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Intentions of College Students to Serve as Informal Caregivers for Their Older Relatives: Theory of Planned Behavior Approach

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As the older adult population increases, the healthcare system is experiencing a shortage of professional health care providers and caregivers. Consequently, the role of family to serve as caregivers will expand to care for older relatives at home. Thus, a larger proportion of adult children will become caregivers, including young adults enrolled as college students. Therefore, a need exists to examine the intentions, attitudes, and subjective norms of typical college students to assume the role of informal caregivers. The present study is based on the theoretical framework of the Theory of Planned Behavior (TPB). The TPB assumes attitudes, subjective norms, and perceived control influence intentions which provide the best predictors of actual behavior. The cross-sectional study included an attitude scale, additional scales based on TPB, and a demographic profile. Data were collected from 750 currently enrolled university students then analyzed for descriptive statistics, Pearson correlation, and hierarchal multiple regression statistics. The students’ quality of experiences and interaction with older relatives correlated significantly with intentions, subjective norms, and perceived behavioral control to serve as informal caregivers. Our study shows that, in the present context, TPB offers a viable explanation of students’ intentions to serve as informal caregivers. Implications of the study suggest health care providers, geriatricians, health educators, and patient educators should become involved in the education and strategy development necessary to assist this young group of informal caregivers.
According to the 2010 Census, the number of older adults in the United States (U.S.) population continues to increase, with an estimated 40.4 million people aged 65 years or older. This group represents 13.1% of the United States population, or over one in every eight Americans (Department of Health and Human Services [DHHS], 2011). More than 37 million people in this group (60%) will manage more than one chronic condition (American Hospital Association [AHA], 2007), and an estimated 150 million people, or 48% of the population, will be living with a chronic condition by 2030 (U.S. Department of Health and Human Services [USDHHS] 2012). Consequently, the rapidly growing health care needs of older adults pose an additional demand on health care professionals, who face a shortfall in the necessary numbers of physicians and other advanced medical professionals (Sargen, Hooker, & Cooper, 2011). Zywiak (2010) reported that, according to the Paraprofessional Healthcare Institute, 1.1 million additional direct-care workers will be needed. In addition, the Association of Schools of Public Health (ASPH) projects a shortage of 250,000 public health workers by 2020 (Rosenstock, et al., 2008). Moreover, the American Geriatrics Society (2013) reported increasing demand for geriatricians, estimating a need for 36,000 by 2030. Furthermore, among other health professions, estimated shortages include 50,000 nurses and 124,000 physicians, by 2025 (Zywiak, 2010). Certainly, without an adequate supply of advanced medical professionals and caregivers, it will be impossible to meet the goals of health care for older adults. Therefore, family members will need to share the responsibility of taking care of their older relatives at home.

Technological advancements have contributed to improvement in health care facilities and services. People are living longer, chronic diseases are more effectively controlled, and more people are having children at a later age. Consequently, there are more instances of young caregivers than previous generations; for example, family members are becoming informal caregivers, and specifically they are now assisting with activities of daily living (e.g., bathing, feeding, getting in and out of beds, walking etc.); instrumental activities of daily living (e.g., preparing meals, grocery shopping, washing dishes, doing laundry, transportation, and giving medications); and are taking the responsibility for making medical appointments, transporting the older family members to their appointments; helping with insurance forms and medical bills; and serving as translators and advocates for them as they negotiate the new health care processes. In 2004, 85% of 3.7 million older people in the community received family care from their children and spouses (Houser, Gibson, Redfoot, & American Association of Retired Persons [AARP], 2010). Also, an estimated 120 million adult Americans (57%) either provide unpaid care, or have provided such care in the past, to an adult family member or friend. An Opinion Research Corporation survey of 1,018 adults conducted in 2005 reported 22% of the population currently provide care to an adult relative or friend, and 34% reported talking with their families or friends about providing care for them in future. More than half (54%) of respondents preferred a family member, including a spouse (37%) or an adult child (23%), to provide care to them. The National Alliance for Caregiving (NAC) and AARP reported that, in 2009, 51% of family caregivers ranged in age from 18 and 49 years.

