care workers.

Conceptual Model

The conceptual model used for this study hypothesized that care worker experience of occupational stress from exposure to aggressive behavior had a mediator effect on the relation between frequency of exposure to aggressive behavior and individual work outcomes (job burnout, job satisfaction, and intention to resign). Also, it was hypothesized that occupational stress from exposure to aggressive behavior was relieved by individual resources (education and experience), and that the stress was increased by personal stressors (having a child and taking care of a family member).

These hypotheses were partially supported by the findings that occupational stress had a full mediating effect on the relation between frequency of exposure to AB and job burnout and a full mediating effect on the relation between frequency of exposure to AB and intention to resign. On the other hand, occupational stress did not have a mediator effect on the relation between frequency of exposure to AB and job satisfaction. Moreover, as measured in this study individual resources (education and experience) and personal stressors (having a child and taking care of a family member) did not have moderator effects on the strength of relation between frequency of AB and occupational stress (see Figure 6).

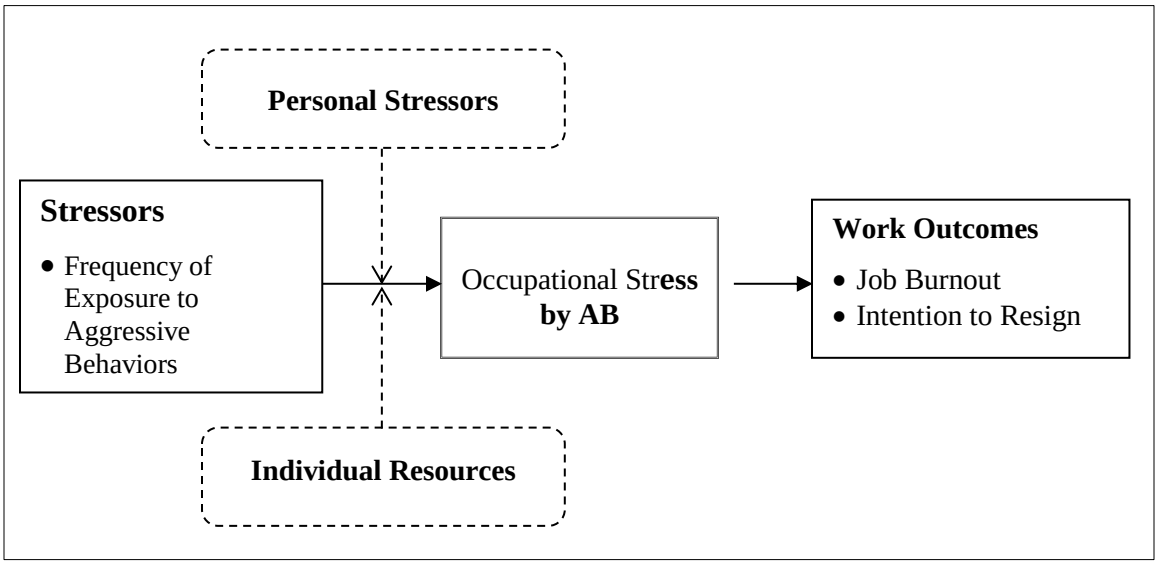


Figure 6. Conceptual Model of Occupational Stress from Exposure to Aggressive Behavior

Mediator Effects of Occupational Stress

The mediator represents a mechanism through which the independent variable affects the dependent variable (Baron & Kenny, 1986). This study found that occupational stress from exposure to aggressive behaviors had mediator effect between frequency of exposure to aggressive behavior and work outcomes (job burnout and intention to resign). Lazarus (1974) stated that "cognitive appraisals are key mediators of the person's reactions to stressful transactions, and hence shape the somatic outcomes" (p. 321). According to that theory, occupational stress is a result of the cognitive appraisal of a stressful event, which is a frequency of exposure to aggressive behavior by residents with dementia. This appraisal of stress leads to mental health problems such as burden, which are job burnout and intention to resign in this study. Therefore, this study found not only the relationship between frequency of exposure to aggressive behaviors and individual work outcomes such as job burnout and intention to resign, but that CW

appraisal of aggressive behaviors (i.e., occupational stress) was a key mediator to lead care worker to job burnout and intention to resign. In other words, the aggressive behaviors are not, in and of themselves, stressful. Instead, it is the CW's interpretation of the behaviors that result in stress, and it is this mechanism through which aggressive behavior affects the work outcomes (job burnout and intention to resign). It is important to point out that this does not mean that the CWs should be blamed for interpreting the behavior as stressful. Rather, the findings from this study suggest that CWs' understanding of what causes the aggressive behavior may play an important role in the stress caused by those behaviors. This is an important finding for being able to reduce occupational stress when care workers are exposed to aggressive behavior. If we know that care workers have high job burnout or intention to resign because of stress from aggressive behaviors, it is possible that job burnout and intention to resign can be reduced by education intervention that teaches care workers how to prevent and manage the behaviors.

Unlike the outcome variables of job burnout and intention to resign, occupational stress from exposure to aggressive behavior had no mediator effect between frequency of aggressive behavior and job satisfaction. Although there were significant negative correlations between frequency of aggressive behavior and job satisfaction (r = -.21, p < .01) and between occupational stress and job satisfaction (r = -.23, p < .01), the strength of those correlations was low. This may be due to in part to the low reliability of Kahana's Measure of Job Satisfaction (KMJS) of care workers (α = .70). Cronbach's alpha for the KMSJ in the previous study for staff in nursing homes in Japan was also low (α = .67) (Shiotani & Mima, 1998). Low reliability decreases the power of statistical

tests to detect significant relationships, increasing the probability of a Type II error (Ponterotto & Ruckdeschel, 2007).

