DOES THE POSITION OF THE HOMEMAKER IN THE PATIENT/PARTNER DYAD AFFECT EFFICIENCY OF SELF-SKIN EXAMINATIONS AND FURTHER PREVENTION OF MELANOMA?

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ABSTRACT

Melanoma is the deadliest form of skin cancer in the United States and for patients who have been previously diagnosed with melanoma, their risk of developing a secondary melanoma is 9 times greater than the general population (Skin Cancer Foundation, 2016). Researchers have found that the likelihood of re-developing melanoma decreases with self-skin examinations (SSE) and to perform SSEs with the greatest efficiency, a patient should ask a partner for assistance. While studies have shown that a patient-partner training intervention can increase the frequency of SSEs in dyads, there has been almost no research examining who is the primary homemaker (one in charge of medical affairs) in the dyad and how this affects prevalence of SSEs. SSE frequency may be decreased when the patient is the primary homemaker, potentially due to the partner being unable to adapt to his/her newfound medical responsibilities. The current study sought to examine this relationship, and hypothesized that there would be a higher prevalence of SSEs when the partner held the role of the primary homemaker versus when the patient was the primary homemaker. Regression analyses conducted in SPSS were performed to assess the relationship between the homemaker role and frequency of SSEs. Contrary to the hypothesis, the findings showed that there was a significant association at baseline between frequency of SSEs of patient alone and occupation of partners in the dyads. Otherwise, there was no significant distinction across all dyads for SSEs alone and SSEs with partner at all other instances. Thus, the results suggest that partners of patients who have melanoma will aid in the same frequency of SSEs whether or not the partners hold the primary homemaker role or not.
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INTRODUCTION

In the past decade, the incidence of skin cancer has grown to epidemic proportions, making it one of the most common types of cancer in the United States (Melanoma Research Foundation, 2013). According to the Skin Cancer Foundation, approximately one in five Americans will develop some type of skin cancer during their lifetime (Skin Cancer Foundation, 2016). Skin cancer can be differentiated into separate categories: melanoma and non-melanoma (basal cell carcinoma and squamous cell carcinoma; Skin Cancer Foundation, 2016). Of these groups, melanoma is the most-deadly form of skin cancer and is characterized by uncontrolled growth of pigment-producing cells (American Academy of Dermatology, 2015). Melanoma can either develop on an existing mole, or appear suddenly on the skin from exposure to natural and artificial ultraviolet (UV) rays (American Academy of Dermatology, 2015). Although certain people have a greater likelihood of developing the disease, such as individuals who are fair, freckled, and have light eyes and light hair, melanoma does not discriminate and can potentially affect anyone with UV exposure (American Academy of Dermatology, 2015).

In 2016, it is estimated that there will be approximately 76,380 new cases of melanoma in the United States and 10,130 deaths from the disease (American Cancer Society, 2016). Interestingly, melanoma is not just a cancer of the skin; it can develop anywhere on the body, including eyes, scalp, nails, feet, and mouth, increasing the likelihood of contraction (Melanoma Research Foundation, 2013). In addition to initial diagnosis, the risk of developing a secondary melanoma is 9 times greater in patients who previously possessed the disease in relation to the rest of the general population (Skin Cancer Foundation, 2016).

Researchers have found that one of the greatest ways to prevent developing a secondary melanoma is through self-skin examinations (SSEs) on a frequent basis (Trotter, Sroa,
Winkelmann, Olencki, Bechtel, 2013). Therefore, for persons at risk, a direct relationship exists between performing proper SSEs and achieving more promising outcomes due to early detection. In turn, the mortality rate from melanoma is reduced by as much as 63% (Robinson, Fischer, Turrisi, 2002). However, in order for this to successfully occur, it is important that people first be able to recognize distinct changes in their skin. These changes occur most frequently on the upper back, torso, head, neck, and lower legs (Skin Cancer Foundation, 2016). The American Academy of Dermatology urges everyone to see a board certified dermatologist and be taught to examine their skin thoroughly for melanoma by using the following ABCDE method:

Asymmetry: One half of a mole is different from the other half.