Increasing at a projected rate of 2.3% per year during 2000–2030 (DHHS, 2011), older adults constitute the fastest growing population group in the U.S. Yet, the number of family members available to provide care is projected to increase by only 25%, at a rate of 0.8% per year (Mack & Thompson, 2001). Some 36% of the U.S. population fall between ages 18–44 years (United States Census Bureau, 2012). More than 21 million are students enrolled in college (National Center for Education Statistics, 2012). Hence, it will not be unusual for the college-enrolled
population to be involved in family caregiving. Previous studies have examined intentions of young adults to serve as caregivers. In 2013, Johnson and Johnson reported two-thirds of their study population (66%) expected to be caregivers in the future. Respondents also considered it very likely (43%), or somewhat likely (23%), that they will become family caregivers in the future. They most likely will care for their mother (41%), father (12%), spouse or domestic partner (11%), mother-in-law (7%), sibling (6%), or father-in-law (2%). Thus, educators and health care professionals should become informed about the intentions, confidence, attitudes, and norms of young adults toward informal caregiving. The present study is based on the theoretical framework of the Theory of Planned Behavior (TPB) that assumes attitudes, subjective norms, and perceived control influence intentions which provide the best predictors of actual behavior (Glanz, Rimer, & Vishwanath, 2008).

**THEORY OF PLANNED BEHAVIOR**

The Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) focus on determinants of the likelihood for performing a specific behavior including beliefs, attitudes, intentions, and perceived control (Ajzen & Fishbein, 1980). Established based on attitude measurement theory, TRA was developed by Fishbein (1967) to understand the attitudes and intentions toward behavior and not only toward objects as proposed by previous attitude theorists. TRA posits attitudes toward behavior, and subjective norms associated with behavior, as direct determinants of an individual’s behavioral intentions. Ajzen (1991) identified the individual control and ability over behavior, and added the construct of perceived behavioral control to TRA, thus creating TPB. Perceived behavioral control is most compatible with Bandura’s (1986, 2001) concept of perceived self-efficacy, i.e., confidence in one’s ability to perform a behavior (perceived behavioral control). Investigations have shown that individual behavior is strongly influenced by self-efficacy beliefs to influence choice of activities, preparation for an activity, input effort, as well as thought patterns and emotional reactions (Bandura, 1982, 1991). Aizen (2002b, p. 668) specified the term, perceived behavioral control, as the “perceived control over performance of a behavior.”

Conceptually, TPB includes three independent determinants of intention: First, “the attitude toward the behavior,” which refers to the degree to which a person holds a favorable or unfavorable evaluation or appraisal of the behavior in question; Second, subjective norm, which refers to the perceived social pressure to perform or not to perform the behavior; and third, the degree of perceived behavioral control, which involves the perceived ease or difficulty of performing the behavior and reflects past experience as well as anticipated impediments and obstacles. Generally, perceived behavioral control is determined more by favorable attitude and subjective norm (Ajzen, 1991). Over the years, literature identified attitude as a major predictor of behavior and behavioral intentions including physical activity, smoking, and sexual behavior (Sample & Warland, 1973; Aizen & Madden, 1986, Aizen & Cote, 2008, Kim & Hunter, 2006, Carter-Parker, Edwards, & McCleary, 2012).

Researchers have extensively studied college students enrolled in health-related majors including medicine, dentistry, psychology, social work, and nursing to assess student attitudes toward, and intentions to, work with older adults. Similar studies established the role of personal experiences, exposure to older adults, completion of geriatric courses, and societal influence on
college students in developing positive attitudes toward older adults (Lovell, 2006; McKinlay, & Cowan, 2003; Nochajski, Waldrop, Davies, Fabiano, & Goldberg, 2009; Cottle & Glover, 2007; Swanlund & Kujath, 2012; and Wurtele & Maruyama, 2013). Few studies reported understanding the intentions of typical college students in regard to providing informal care to their older relatives.