Another explanation of low correlation may be due to different kind of work outcomes between job burnout and job satisfaction. Job burnout among health care workers can be caused by unpleasant exchanges with patients or a negative workplace environment, and it can lead to negative work outcomes such as absenteeism and poor work performance (Wright, 2011). On the other hand, job satisfaction has been related to satisfaction with coworkers, pay, or promotion (Wright, 2011). For care workers, then, job satisfaction may not be directly correlated with relationships with residents. This can be a reason why about half of care workers in this study (48.1%) had job burnout, but the mean score of job satisfaction was high.

Moderator Effects of Individual Resources and Personal Stressors

Using a framework based on the Cohen-Mansfield model, this study hypothesized that occupational stress from exposure to aggressive behavior would be reduced in CWs who had more individual resources (education and experience), while the stress would be increased in CWs who had more personal stressors (having a child and taking care of a family member). However, individual resources (education and experience) and personal stressors (having a child and taking care of a family member) had no moderator effects on frequency of exposure to aggressive behavior and occupational stress from exposure to aggressive behavior. In addition, there were not significant relationships between individual resources and frequency of exposure to aggressive behavior; between individual resources and occupational stress from exposure to aggressive behavior; between personal stressors and frequency of exposure to

aggressive behavior; or between personal stressors and occupational stress from exposure to aggressive behavior.

Morgan et al. (2012) found that there was not a significant relationship between the number of AB incidents and nursing assistants' experience. On the other hand, Zimmerman et al. (2005) reported that care workers who had more than two years of experience had less stress than care workers who had less than two years of experience. In this study, there was not a significant relationship between experience and occupational stress from exposure to aggressive behavior. When compared to the means, however, care workers who had over 10 years on the job had experienced more stress from exposure to aggressive behavior (M = 2.14) than care workers who had less than five years of experience (M = 1.84). This result was contradictory to those of the Zimmerman study (2005). Rene et al. (2012) reported that Japanese nurses who had more than 11 years experience had higher job stress than nurses who had one to five years experience or nurses who had six to ten years experience. In particular, those nurses who had more than 11 years experience had high job stress in the subscale of responsibility to subordinate. This might be one reason why, in this study, care workers with over 10 years on the job had experienced more stress from exposure to aggressive behavior than care workers who had less than five years of experience. Those CWs may have had higher stress because they believed that they had to be a role model of how to handle aggressive residents for younger care workers.

Morgan et al. (2012) reported that the relationship between the number of AB incidents and nursing assistants' education was not significant. In this study as well, the relationship between frequency of exposure to aggressive behavior and education was not

significant. Therefore, CWs' education might not influence the occupational stress from aggressive behavior.

Participants in this study were asked for their years of experience as a CW (less than 1year, 1-5 years, 5–10 years, or more than 10 years) and their years of education (less than high school degree, high school or training school, or junior college or more) categorically. If years of experience and education had been asked as continuous numbers, the results might be different. However, further study is needed.

In the Cohen-Mansfield model, occupational stress results from a combination of work-related and personal stressors (Cohen-Mansfield, 1995). In this study, the personal stressors considered and measured were having a child and taking care of a family member. However, these personal stressors had no moderator effects on frequency of exposure to aggressive behavior and occupational stress from exposure to aggressive behavior. Also, there were not significant relationships between personal stressors and frequency of exposure to aggressive behavior, or between personal stressors and stress from exposure to aggressive behavior.

About 32% of care workers in this study were men, while about 20% of care workers were men in Japan (Ministry of Public Management, 2009). Japanese men usually do not take care of children—that is supposed to be a women's job. In addition, about 25% of children of care workers in this study were over 12 years old. Those children may give less stress to their parents than children who are younger 12 years old. These facts might be reasons why the personal stressor of having a child did not have moderator effect in this study.

Only care workers who worked full time were recruited to this study. This means that even if a care worker was responsible for the care of a family member who needed assistance, that family member was taken care of by someone else or could stay at home by himself/herself during the hours that a care worker was at their job. In addition, about 85% of the CWs did not take care of a family member who needed assistance. This might help explain why having to provide care for a family member did not appear to contribute to occupational stress in this study.

Moreover, Cohen-Mansfield (1995) implies that personal stressors such as needs or personality attributes both contribute to and are affected by work place stressors. Therefore, personal stressors that impact occupational outcomes –may have different effects than stressors identified in this study, such as having a child or taking care of a family member. Further study is needed.

Perception of Aggressive Behavior

The majority of comments for the open-ended question, which asked about the causes of aggressive behavior, suggested that a resident becomes aggressive because of the consequences of having dementia (e.g., not able to verbally express their wishes/thought, not able to understand what is happening, or not able to do what they want to do because of failure to understand their physical disability). Other causes for aggression mentioned by participants were residents being in poor health, uneasiness because of the unfamiliar living situation, and loneliness or sadness. In Western countries, a majority of care workers also believe that aggressive behaviors come from the disease (Beck et al., 1990; Morgan et al., 2012; Middleton et al., 1999), including impaired communication (Isaksson et al., 2011; Talerico et al., 2002; Tunis et al., 2002) and

impaired physical functioning (Algase et al., 1996; Brodaty et al., 2001; Kirkevold et al., 2004; Menon et al., 2001); pain or constipation; disorientation (Isaksson et al., 2011; Menon et al., 2001); anxiety (Zeisei et al., 2003); and homesickness (Beck et al., 1990). Some participants reported that aggressive behavior came from stress caused by living in the nursing home or dissatisfaction with having to live in the nursing home (e.g., the resident wants to live with their family, not in the nursing home). Traditionally in Japan, a child—especially the first son—lives with and takes care of elderly parents. This custom may increase a resident's stress from living in a nursing home or increase their dissatisfaction with living in a nursing home.

Furthermore, a majority of the participants held that the causes of residents' aggressiveness lay with the behaviors of the care workers. These included care workers not trying to understand what a resident wants to do, carrying out an activity that a resident doesn't want to be involved in, interrupting a resident's activity, lack of explanation or providing care without a resident's permission, providing inappropriate care with improper assessment, a hurried pace when providing care to a resident, or too much assistance with activities that the resident can handle by him/herself. Care workers in Western countries also often believe that a resident with dementia becomes aggressive because of a caregiver's lack of thoughtfulness or a caregiver's assumption that the person with dementia has unimpaired physical and mental ability; or because of the failure of caregivers to adequately explain their actions (Stokes, 2004); inadequate staffing (Beck et al., 1990; Zeisei et al., 2003); or working under pressure (Zeller et al., 2011).