Border irregularity: The edges of the mole are blurred or ragged.

Color: The pigmentation of the mole is not the same all over, instead it has different shades.

Diameter: Melanomas are usually larger than 6 mm in diameter, but can potentially be smaller.

Evolving: A mole or skin lesion may look different from the rest and has been changing color, shape, or size since one last examined it. (American Academy of Dermatology, 2016).

While the ABCDE protocol seems to be the most effective method for early melanoma detection and prevention, a significant question arises: how can one individual thoroughly examine his/her body on his/her own when certain areas of the body are very difficult to see by oneself, for instance the scalp and back? Additionally, due to age, some patients suffer from diminishing eyesight, loss of memory, and incapability of reaching certain parts of their body (Robinson, Turrisi, Stapleton, 2007). Thus, it not only becomes almost impossible for them to
check every part of their body, but also they may frequently forget to perform the SSEs. Because of these unfortunate situations, it is clear that the patients at risk require the aid of a partner in order for the SSEs to effectively prevent re-occurrence of melanoma.

In their previously NCI funded research study, Dr. Robert Turrisi, PhD, and Dr. June Robinson, MD tested if dyadic learning from skin examination training, in which the partner is trained to aid with the examination of the patient, was more effective than patients trained alone. Participants were recruited from a hospital registry of 682 patients who had been diagnosed as having melanoma and had annual appointments with physicians for their conditions. A sample of 130 people were randomly assigned into either the solo learning intervention group or the dyadic learning intervention group, which consisted of the melanoma patient and their partner; each group contained 65 participants. Both interventions consisted of a trained research assistant explaining the ABCDE rule to the participant(s) and demonstrating the progression of pigmented lesions in a one-year period. The research assistant also answered questions about the information at hand and gave a SSE demonstration with the use of a magnifying glass to increase accuracy. The research assistant pointed out irregularities, and administered a pre-skills training quiz. Participants were also asked to complete a written pre-intervention assessment that included a series of questions related to SSEs. After the interventions, patients were given enabling kits which consisted of a SSE card, a magnifying glass, and a group of body maps that were to be used to record areas of concern during SSEs. All patients returned for a 4-month follow-up visit where a post-skills training quiz and post-intervention assessment were given. Additionally, body map diaries were examined as a measure of SSEs. Based on the results of these evaluations, the effectiveness of dyadic learning versus solo learning was assessed. Researchers determined that participants in the dyadic learning group reported engaging in SSEs
more frequently, in addition to having greater intentions of performing SSEs in the future. Therefore, patient-partner learning interventions were proven to be more effective than individual patient learning with regards to performing SSEs (Robinson et al., 2007).

After successfully showing the significance of dyadic learning from their experience with the 130 patients, the researchers decided to take their research a step further, in their pilot study, by formulating a training workbook. Dr. Turrisi and Dr. Robinson split patient-partner dyads into either the in person training intervention (n=19) or the workbook training intervention (n=21) to determine which method of training had the most benefits to conducting SSEs (Robinson, Turrisi, Mallett, Stapleton, Pion, 2010). Baseline surveys and 1-month and 4-month follow-up assessments were completed separately by both patients and partners. After four months, the in-person dyadic training and the workbook dyadic training were found to be equally as useful to patient and partners when performing SSEs (Robinson et. al., 2010).

Lastly, in their most recent large scale randomized controlled trial, Project Skin Watch, Dr. Turrisi and Dr. Robinson added both a tablet group and a control group that the pilot study did not possess (Turrisi, Hultgren, Mallett, Martini, Robinson, 2015). Participants were randomized to 1) in-person training intervention, 2) workbook training intervention, 3) tablet training intervention, or 4) control-usual treatment. Questionnaires were given over the course of 24 months where both patients and partners would record the frequency of SSEs in 17 areas of the skin based on predetermined scales (Turrisi et al., 2015). To test the efficacy of the interventions, researchers ran a series of tests to compare mean scores of SSE frequency across the groups (Turrisi et al., 2015). Results revealed that all three interventions reported significantly more SSEs than the control group (Turrisi et al., 2015). Additionally, there were no significant differences between the 3 groups in SSE frequency, indicating that they were equally
as effective at teaching participants to perform SSEs (Turrisi et al., 2015). These results were found for 4, 8 and 12 months post-intervention (Turrisi et al., 2015).