Limited research has been conducted that includes typical college students to help understand the relationship between constructs of TPB and intentions to execute caregiving behavior. This point has important implications for a young society responsible for the older generation’s physical as well as emotional needs. In the present family and economic structure, unpaid family caregivers likely will continue as the largest source of long-term care services in the U.S., and it is anticipated that a larger proportion of adult children will become caregivers. Hence, a need exists to examine the intentions, attitudes, and subjective norms of typical college students in regard to acquiring the role of informal caregivers. Therefore, this study focused on college students’ (a) attitudes toward their older relatives; (b) perceived behavioral control to serve as informal caregivers; (c) subjective norms toward informal caregiving; as well as (d) our understanding of how the constructs of TPB explain the intentions of college students to provide informal caregiving to their older relatives. The hypothesized TPB constructs would significantly predict the intentions of college students to serve as informal caregivers for their older relatives.

METHOD

The study involved a cross-sectional survey research design, approved by the Institutional Review Board at the lead researcher’s institute. Survey instruments included the Refined Aging Semantic Differential scale (RASD) by Polizzi, 2003; scales based on specific TPB constructs; and a demographic information profile.

Participants

Study participants included a convenience sample of 18 years and older, full-time, undergraduate and graduate students who were enrolled in three large on-campus classes at a large public land-grant, sea-grant, and space-grant research university in the southeastern U.S. Enrollment in the three classes represented a typical college population in terms of age, gender, class, and academic major. The classes represented over 50 different majors including law, nursing, biochemistry, engineering, health education, chemistry, biology, applied physiology and kinesiology, and education. Pilot data from 350 students were collected during the spring semester of 2013, and final data were collected from 750 students enrolled in different classes during the summer and fall semesters of 2013.

Instruments

The literature reports several semantic differential scales used to measure attitudes. This literature indicates that scales developed in the 1950s lack appropriate reliability and validity for use in the present multicultural and modern society. Therefore, the refined version of Aging Semantic
Differential scale (RASD) was chosen over the Aging Semantic Differential (ASD) scale (Rosencrantz & McNevin, 1969). The original ASD consists of 32 items using a 7-point Likert-type scale with 1 representing most positive and 7 most negative. Overall attitude score is calculated by adding the 32 responses with a range score between 32 and 224. The original scale did not report Cronbach’s alpha or conduct test-retest procedures. Thus, no measures of reliability and validity were estimated.

The RASD is similar to the original scale but includes 24 pairs of bipolar adjectives instead of 32, and the revised scale can be used to record attitudes toward older adults in general. Each item consists of polar adjectives opposite in meaning with positive adjectives on the left side and corresponding negative adjectives on the right side. Scores range from 24–168 for RASD. A score of 96 indicates neutral attitudes, and scores less than 96 indicate positive attitudes toward older people. TPB items including subjective “beliefs” (family expectations, religion, culture, personal fulfillment, and obligation); “intentions” (to provide IADL, ADL, emotional needs, set up services, handle emergencies, and seek information); and “perceived behavioral control” (confidence to provide IADL, ADL, emotional needs, manage stress, make caregiving activities pleasant, handle emergencies, information, and overall confidence) to care for their older relatives. These items were developed after consulting the manual for constructing questionnaires based on the TPB by Francis et al. (2004) and Aizen (2002a). The score ranged from Very Unlikely = 1, Somewhat Unlikely = 2, Undecided = 3, Somewhat Likely = 4, and Very Likely = 5.

A general profile was developed to obtain demographic information about students including age, gender, marital status, race/ethnicity, income level, enrollment status, and academic major. Additional questions were included to inquire about the quality of experiences (very positive, positive, neutral, negative, and very negative,) and interactions (frequent, little or no interactions, few interactions) students had with their older relative(s).

Expert Review (Face Validity)

Two faculty members and two doctoral students independently reviewed the draft survey instruments. They thoroughly reviewed the scale for errors and indicated whether or not the instrument measured what it was intended to measure. Based on information from the expert review, some questions were revised. A scale—instead of a single question to measure intentions—also was added to the final instrument.

Pilot Study

After incorporating suggestions from the experts, 25 students assessed the draft version of the study protocol for readability, comprehension, and cultural sensitivity. The group also offered comments and suggestions about the structure and questions of the instrument using an open-ended evaluation. Changes were made to the initial draft, then another pilot test was conducted during spring semester of 2013 with 350 students. Students enrolled in the three large on-campus classes were administered the survey after Institutional Review Board rights were read to them and before they took their midterm examination in class.