All eight kinds of causes for residents' aggression that study participants linked to care workers were related to CWs' disrespectful manners. In the concept of *joge* (hierarchy), a younger person (*me-shita*) is supposed to respect an older person (*me-ue*) (Yamakuse, 2011). If a young care worker is not respectful to a resident, the resident may be dissatisfied with the disrespectful attitude and get angry at the care worker. Furthermore, in the concept of *joge*, an older person in turn feels an obligation to take care of the younger person (Yamakuse, 2011). Two participants commented that a resident with dementia became aggressive or got angry because a CW provided too much assistance with activities that the resident could handle by him/herself. If the resident thought that he/she had an obligation to take care of a younger person, but were instead helped by the younger person, that resident might suffer from injured pride and then reject the help aggressively. On the other hand, if the resident with dementia no longer saw him/herself as an older person and thought that the care worker was an older person, the resident might decline too much assistance. Based on those findings, training and educational interventions that teach care workers why aggressive behaviors occur and how to handle the behaviors will be developed in order to reduce aggressive behaviors in Japanese residents with dementia.

Consequence of Aggressive Behavior Among Japanese Care Workers

About half of the participants (48.1%) in this study scored 5 or greater than 5 on the Japanese version of the Pines Burnout Measure, indicating that they had job burnout. On the other hand, the mean of job satisfaction scores on the Kahana's Measure of Job Satisfaction was 8.42 (11 points is the highest), indicating that participants had high job satisfaction. Even though 30 participants (28.0%) responded that quality of care was not

influenced by aggressive behaviors, four of these participants indicated that they had negative feelings (e.g., stress or unpleasant feelings) regarding aggressive behaviors. Forty-seven responses (43.9%) indicated that aggressive behaviors influenced quality of care positively, while 30 answers (28.0%) indicated that those behaviors influenced quality of care negatively.

Comparing Japan and Western countries in terms of how much aggressive behaviors influences quality of care is not possible from this study. However, there are study results showing that dementia-related aggressive behaviors have a negative effect on CWs in Western countries (Astrom et al., 2004; Evers et al., 2002; Gates et al. 1999; Middleton et al., 1999; Rodney, 2000; Talerico et al., 2002). Care workers who experience aggressive behaviors are more likely to rely on pharmacological treatment or isolation of the resident, and they may ignore residents or give no answer when residents need help or make requests (Astrom, et al., 2004). In addition, a CW who feels a lack of competence when taking care of aggressive residents tends to be afraid of the residents and withdraw (Skovdahl et al., 2003). As a result, aggressive behavior has been negatively associated with the quality of care for older adults with dementia in nursing homes (Ryden & Feldt, 1992).

While only three participants in this study reported that they felt awkward (e.g., fear) when they took care of an aggressive resident, studies conducted in Western countries found that about half of care workers who had experienced aggressive incidents reported having had fears for their personal safety (Astrom et al., 2004; Middleton et al., 1999; Scott et al., 2011). Surprisingly, about 38 participants in this study were positively influenced by aggressive behaviors by residents with dementia. On the other hand, no

studies could be found that reported a positive influence of aggressive behavior on CWs in Western countries. In this study, most participants indicated that they were trying to make efforts to provide better care to the residents with aggressive behavior. This attitude towards residents with dementia may be influenced by the Japanese value of *joge* (hierarchy), in which a younger person respects an older person (Yamakuse, 2011). Moreover, care workers may be influenced by another Japanese cultural value, *chu* (loyalty). Many Japanese still have loyalty to their company or employer and sacrifice themselves by working without sparing themselves (Yamakuse, 2011).

According to Lazarus and DeLongis (1983), personal beliefs or values developed from a person's history shape their appraisal of stress and the ways they develop for coping with it. As stated earlier, occupational stress is a key mediator to lead care workers to job burnout. Japanese care workers' occupational stress may be shaped by Japanese cultural values that urge a younger person to respect an older person and that respect individuals who sacrifice themselves by working without sparing effort. The influence of these values may help explain why care worker have job burnout, but also have high job satisfaction. Moreover, even if they experience aggressive behaviors by residents with dementia, care workers make efforts to understand the residents or to build trust and try to provide better care to the residents. Although only one-fourth of the participants responded that Japanese values such as *joge* (hierarchy) and *chu* (loyalty) influenced their work with residents with aggressive behavior, many comments from the participants indicated that they respected older people as individuals who had had many experiences in life.

Implications for Clinical Practice and Research

In this study, the Exposure to Disruptive Behavior Scale (EDBS) was translated from English into Japanese and established preliminary evidence for instrument reliability and validity. This translated instrument measures frequency of disruptive behaviors (including aggressive and aversive behaviors) and occupational stress experienced in relation to those behaviors. Therefore, this Japanese version of the EDB scale can be used to further explore relationship between residents' aggressive and aversive behavior and care workers' experience of occupational stress in various setting in Japan.

Job Burnout and Intention to Resign

This study found that occupational stress from exposure to aggressive behavior had a mediator effect between frequency of exposure to aggressive behavior and job burnout and intention to resign. Baron and Kenny (1986) indicate that a mediator may be used for intervention to prevent an adverse effect. As many participants commented, residents with dementia become aggressive because of unskilled care workers' interactions or CWs' disrespectful manners. If care workers are trained and educated as to how to handle aggressive behaviors, care workers' occupational stress from aggressive behavior can be reduced, and their job burnout will also be reduced. As a result of this, care workers' intention to resign may be decreased. The Japanese version of EDB scale can be used for an intervention study to compare the frequency of aggressive behavior and occupational stress from exposure to aggressive behavior before and after the intervention.