Research has shown that the patient-partner relationship may impact the effect of SSE frequency. To our knowledge, when the quality of the relationship was high, the patient’s partner had great ability to provide social support, and the partner was highly motivated, frequency of SSEs was higher (Robinson, Stapleton, Turrisi, 2008). Additionally, patients and partners who had low relationship quality benefitted most from the dyadic interventions because they were able to be brought together to perform this activity (Hultgren, Turrisi, Mallett, Ackerman, Robinson, 2015). Although these results are promising, an investigation of who takes on medical responsibilities in the household, the patient or the partner, and how that affects SSE outcomes has not yet been inspected. Previous caregiver literature has shown that when caregivers work full-time, the burden of having to attend to so many errands and of handling complicated post-hospitalization medical care greatly affects both their professions and their duties at home (Health Advocate, n.d.). These caregivers are unable to commit 100% to either job role (caregiver or full time employee) due to lack of time and overload of tasks.

For the purpose of this study, regression analyses were conducted with Drs. Turrisi and Robinson’s Skin Watch data in order to examine whether frequency of self-skin examinations in a partner based intervention is directly related to which role the patients hold: are they considered homemakers responsible for managing medical affairs in their homes, or is that role held by their partners? Regression allowed us to control for any confounding effects of being in an intervention group. It was hypothesized that when the patient is the primary homemaker in the dyad, the partner will have a more difficult time adapting to his/her increased responsibilities, and will, therefore, help less frequently in SSEs.
METHODS

Procedures (IRB PROTOCOL #: STU00017005)

The current study was part of a larger parent study by Drs. Turrisi and Robinson on the efficacy of differing dyad-teaching interventions on the frequency of SSEs. Patients with a history of melanoma were recruited from a Midwestern state in two ways: 1) potentially eligible patients were identified by use of the electronic medical records of the Northwestern Medicine health care system and sent letters about the study, or 2) two regional newspapers held advertisements about the study in their health sections for a period of 12 months. Patients needed to possess certain criteria in order to be included in the study. First, patients were required to have a partner who was willing to participate. Second, both participants in a particular dyad had to be between 21 to 80 years old and have acceptable vision in order to perform the SSEs. Third, patients had to be diagnosed previously with stage 0 to IIB melanoma and at least 6 weeks had to have elapsed since surgery. Patients who possessed other chronic diseases, who were unable to conversate past a sixth grade level due to cognitive impairment, or who had a history of stage III melanoma or higher were excluded from the study. Participants also had to have a 4-month visit with a dermatologist to make sure there were no discrepancies with the information provided and their actual physical health. The study was approved by the institutional review board of Northwestern University (Turrisi et al., 2015).

A sample of 494 distinct dyads were included in this study. Pairs of patients and their partners were randomly split into one of three intervention groups: 1) in-person training intervention (n=165 dyads), 2) workbook training intervention (n=159 dyads), 3) tablet training intervention (n=71 dyads), or into the control group control group (n=99) who did not receive the training intervention. When recruitment for the study was ongoing, the tablet phenomenon was
becoming extremely popular and widespread in the technological world. Thus, researchers decided to take advantage of this opportunity and include a tablet intervention that was comparable to the other interventions. Because this intervention was added later than the others, \( n \) is smaller than the other groups, as can be seen above. The mean duration of the interventions was approximately 45 minutes for the workbook and 30 minutes for the in-person and tablet interventions. Intervention content was essentially the same across groups, and all interventions included a demonstration of the ABCDE rule and skills training. All dyads were given a ruler and a magnifying glass to closely assess their moles. Additionally, they were given a card with a summary of the ABCDE rule, a body map, and scorecards to score features on a monthly basis. After undergoing the educational interventions, subjects were given a skills quiz to make sure they understood the material before going home and performing the SSEs without any help (Turrisi et al., 2015).