Data from the pilot study were analyzed for descriptive statistics, frequency statistics, and Cronbach’s alpha. Incomplete surveys were not included in the final analysis. A total of 306
completed surveys was used for analysis, which included \( n = 213 \) females and \( n = 93 \) males. A majority of respondents reported their ages between 18–22 years (93.2\%) and were classified as juniors (33.66\%) or sophomores (27.45\%). The majority identified themselves as White \((n = 171, 56.25\%)\), and approximately equal numbers identified themselves as Asian \((n = 47, 15.46\%)\), African American \((n = 46, 15.00\%)\), or Spanish \((n = 40, 13.2\%)\). Reliability coefficients for the scales were \( \alpha = .975 \) for RASD, \( \alpha = .847 \) for subjective beliefs, and \( \alpha = .905 \) for perceived behavioral control scales.

Final Study

Pilot study procedures were replicated to recruit participants for the final study. Students enrolled in three different large on-campus classes were recruited for final data collection during the summer and the fall of 2013 semesters. Data from 720 enrolled undergraduate and graduate students were entered into SPSS and analyzed using descriptive and multivariate statistics. The final data yielded a reliability coefficient of \( \alpha = .972 \) for RASD, \( \alpha = .926 \) for intentions, \( \alpha = .851 \) for subjective beliefs, and \( \alpha = .922 \) for perceived behavioral control scales.

Data Analysis

Data were recorded in a Microsoft Excel spreadsheet by the volunteer research assistants under the supervision of the primary researcher. Data from complete instruments were then analyzed using SPSS 21 statistical software. After determining that the data set was approximately normally distributed (normal distribution of data), descriptive statistics were calculated to determine baseline frequency rates. One-way ANOVA was used to determine whether frequency of contact between the students and their older relatives influenced their attitudes toward them, their subjective norms, perceived behavioral control, and intentions to serve as informal caregivers. The hierarchical regression (HR) was conducted to assess the relationship between TPB constructs and intentions of students to serve as informal caregivers. HR has been designed to test specific theory-based hypotheses as noted by Cohen (2001) and Wampold & Freund (1987). Data were checked for normality, outliers, and multicollinearity before the regression analysis. The study included the intentions scale as the dependent variable and several independent variables (age, socioeconomic status, gender, race, RASD, subjective norms, perceived behavioral control, quality of experiences and interactions). Analyses for all research questions were tested at a .05 significance level for \( \alpha \).

RESULTS

Most participants were female (74\%), juniors (33.6\%), and identified themselves as White/Caucasian (56.1\%). Reported mean age of respondents was 20.2 years, \( SD = 3.3 \) with a 95\% confidence interval between 19.9–20.4 years. The majority of respondents \((n = 644, 90.2\%)\) scored less than 96 on the RASDS; thus, they reported a positive attitude toward their older relatives with a mean score of 56.19, \( SD = 26.41 \), and 95\% CI between 53.19 and 57.17 (Table 1).
Most students reported either positive or very positive experiences with their older relatives \((n = 612, 84.8\%)\). An almost equal number of the participants reported having frequent \((n = 313, 43.5\%)\) and intermittent contact with their older relatives \((n = 316, 43.9\%)\), and few reported no contact \((n = 91, 12.6\%)\) with their older relatives in the past 12 months. A one way ANOVA showed the difference in attitudes score between the participants who reported frequent contact \((M = 50.05, SD = 25.51)\); intermittent contact \((M = 60.00, SD = 27.347)\); and the participants who reported no contact \((M = 62.99, SD = 23.149)\) were statistically significantly \((F_{2,706} = 14.857, p < .0001)\). ANOVA results also reported significant differences in intentions \((F_{2, 717} = 11.867, p < .0001)\); subjective norms \((F_{2,714} = 6.578, p = .001)\); and perceived behavioral control \((F_{2, 717} = 9.522, p < .0001)\) to serve as informal caregivers for their older relatives between the students who reported minimal or no contact, intermittent contact, and frequent contact.