Job Satisfaction

Even though occupational stress from exposure to aggressive behavior did not have a mediator effect on frequency of exposure to aggressive behavior and job satisfaction, there were negative significant correlations between frequency of exposure to aggressive behavior and job satisfaction (r = -.21, p < .01) and between occupational stress and job satisfaction (r = -.23, p < .01). In addition, some participants in this study commented that aggressive behaviors not only made a care worker feel awkward, but also decreased quality of care. Research findings in Western countries have indicated that care workers who received training in how to manage aggressive behavior (Hagen, & Sayers, 1995; Josefsson et al., 2007) or who did a better job of managing residents' aggression were more satisfied with their jobs (Zimmerman et al., 2005). If better management of aggressive behavior increases care workers' job satisfaction, it may also decrease their intention to resign—both outcomes that might ease the shortage of care workers in nursing homes. Furthermore, care workers who are trained to manage aggressive behaviors will provide better quality of care for residents with dementia. The findings of this study indicate that training/education is necessary in order for care workers to be able to manage aggressive behaviors from residents with dementia and improve the quality of care.

Study Strengths

There are several strengths to this study. It had a sufficient sample size that met the requirements of power analysis. And since this study was conducted in 10 different settings that specially treat residents with dementia in the northern and western areas of Japan, these broad settings increase the generalizability of the study findings. Moreover,

the response rate of this study was very high (97.8%), which also strengthens its findings. Finally, this study used a mixed-methods in which the qualitative findings support the quantitative findings.

Limitations

One limitation of this study is that its cross-sectional design does not establish sequence of events, nor infer causality. Also, this study relied on self-reports of all variables; the answers given might not reflect actual practice and experiences.

Another limitation is that this study only looked at one part of what might be stressful for care workers. Their stress could be high because of poor pay, lack of staff, overwork, or heavy physical burdens (Nishida, Nakao, & Tanabe, 2007). Those influential factors related to work stress were considered, but they were not measured by this study even though those factors may lead to job burnout or decrease job satisfaction.

Lastly, Kahana's Measure was used to measure job satisfaction in this study since it is the only scale translated into Japanese that can be used to measure job satisfaction for formal caregivers. However, this measure has demonstrated moderately low reliability (Cronbach's $\alpha = 0.70$) that is less than acceptable (Cronbach's $\alpha = 0.80$) (DeVellis, 2003). Low reliability is a concern as alpha reliability is considered to correspond closely to the proportion of variance in a scale that attributes to the true score of the latent variable, and is directly and inversely related to error variance (DeVellis, 2003). In other words, low reliability decreases the power of statistical tests to detect significant relationships, increasing the probability of a Type II error (Ponterotto & Ruckdeschel, 2007).

Summary

This study developed a Japanese version of the Exposure to Disruptive Behavior scale and examined a) the mediating effect of occupational stress (stress from exposure to aggressive behavior) on the relationship between frequency of exposure to aggressive behaviors and three work outcomes—job burnout, job satisfaction, and intention to resign, and b) the moderating effects of individual stressors (having a child and taking care of a family member who needs help/assistance) and resources (education and experience) on the relationship between frequency of exposure to aggressive behaviors and occupational stress. Care workers in 10 nursing homes in the northern and western areas of Japan were recruited as participants for this mixed-methods study using a cross-sectional design.

The translated EDB scale established a strong internal consistency reliability with Cronbach's coefficient alpha and preliminary evidence for content validity. The major findings of this study were that occupational stress from exposure to aggressive behavior had a mediator effect between frequency of exposure to aggressive behavior and job burnout and between frequency of exposure to aggressive behavior and intention to resign. In their responses to the three open-ended questions, many of the participants (n = 122) commented that the aggressive behaviors came from residents themselves or from dementia. Approximately, one-fourth of the participants responded that Japanese values such as *chu* and *joge* influenced their work with residents with aggressive behavior. Moreover, about one-third of the participants indicated that aggressive behaviors influenced quality of care positively, while 30 responses indicated that those behaviors influenced quality of care negatively.

There are key findings from this study. First of all, this study provides findings based on a reliable and validated measurement tool. Until now, there have been no Japanese scales for measuring frequency of aggressive and aversive behaviors and stress from exposure to those behaviors. In this study, the Exposure to Disruptive Behavior Scale (EDB) was translated from English into Japanese and established strong internal consistency reliability with Cronbach's coefficient alpha and preliminary evidence for content validity. The Japanese version of the EDB scale provides opportunity for potential future comparisons of frequency of aggressive and aversive behaviors by residents and care workers' stress from those behaviors in nursing homes to future researchers in Japan.

Secondly, this study provides an opportunity to understand how frequently care workers in Japanese nursing homes have experienced twenty different aggressive and aversive behaviors over one year, and how much stress those behaviors caused the care workers.

This study provides useful information on the relationship between frequency of aggressive and aversive behaviors by residents with dementia and care worker stress from exposure to those behaviors; and between care worker stress from exposure to the behaviors and individual work outcomes (job burnout and intention to resign). Because Japanese people have the world's longest life expectancy at birth, Japan is experiencing an increasing demand for individuals to provide care of older adults. However, Japanese nursing care facilities face a high rate of care worker turn-over because of the heavy workload related to caring for physically and cognitively impaired older adults (Niki, 2010). The findings of this study imply that nursing interventions to minimize

occupational stress of care workers may in turn reduce aggressive behaviors by residents with dementia and decrease care workers' job burnout and their intention to resign.

Lastly, this study was the first study to explore Japanese care workers' attributions, beliefs, and cultural explanations of aggressive behaviors. This study provided the information about what the care workers thought causes a resident with dementia to become aggressive, how Japanese cultural values influenced care workers' work with residents with aggression, and how those behaviors influenced quality of care for the residents.

The findings of this study indicate that occupational stress from aggressive behavior can be reduced by education intervention for care workers of how to manage the behaviors. Consequently, reduced occupational stress from aggressive behavior may also reduce CWs' job burnout and intention to resign.