Dyads attended follow up assessments every 4 months for 24 months. At each assessment, both members of the dyad independently answered questionnaires to monitor their progress. They were asked to report how often they checked 17 different parts of the body with their partner during a 4-month interval period. This lasted for a 24-month period in which researchers were able to conclude that different teaching interventions on proper SSE technique did not affect overall frequency of SSE reporting and tendency to report SSEs in the future. However, dyads in all three intervention groups performed more SSEs than dyads in the control group.

For the purpose of this current study, only short term (baseline, 4 month), intermediate term (12 month), and long term (24 month) assessment data was used for correlations and
regression analyses in order to determine whether the frequency of SSE was affected by whether the patient or partner held the role of homemaker- in charge of medical affairs.

**Measures**

Demographics of both the patient and partner were collected at baseline. These included sex, age, race and ethnicity, occupation, as well as relationship to patient/partner and whether the patient and partner were cohabiting or not. The latter two demographics were used to formulate the household roles variable (further explained in preliminary analyses).

SSE frequency (by the patient alone, and with their partners) was assessed using responses to the following question: “How often do you check your… in the past 4 months” for 17 different body areas (face, back of neck, torso, etc.). Response options to the questionnaires, based on SSE reporting in the 17 parts of the body, were in a 5-point Likert scale that ranged from “0 times” to “4 or more times”. Therefore, if patients frequently checked their faces alone, they would provide an answer of “4 or more times.” After examining responses, researchers calculated the mean of the 17 items to give an overall score of SSEs for that specific assessment ($\alpha = 0.96-0.98$; Turrisi et al., 2015). Since SSEs were reported for patients checking alone and for patients checking with their partners, two mean scores were calculated for the Baseline, 4 month, 12 month and 24 month assessments.

**Preliminary Analysis**

The statistical software package SPSS was used to perform the analyses for this study. A new household role variable was created to code dyads by the household roles the patient and partner held. Dyads were coded into two groups based off the occupation status of both the patient and the partner: Partner as full time homemaker (1) and patient as full time homemaker (2). Partner as full time homemaker were dyads where the patients worked full time and the
partners were homemakers. Patient as full time homemaker were dyads where the partners worked full time and the patients were homemakers. Dyads in which both partners held shared roles (e.g., both worked part or full time), or where one or both partners were retired were excluded from analyses. Since the hypothesis was to examine the homemaker relationship in regards to frequency of SSEs, partners who indicated they were children, friends, other relatives, and parents of the patient were excluded from subsequent analyses.

Two zero-order correlations were conducted by examining the relationships between: 1) household roles and SSEs conducted by patients alone at four different time points (baseline, 4 months, 12 months, 24 months) and 2) household roles and SSEs conducted with their partners at the same four time points.

Data Analysis

Regression analyses were performed to examine the relationship between the household roles and the frequency of reported SSEs at each time interval (Baseline, 4 months, 12 months, 24 months). Regressions were conducted for both SSEs the patient performed alone and SSEs the patient performed with their partner’s help. Additionally, to control for the effect of intervention status on SSE frequency, it was included as a covariate in the regression analyses. Since the main focus of this study was not on the intervention but rather the job roles included in the dyads, and since previous analyses on the groups revealed no differences between the 3 intervention groups, participants were recoded to being either in the control group (0) or in an intervention group (1).
RESULTS

Evaluation of Preliminary Analysis

There were a total of 49 dyads in which the partner was the full time homemaker, and 45 dyads in which the patient was the full time homemaker. The zero order correlation that examined the relationships of the household roles to SSEs for patients alone showed Pearson’s correlation coefficients close to zero for all time points except baseline. Therefore, the correlation between frequency of SSEs by patients alone and occupations of patients and partners in the dyads were weak and not significant at 4 months, 12 months, and 24 months but were significant at baseline ($p<0.01$). [see Table 1]

Table 1: Correlation of Dyadic Occupation versus Mean Frequency of SSEs of Patient Alone

<table>
<thead>
<tr>
<th>Household Roles</th>
<th>SSEs Performed Alone at Four Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td>$r$-value</td>
<td>0.322**</td>
</tr>
<tr>
<td>$p$ value</td>
<td>0.002</td>
</tr>
</tbody>
</table>