A post hoc Scheffe’s test was conducted, and the result showed that participants who reported frequent contact also reported significantly positive attitudes \((p < .0001)\); better intentions \((p < .0001)\); subjective norms \((p = .044)\); and perceived behavioral control \((p = .009)\) as compared with the participants who reported intermittent or no contact with their older relatives.

The perceived behavioral scale indicated that the majority of respondents were confident of assisting their older relatives with IADL \((n = 486, 68.5\%)\); making caregiving activities pleasant for both themselves as well as their older relatives \((n = 422, 59.4\%)\); handling emergencies \((n = 397, 56.0\%)\); getting help and information from the health care system \((n = 397, 56.0\%)\); setting up services \((n = 393, 55.4\%)\); and taking care of emotional needs \((n = 383, 53.9\%)\). A number of respondents reported feeling confident in managing the stress associated with

<table>
<thead>
<tr>
<th>TABLE 1</th>
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<tbody>
<tr>
<td>Participant Characteristics</td>
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<tr>
<td>Item</td>
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<tr>
<td>-------</td>
</tr>
<tr>
<td>Class</td>
</tr>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Graduate</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Gender</td>
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<tr>
<td>Female</td>
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<tr>
<td>Male</td>
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<tr>
<td>Total</td>
</tr>
<tr>
<td>Ethnicity</td>
</tr>
<tr>
<td>Asian</td>
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<tr>
<td>Black/African American</td>
</tr>
<tr>
<td>Spanish/Hispanic/Latino</td>
</tr>
<tr>
<td>White/Caucasian</td>
</tr>
<tr>
<td>Multirace</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Age</td>
</tr>
</tbody>
</table>
The majority of students (n = 389, 54.8%) reported they were confident overall in serving as informal caregivers for their older relatives. Confidence (perceived behavioral control) to serve as an informal caregiver was positively correlated with better quality of experiences (r = .162, p < .0001); more interactions (r = .149, p < .0001); being enrolled in health major class (r = .102, p = .007); age (r = .079, p = .037); and being married (r = .085, p = .024).

On the subjective norms scale about providing informal care, many respondents reported that their family expected (47%); it was their culture (46%); and religious responsibility (34%), to take care of their OR(s). For many of the respondents, it was an obligation (51%) to provide care. However, for the majority of the students, to provide care to their OR was important for their own personal fulfillment (74%). The subjective norms were significantly correlated with ethnicity (r = .230, p < .0001), better quality of experiences (r = .026, p = .001), more interactions (r = .121, p = .001), and being married (r = .090, p = .017).

Table 2 presents the frequency analysis of the intentions of the students to provide informal care to their older relatives. The Pearson Correlation Coefficient demonstrated a significant positive correlation between the intentions and age (r = .077, p = .025); ethnicity (r = .088, p = .019); better quality of experiences (r = .212, p < .0001); and more interactions (r = .131, p < .0001). Hierarchical multiple regression results (Table 3) indicate the TPB constructs

<p>| TABLE 2 |
| Frequency Analysis Results for Intentions About Providing Care to Older Relatives |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>I Intend to Assist My Older Relatives</th>
<th>Very Unlikely f (%)</th>
<th>Somewhat Unlikely f (%)</th>
<th>Undecided f (%)</th>
<th>Somewhat Likely f (%)</th>
<th>Very Likely f (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IADL</td>
<td>31 (4.4)</td>
<td>49 (6.9)</td>
<td>159 (22.4)</td>
<td>337 (47.5)</td>
<td>134 (18.9)</td>
</tr>
<tr>
<td>ADL</td>
<td>28 (3.9)</td>
<td>102 (14.4)</td>
<td>219 (20.8)</td>
<td>262 (36.9)</td>
<td>99 (13.9)</td>
</tr>
<tr>
<td>Emotional needs</td>
<td>20 (2.8)</td>
<td>37 (5.2)</td>
<td>156 (21.6)</td>
<td>367 (51.7)</td>
<td>130 (18.3)</td>
</tr>
<tr>
<td>Set up services</td>
<td>19 (2.7)</td>
<td>38 (5.4)</td>
<td>140 (19.7)</td>
<td>362 (51.0)</td>
<td>151 (21.3)</td>
</tr>
<tr>
<td>Handle emergencies</td>
<td>14 (2.0)</td>
<td>32 (4.5)</td>
<td>119 (16.8)</td>
<td>373 (52.6)</td>
<td>171 (24.1)</td>
</tr>
<tr>
<td>Information from the health care system</td>
<td>21 (3.0)</td>
<td>34 (4.8)</td>
<td>129 (18.2)</td>
<td>369 (52.0)</td>
<td>157 (22.1)</td>
</tr>
</tbody>
</table>