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Appendix A

Translation Committee Meeting

11/3/ 2012

出席者：長江美代子、長江雄介、桑原美弥子、平田弘美

- 1 の“swearing”は、「神を冒涜する」というような意味合いがあり、ただ単に「ののしる」という意味だけではない。もっと人を傷つけるという意味合いがあるのではないか。したがって、「介護者をののしる」から「介護者を口汚なくののしる」に変更したほうがいいのではないか。
- 2 の”screaming”は、「叫び声を上げたりする」というより「大きな声でギャアギャア」というニュアンスがあるのではないか？「わめきちらす」という方が、オリジナルに近いのではないか。
- 13 の”threatening”は、「命を脅かす」という意味合いがあり、「脅かす」というより「脅す」の方がオリジナルの意味に近いのではないか。
- 18〜20 の”sexual”の訳は、「性的に不快」というより、「卑猥」という訳の方がオリジナルに近いのではないか。

以上の意見を基に日本語訳を変更する。欠席者の鈴木さんには、メールで日本語訳の変更を伝え、鈴木さんの意見を聞いて許可を得る。

文責：平田

Appendix B

The following is original items (black) and back translation items (blue) of the EDB scale. Could you judge whether the meaning of the items is the same?

Please rate each item on the following scale.

1- different meaning
2- somewhat relevant
3- quite the same
4- the same

If you have some suggestions, please write them on the comments.

Exposure to Disruptive Behavior （EDB） Scale How many time in the last year have you been physically or verbally assaulted by a resident at your unit? Please circle the number of the description that applies. In the last one-year period, how many times have you experienced violence, either physical or verbal, from client(s) in your unit? Please circle a number that best apply.	Please write your scores here!	Comments
21. Swearing at caregiver Shout abusive languages to the caregiver.		
22. Yelling or screaming at caregiver Yell or shout at the caregiver.		
23. Verbally threatening Threaten caregiver		
24. Complaining about care Complaint about the care.		
25. Repeatedly seeking attention Try to get attention repeatedly		
26. Throwing objects or food at caregiver Throw or fling objects and/or food at caregiver.		
27. Interfering in staff work Interfere caregiver's work.		
28. No response to questions by caregiver Do not respond to caregiver's questioning.		

29. Pinching Pinch caregiver.		
30. Spitting on caregiver Spit at caregiver.		
31. Biting Bite caregiver.		
32. Scratching Scratch the caregiver.		
33. Threatening gesture Threaten by gestures.		
34. Punching Punch caregiver.		
35. Slapping Slap caregiver.		
36. Kicking Kick caregiver.		
37. Fecal smearing Rub stool.		
38. Sexual comments Speak with obscene word.		
39. Sexual behavior in front of caregiver Make sexually unpleasant behavior in front of the caregiver.		
40. Touching caregiver sexually Touch the caregiver in a sexually unpleasant manner.		

Appendix C

研究の許可

私たちは、アメリカのオレゴン州ポートランド市にあるオレゴンヘルスサイエンス大学博士課程に所属する平田弘美が、認知症高齢者による攻撃的行動と介護者のストレスとの関連を研究することを理解し、当施設でのアンケート調査をすることを許可します。

2013 年　　月　　日

施設名＿＿＿＿＿＿＿＿＿＿＿＿

役職＿＿＿＿＿＿＿＿＿＿＿＿

サイン＿＿＿＿＿＿＿＿＿＿＿＿

Research Approval

We understand that Hiromi Hirata is a PhD student in school of nursing at Oregon Health & Science University. She is planning to examine the relationship between formal caregiver's exposure to dementia-related aggressive behavior and occupational stress in a special care unit for residents with dementia. We agree that she has our permission to collect data using survey to formal caregivers in our facility.

Date _____

Institutional Name _____

Title _____

Signature _____

Appendix D

様式第３号

滋県大地研第 192 号
平成 24 年 (2012 年) 9 月 26 日

審査結果通知書

申請者
人間看護学部
准教授　平田　弘美　　様

公立大学法人滋賀県立大学理事長　　大　田　　啓　一　　印

受付年月日・番号	平成２４年９月１８日受付　第３１０号
課　題　名	日本における老人保健施設で働く介護者のストレスと認知症高齢者の攻撃的行動との関連に関する研究
主任研究者名	人間看護学部　准教授　平田弘美

上記計画書について、下記のとおり判定したので通知する。

記

判定	承　認　　~~条件付承認~~　　~~不承認~~　　~~非該当~~
理由	(指摘事項) 対象の施設が特定されないように成果公表時に配慮すること。

University of Shiga Prefecture #192
9/26/2012

Report from IRB Review

Applicant:

Hiromi Hirata, Associate Professor at School of Nursing

Chairperson of University of Shiga Prefecture: Keiichi Oota

Date of Receipt & Number: Sep. 18th 2012, #310

Title of the Study: Formal Caregivers' Exposure to Dementia-Related Aggressive Behaviors in Japan

Name of the researcher: Hiromi Hirata, Associate Professor in SON

I am notifying our judgment of the study as follows.

Result	(Approval) Approval with some condition Disapproval N/A
Comment	Data should be reported in an aggregated manner that will prevent from recognizing individual nursing homes.

Appendix E

Research Integrity Office, L106-RI
3181 SW Sam Jackson Park Road
Portland, OR 97239-3098
(503) 494-7887

Memo

Date: December 1, 2012

To: Theresa Harvath, PhD

From: Kathryn Schuff, MD, MCR, Chair, Institutional Review Board
Elizabeth Haney, MD, Vice-Chair, Institutional Review Board
Lynn Marshall, ScD, Vice-Chair, Institutional Review Board
Kara Manning Drolet, PhD, Associate Director, OHSU Research Integrity Office

Subject: IRB00008745, Formal Caregivers' Exposure to Dementia-Related Aggressive Behaviors

Initial Study Approval

This study is approved for 150 subjects.

The protocol and associated documents were reviewed and approved for one year effective 12/1/2012.

This study met the criteria for EXPEDITED IRB review based on Expedited Category #7, research employing survey methodologies.

Investigators must provide subjects with a copy of the information sheet.

This approval may be revoked if the investigators fail to conduct the research in accordance with the guidelines found in the Roles and Responsibilities document (http://www.ohsu.edu/research/rda/rgc/randr.pdf). Please note that any proposed changes in key personnel must be submitted to the IRB via a Modification Request and approved prior to initiating the change. If you plan to discontinue your role as PI on this study or leave OHSU, you must arrange either (a) to terminate the study by so notifying the IRB and your department head, or (b) propose to transfer the responsibility of the PI to a new faculty member using a Modification Request.

This memo also serves as confirmation that the OHSU IRB (FWA00000161) is in

compliance with ICH-GCP codes 3.1-3.4 which outline: Responsibilities, Composition,

Functions, and Operations, Procedures, and Records of the IRB

Appendix F

老人保健施設に入所する認知症高齢者の攻撃的行動と

介護職員のストレスに関する研究

私、平田弘美は、滋賀県立大学人間看護学部の教員として勤務していますが、アメリカのオレゴン州ポートランド市にあるオレゴン・ヘルスサイエンス大学の博士課程にも在籍しています。博士論文の研究として、認知症高齢者の攻撃的行動と、老人保健施設で働く介護職員のストレスとの関係に関する研究を計画しています。今回の調査では、認知症専門棟（または認知症の方が多く入所しているフロア）で働く介護者の方々にアンケート調査をしたいと考えています。ご協力よろしくお願いいたします。

アンケートの対象者は以下の条件に合う方で、アンケート調査に賛同・協力していただける介護職の方です。

① 直接入所者のケアを行っている方
② 少なくとも 3 カ月以上、常勤もしくは 1 週間 40 時間近く認知症専門棟もしくは認知症の方が多く入所しているフロアで働いている方
③ 日本語を読む・書くことができる方

研究への参加は任意です。アンケートは無記名とし、個人や施設が特定できないようにいたします。参加に同意していただけない場合でも、何ら不利益な対応を受けることはありません。また、参加に同意していただいた場合であっても、アンケート調査の途中でいつでも中止することができます。そのことにより何ら不利益を受けることはありません。アンケートを回答していただくことにより、同意を得たこととといたしますので、同意書にサインして頂くことはありません。

回答いただいた質問紙は、平田が貴施設に 1 週間後に受け取りに参ります。質問などがあれば、その時に直接平田にお尋ねください。

なお、同封いたしました図書カードは、アンケートに参加していただいたお礼です。お忙しいところ恐縮ですが、よろしくお願いいたします。

あなたご自身に関することをお尋ねします。あてはまるものに〇をつけてください。

１．年齢はおいくつですか？

① 20 歳以下　② 20 代　③ 30 代　④ 40 代　⑤ 50 代　⑥ 60 代

２．性別はどちらですか？

① 男性　② 女性

３．学校教育（専門学校も含む）を受けた年数は合計で何年ですか？（例：小学校から高校卒業までだと 12 年）

① 12 年以下　② 12 年以上-14 年未満　③ 14 年以上

４．介護職として働いて何年ですか?

① 1 年未満　② 1 年以上-5 年未満　③ 5 年以上-10 年未満

④ 10 年以上

５．お子さんはいますか？

① いる　② いない

６．5 番の質問で、「いる」とお答えした方にお聞きします。12 歳以下のお子さんは何人いますか？

① いない　② 1 人　③ 2 人　④ 3 人　⑤ 4 人　⑥ 4 人以上

７．ご家族の中で、介護（日常生活援助）の必要な方はいますか?

① はい　② いいえ

８．７番の質問で、「はい」とお答えした方にお聞きします。介護されているお身内の方は、何人いますか？

① 1 人　② 2 人　③ 3 人以上

以下の質問で、適切だと思うものに〇をつけてください。

日本語版 Exposure to Disruptive Behavior (EDB) Scale 過去１年間のうち、あなたはどのくらいの頻度で、あなたが所属するフロアの入所者から身体的あるいは言葉による暴言・暴力・迷惑行為を受けましたか？	全くない	年に1回から2～3か月に1回	月に1回	2～3週に1回	週間に1回	1勤務帯に1回以上
1. 介護者を口汚くののしる	1	2	3	4	5	6
2. 介護者に怒鳴りつけたり、わめきちらしたりする	1	2	3	4	5	6
3. ことばでおどす	1	2	3	4	5	6
4. ケアについて不満を言う	1	2	3	4	5	6
5. 繰り返し注意を引こうとする	1	2	3	4	5	6
6. 介護者に物や食べ物を投げつける	1	2	3	4	5	6
7. 業務のじゃまをする	1	2	3	4	5	6
8. 介護者の問いかけに返事をしない（無視をする）	1	2	3	4	5	6
9. つねる	1	2	3	4	5	6
10. 介護者に唾を吐きかける	1	2	3	4	5	6
11. 噛みつく	1	2	3	4	5	6
12. 引っ掻く	1	2	3	4	5	6
13. 身振りでおどす	1	2	3	4	5	6
14. げんこつで殴る	1	2	3	4	5	6
15. 平手打ちをする	1	2	3	4	5	6
16. 蹴る	1	2	3	4	5	6
17. 便をこすりつける	1	2	3	4	5	6
18. 卑猥なことを言う	1	2	3	4	5	6
19. 介護者の前で卑猥な行動をする	1	2	3	4	5	6
20. 卑猥な方法で介護者を触る	1	2	3	4	5	6