| TABLE 3 |
| Hierarchical Regression Analysis of Theory of Planned Behavior Constructs With Intentions to Provide Care |
|----------------------------------|---------|----|----|----|----|
| Model 1                          | R²      | ΔR² | F   | df  | Sig. |
| Age, Class, Ethnicity, Married, Income | .019    | .008 | 1.707 | 7,605 | .104 |
| Model 2                          | Attitudes toward older relatives | .085    | .073 | 7.011 | 8,604 | .000** |
| Model 3                          | Subjective norms               | .419    | .410 | 48.303 | 9,603 | .000** |
| Model 4                          | Perceived behavioral control   | .537    | .529 | 69.733 | 10,602 | .000** |

**p < .001.
including attitudes, subjective norms, and perceived behavioral control contributed significantly ($R^2 = .537, F = 69.73, p < .0001$) toward the intentions to serve as informal caregivers by the college students. The demographic variables explained only 1.9% of the variance in intentions. Attitude toward older relatives explained 8.5% of variance, and subjective norms about informal caregiving contributed an additional 41.9% of variance and confidence to take care of them. This result explained the 53.7% of variance in the intention scores when we controlled for demographics. Attitude toward older relatives ($\beta = -0.126, t = -4.439, p < .0001$); subjective norms ($\beta = .388, t = 11.628, p < .0001$); and perceived behavioral control ($\beta = .412, t = 12.370, p < .0001$) significantly predicted intentions of students to take care of their older relatives in the future. The $\beta$ values imply that, with an increase of one SD of subjective norms and perceived behavioral control, the intentions to serve as an informal caregiver increased by 0.388 and 0.412, respectively. The full model that included attitude toward older relatives, subjective norms about informal caregiving, and perceived behavioral control to serve as an informal caregiver, was a significant improvement from step one ($F (10, 602) = 69.733, p < .0001$).

**DISCUSSION**

This study used a cross-sectional survey design to assess the attitudes, perceived behavioral control, and subjective norms of college students to predict their intentions for providing informal care to their older relatives. New scales were developed to assess the intentions, perceived behavioral control, and subjective norms of the participants. A large pilot test was conducted to validate and test scale reliability among the population. After the pilot study reported high reliability coefficients, the scales were included in the final study. Findings from the study supported our hypothesis that all three TPB constructs explained nearly all of the variance in predicting intentions of college students to serve as informal caregivers.

The results we found are similar to various studies examining the relationship among intentions, attitudes, subjective norms, and perceived behavioral control. For instance, consistent with Lee (2009), the Hierarchal Regression results from our study reported that positive attitudes, subjective norms, and perceived behavioral control are positively associated with intentions to provide informal caregiving. In addition to Lee (2009), Nochajski et al. (2009), also reported that positive attitudes toward older adults are likely to inculcate among young adults favorable beliefs, feelings, behavior, and strong intentions to care for them.