日本語版 Exposure to Disruptive Behavior (EDB) Scale 以下の 20 の行為があなたに向けられた時、それぞれについてあなたはどのように感じましたか？	ストレスを感じなかった	少しストレスに感じた	ストレスに感じた	とてもストレスに感じた
1. 介護者を口汚くののしる	1	2	3	4
2. 介護者に怒鳴りつけたり、わめきちらしたりする	1	2	3	4
3. ことばでおどす	1	2	3	4
4. ケアについて不満を言う	1	2	3	4
5. 繰り返し注意を引こうとする	1	2	3	4
6. 介護者に物や食べ物を投げつける	1	2	3	4
7. 業務のじゃまをする	1	2	3	4
8. 介護者の問いかけに返事をしない（無視をする）	1	2	3	4
9. つねる	1	2	3	4
10. 介護者に唾を吐きかける	1	2	3	4
11. 噛みつく	1	2	3	4
12. 引っ掻く	1	2	3	4
13. 身振りでおどす	1	2	3	4
14. げんこつで殴る	1	2	3	4
15. 平手打ちをする	1	2	3	4
16. 蹴る	1	2	3	4
17. 便をこすりつける	1	2	3	4
18. 卑猥なことを言う	1	2	3	4
19. 介護者の前で卑猥な行動をする	1	2	3	4
20. 卑猥な方法で介護者を触る	1	2	3	4

ストレスアセスメントスケール 以下のようなことが起こった時、どのくらいストレスを感じますか？	まったく感じない	感じた	かなり感じた
1. 入所者の非協力的態度	1	2	3
2. 入所者の問題行動で手がかかる	1	2	3
3. 入所者の高圧的態度（上からものを言うような態度）	1	2	3
4. 入所者に伝わらない	1	2	3
5. 入所者に理解されない	1	2	3
6. 入所者の重病・問題行動により目が離せない	1	2	3

日本語版バインズバーンアウトスケール 最近、あなたは仕事が終わった時などに以下のような気持ちをもつことがありますか？	まったくない	ごくまれにある	まれにある	ときどきある	しばしばある	たいていある	いつもある
1. 疲れる	1	2	3	4	5	6	7
2. 憂うつ	1	2	3	4	5	6	7
3. いい１日	1	2	3	4	5	6	7
4. 疲労困憊	1	2	3	4	5	6	7
5. 神経がすり減った感じ	1	2	3	4	5	6	7
6. 幸福感	1	2	3	4	5	6	7
7. ぬけがらになった感じ	1	2	3	4	5	6	7
8. 面白くない	1	2	3	4	5	6	7
9. 精根つきる	1	2	3	4	5	6	7
10. 「こんなはずじゃなかった」という感じ	1	2	3	4	5	6	7
11. 自分は駄目な人間	1	2	3	4	5	6	7
12. うんざりする	1	2	3	4	5	6	7
13. 悩んでいる	1	2	3	4	5	6	7
14. 人間に愛想がつきてむしょうに腹が立つ	1	2	3	4	5	6	7
15. 無力感	1	2	3	4	5	6	7
16. 絶望感	1	2	3	4	5	6	7
17. 相手にされない感じ	1	2	3	4	5	6	7
18. 元気いっぱい	1	2	3	4	5	6	7
19. 気がもめる（心配しがち）	1	2	3	4	5	6	7
20. 生活が荒れる	1	2	3	4	5	6	7

日本語版カハナの仕事満足度スケール あなたが、それぞれの質問に対して感じることを、「はい」「いいえ」のいずれか１つに〇をつけて答えてください。	はい	いいえ
1. 退屈な仕事だと感じますか？	1	2
2. やりがいのある仕事だと思いますか？	1	2
3. 単純な仕事だと感じますか？	1	2
4. 満足感のある仕事だと思いますか？	1	2
5.　創意工夫が生かせる仕事だと思いますか？	1	2
6. 魅力のある仕事だと思いますか？	1	2
7. 有益な（自分のためになるような）仕事だと思いますか？	1	2
8. 欲求不満を起こさせる仕事だと思いますか？	1	2
9. 社会的に尊重される仕事だと思いますか？	1	2
10. 楽しい仕事だと思いますか？	1	2
11. きりのない仕事だと思いますか？	1	2
離職に関する質問 認知症入所者による攻撃的行動（暴言・暴力）が原因で、今までに仕事を辞めたいと思ったことはありますか？	1	2

以下の質問に対して、あなたのご意見やお考えをご記入ください。

1. どのようなことが原因で、認知症入所者が暴言を吐いたり、暴力的になると思いますか？

2. 認知症入所者の方が暴言を吐いたり暴力的になったとき、あなたはどのような行動をとりますか？そのあなたの反応は、“目上の人を尊重する”“高齢者を大切にする”というような日本の慣習などから影響を受けていると思いますか？

3. 暴力的でない入所者の人と比べて、暴言を吐いたり暴力的になったりする入所者に対して、あなたのその人に対するケアは変わりますか？変わるとしたらどのように変わりますか？

質問は以上です。ご協力ありがとうございました。

Questionnaire regarding Formal Caregivers' Exposure to Dementia-Related Aggressive Behavior

I, Hiromi Hirata, am a PhD candidate in school of nursing at Oregon Health & Science University in the US. For my dissertation, I am planning to examine the relationship between formal caregivers' occupational stress and aggressive behaviors by residents with dementia in nursing homes. I would like to ask you to participate in this study.

Formal caregivers who meet the following inclusion criteria will be eligible for this study:

(1) Provide direct care to residents with dementia.

(2) Have worked full-time as a FC on the SCU in the facility for at least 3 months.

(3) Able to read and write Japanese.

Your participation for this study is voluntary and this questionnaire is anonymous. Your confidentiality will be protected. You will be allowed to withdraw at any time while you are filling out this questionnaire without any penalties. Because returning this questionnaire is considered to be agreement to participate in the study, I will not ask you to sign a consent form.

Please place your completed questionnaire in the sealed envelope and return to the locked box in your unit. I will take the completed questionnaires after 1 week from today. I enclose a $10 gift card for participating in the study.

Thank you so much for your time.

Would you answer the following questions about you?

1. How old are you?

① Younger than 20 ② 20s ③ 30s ④ 40s ⑤ 50s ⑥ 60s

2. What is your gender?

① Male ② Female

3. How many years of education do you have?

① Less than high school degree ② high school or training school ③ Junior college or more

4. How many years have you worked as a formal caregiver?

① Less than 1 year ② 1-5 years ③ 5-10 years ④ More than 10 years

5. Do you have a child?

① Yes ② No

6. If your answer is “Yes” in the question #5, how many children who are under 12 do you have?

① None ② One ③ Two ④ Three ⑤ Four ⑥ More than four

7. Do you have a family member (older adult who needs someone’s help) who you take care of?

① Yes ② No

8. If your answer is “Yes” in the question #7, how many family members do you take care of?

① One ② Two ③ More than Two

Please circle the number of the description that applies.

The Exposure to Disruptive Behavior Scale Japanese Version How many times in the last year have you been physically or verbally assaulted by a resident on your unit?	Never	Once every few months	Once a month	Once a week	More than once a week	More than once each shift
1. Swearing at caregiver	1	2	3	4	5	6
2. Yelling or screaming at caregiver	1	2	3	4	5	6
3. Verbally threatening	1	2	3	4	5	6
4. Complaining about care	1	2	3	4	5	6
5. Repeatedly seeking attention	1	2	3	4	5	6
6. Throwing objects or food at caregiver	1	2	3	4	5	6
7. Interfering in staff work	1	2	3	4	5	6
8. No response to questions by caregiver	1	2	3	4	5	6
9. Pinching	1	2	3	4	5	6
10. Spitting on caregiver	1	2	3	4	5	6
11. Biting	1	2	3	4	5	6
12. Scratching	1	2	3	4	5	6
13. Threatening gesture	1	2	3	4	5	6
14. Punching	1	2	3	4	5	6
15. Slapping	1	2	3	4	5	6
16. Kicking	1	2	3	4	5	6
17. Fecal smearing	1	2	3	4	5	6
18. Sexual comments	1	2	3	4	5	6
19. Sexual behavior in front of caregiver	1	2	3	4	5	6
20. Touching caregiver sexually	1	2	3	4	5	6

How have you felt about each of these 20 behaviors when the behavior was directed at you?	Not stressful	A little stressful	Stressful	Extremely stressful
1. Swearing at caregiver	1	2	3	4
2. Yelling or screaming at caregiver	1	2	3	4
3. Verbally threatening	1	2	3	4
4. Complaining about care	1	2	3	4
5. Repeatedly seeking attention	1	2	3	4
6. Throwing objects or food at caregiver	1	2	3	4
7. Interfering in staff work	1	2	3	4
8. No response to questions by caregiver	1	2	3	4
9. Pinching	1	2	3	4
10. Spitting on caregiver	1	2	3	4
11. Biting	1	2	3	4
12. Scratching	1	2	3	4
13. Threatening gesture	1	2	3	4
14. Punching	1	2	3	4
15. Slapping	1	2	3	4
16. Kicking	1	2	3	4
17. Fecal smearing	1	2	3	4
18. Sexual comments	1	2	3	4
19. Sexual behavior in front of caregiver	1	2	3	4
20. Touching caregiver sexually	1	2	3	4

The Stressor Assessment Scale for Formal Caregivers in Nursing Homes How much stress have you felt when the following happened?	None at all	Some	A lot
1. A resident is uncooperative.	1	2	3
2. A resident's problematic behavior keeps making work for me.	1	2	3
3. A resident is bossy.	1	2	3
4. A resident doesn't listen to me.	1	2	3
5. A resident doesn't understand what I say.	1	2	3
6. I have to be very careful because of a resident's severe sickness or problematic behavior.	1	2	3

The Pines Burnout Measure Japanese Version Have you felt like any of the following recently? Please circle the number of the description that applies:	Not at all	Almost never	Rarely	Sometimes	Often	Most of the time	All of the time
1. Tired	1	2	3	4	5	6	7
2. Depressed	1	2	3	4	5	6	7
3. Having a good day	1	2	3	4	5	6	7
4. Exhausted	1	2	3	4	5	6	7
5. Stressed	1	2	3	4	5	6	7
6. Happiness	1	2	3	4	5	6	7
7. Lifeless	1	2	3	4	5	6	7
8. Unpleasant	1	2	3	4	5	6	7
9. Drained	1	2	3	4	5	6	7
10. Blindsided	1	2	3	4	5	6	7
11. Useless	1	2	3	4	5	6	7
12. Disgusted	1	2	3	4	5	6	7
13. Worried	1	2	3	4	5	6	7
14. Out of patience with my coworkers	1	2	3	4	5	6	7
15. Powerless	1	2	3	4	5	6	7
16. Despairing	1	2	3	4	5	6	7
17. All alone	1	2	3	4	5	6	7
18. Full of energy	1	2	3	4	5	6	7
19. Anxious	1	2	3	4	5	6	7
20. My life is chaotic	1	2	3	4	5	6	7

Kahana's Measure of Job Satisfaction Japanese Version Indicate whether the following statements describe how you feel about your job:	Yes	No
1. My job is boring.	1	2
2. My work is worth doing.	1	2
3. My job is simple.	1	2
4. My job gives me a sense of satisfaction.	1	2
5. My job lets me use my creativity.	1	2
6. My job is fascinating.	1	2
7. My job makes me feel useful.	1	2
8. My job makes me frustrated.	1	2
9. The work I do is respected by others.	1	2
10. My job is enjoyable.	1	2
11. My work is endless.	1	2
A Question Related to Intention to resign**:** Have you thought of quitting your job because of aggressive behaviors by a resident?	1	2

Please write your opinions or thoughts to the following questions.

1. What do you think causes a resident with dementia to become aggressive?

2. Do you think that traditional Japanese values such as *chu* and *joge* influence your work with residents with aggressive behavior? If so, how does it influence your work with them?

3. Do you think that aggressive behaviors influence quality of care for these residents? If so, how do the behaviors influence quality of care for them?

Thank you so much for your time.