Our study corroborates previous literature that established a positive relationship between attitudes and having frequent or occasional contact with older adults and high-quality experiences with older relatives (Bousfield & Hutchison, 2010; Funderbunk, Damron-Rodriguez, Storms, & Solomon, 2006; Harwood, Hewstone, Paolini, & Voci, 2005; and Voogt, Mickus, Santiago, & Herman, 2008). At the same time, the present study sought to establish that the quality of experiences and interactions are essential conditions under which intentions for informal caregiving develop. As noted in previous research, this study underscores the importance of the quality and frequency of contact with older adults that improves intentions to work with the older population (Cha & Seo, 2009; Walsh, Chen, Hacker, & Broschard, 2008; and Cummings, Adler, & DeCoster, 2005). Although half of our study participants reported taking care of their older relatives as an obligation, previous studies reported a higher percentage of young adults feeling obligated (83%) and acquiring the role of caregiver due to a sense of filial duty (76%)
(Pew Research Center, 2010, & Dellmann-Jenkins, Blankemeyer, & Pinkard, 2000). A lower percent reported influence and pressure of the family, culture, and religion on their perceptions to serve as an informal caregiver. Students seemed to value informal caregiving for their own personal fulfillment and reported high intentions and confidence to serve as informal caregivers to their older relatives.

Our study partially confirmed the results of the McKinlay and Cowan (2003) study with student nurses who reported attitudes as a major predictor of intentions; subjective norms with a small but significant association; and behavioral control not significantly associated with intentions. Whereas in our study, typical college students’ perceived behavioral control contributed to the highest percent of variance in intentions, and all three constructs of TPB significantly contributed toward the intentions. Contrary to McKinlay and Cowan (2009), our results demonstrated that attitude contributed least to the “variance in intentions” score. Furthermore, study results confirmed a significant correlation between the frequent contact between college students and their attitudes toward their older relatives, their confidence to take care of them, and better perceptions to assume the informal caregiving responsibility. This finding may imply that students who have frequent contact with their older relatives are more likely to report more confidence in taking care of their needs.

Implications of the study are three-fold for young adults, older adults, as well as academic and health professionals. First, younger and older adults should invest in quality time and frequent interactions for a successful family caregiving experience. Creating positive experiences influences attitudes of young adults, thus creating a lifetime bond between the two generations. Second, academic institutions should motivate young adults to become more involved with older adults by providing internship opportunities and volunteer community service for the elderly, thus enabling students to spend more time developing healthy relationships and attitudes. Third, information should be provided to young adults regarding resources, opportunities, and support as they prepare for the challenges associated with the caregiver role. Academic as well as health professionals can promote perceived behavioral control, which has a strong association with intentions for informal caregiving, among the student population by providing support, resources, and information. Hopefully such activities will result in a strengthened resiliency and reduced vulnerability to negative consequences of serving as informal caregivers.

Results from this study also should be viewed in light of study limitations. First, this study used convenience sampling, which limits the generalizability of findings to other populations and geographical locations. To address this limitation, a large sample \((n = 750)\) of participants was recruited into the study to increase representation. Second, this research utilized a cross-sectional research design; hence, it reflects responses from the participants at a specific point in time. It did not follow respondents longitudinally to view any changes in their attitudes, intentions, or actually providing care to their older relatives. Third, the study did not determine the extent to which intentions are translated into actual informal caregiving behavior and how they serve as caregivers. To address these limitations, longitudinal research is recommended to measure actual informal caregiving behavior in the future. Recommendations also include multiple site studies and qualitative studies to explore needs of students in order to improve their quality of interaction, experiences, and intentions as informal caregivers.

One salient finding from the study is that TPB can be used to explore the intentions of informal caregiving among typical college students, thus suggesting implications for including...
broader populations in terms of gender, age, and ethnicity. Additionally, the study expanded the body of knowledge to assess attitudes, quality of experiences, and interactions of typical college students. An extensive literature review reported previous education intervention studies to improve attitudes, experiences, and intentions of medical/health major students toward older populations. Such studies now can be extended to the typical college population as well.

This study echoes the recommendations of Lee (2009), who supported the movement to induce positive feelings and intentions toward older adults among younger generations. Interactions promote understanding, exchange of ideas, and information, as well as developing healthy relationships. The study further supports frequent contact and interaction between the two generations that prevents them from being isolated and mistreated. Finally, the findings of our study suggest that the TPB offers a viable explanation of students’ intentions to serve as informal caregivers. These results demonstrate the promise of utilizing the TPB in developing, implementing, and evaluating research, as well as best practice efforts to improve the quality of informal care for older adults.

REFERENCES