Note: **Correlation is significant at 0.01 level (2-tailed)

Note: The household roles variable describes the occupations of both the patient and the partner in the dyad. Partner is the homemaker =1; Patient is the homemaker =2. The variables for mean frequency of SSEs alone at four different time points are as follows: SSEs alone at baseline, SSEs alone at 4 months, SSEs alone at 12 months, SSEs alone at 24 months. $-1 \leq r \leq 1$, correlation coefficient, measures strength (positive or negative) of the relationship between the two variables.

The zero order correlation that examined the relationship of the household roles with the SSEs for patients with partner showed Pearson’s correlation coefficients close to zero for all time points. Therefore, the correlation between frequency of SSEs by patients with partner and occupations of patients and partners in the dyads were weak and not significant at baseline, 4 months, 12 months, and 24 months ($p > 0.05$). [see Table 2]
Table 2: Correlation of Dyadic Occupation versus Mean Frequency of SSEs with Partner

<table>
<thead>
<tr>
<th>Household Roles</th>
<th>r-value</th>
<th>p value</th>
<th>SSEs Performed with Partner at Four Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>4 month</td>
<td>12 month</td>
</tr>
<tr>
<td></td>
<td>0.055</td>
<td>0.007</td>
<td>-0.100</td>
</tr>
<tr>
<td></td>
<td>0.599</td>
<td>0.948</td>
<td>0.417</td>
</tr>
</tbody>
</table>

Note: **Correlation is significant at 0.01 level (2-tailed)

Note: The household roles variable describes the occupations of both the patient and the partner in the dyad. Partner is the homemaker =1; Patient is the homemaker =2. The variables for mean frequency of SSEs alone at four different time points are as follows: SSEs with partner at baseline, SSEs with partner at 4 months, SSEs with partner at 12 months, SSEs with partner at 24 months. The r value, -1 ≤ r ≤ 1, correlation coefficient, measures strength (positive or negative) of the relationship between the two variables.

Evaluation of Data Analysis

Regression analysis examining the relationship of the household roles and frequency of SSEs at four different time points performed by patients alone, while controlling for the different interventions, showed no significant relationship between the two variables at 4 months and 12 months (p > 0.05). At baseline, there was a significant relationship between household roles and frequency of SSEs (p < 0.05) and at 24 months the significance was trending (see Table 3). At both baseline and 24 months the association between household roles and SSEs performed alone was positive, indicating an increase in SSEs when the patient was the homemaker compared to when the partner was the homemaker.
Table 3: Regression of Dyadic Occupation versus Mean Frequency of SSEs of Patient alone

<table>
<thead>
<tr>
<th>Household Roles</th>
<th>SSEs Performed Alone at Four Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td>B(SD)</td>
<td>0.654(0.202)</td>
</tr>
<tr>
<td>p value</td>
<td>0.002**</td>
</tr>
</tbody>
</table>

Note: **Regression is significant at 0.05 level, *p < 0.06

The household roles variable describes the occupations of both the patient and the partner in the dyad. Partner is the homemaker =1; Patient is the homemaker =2. The variables for mean frequency of SSEs of patient alone at four different time points are as follows: SSEs alone at baseline, SSEs alone at 4 months, SSEs alone at 12 months, SSEs alone at 24 months. Sig, p-value, measure significance in the relationship when p < 0.05.

Regression analysis examining the relationship of the household role and frequency of SSEs at four different time points performed by patients with their partners, while controlling for the different interventions, also showed no significant relationship between the two variables. P was not < 0.05 at any of the time points (see Table 4).

Table 4: Regression of Dyadic Occupation versus Mean Frequency of SSEs with Partner

<table>
<thead>
<tr>
<th>Household Roles</th>
<th>SSEs Performed with Partner At Four Time Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
</tr>
<tr>
<td>B(SD)</td>
<td>0.096(0.158)</td>
</tr>
<tr>
<td>p value</td>
<td>0.544</td>
</tr>
</tbody>
</table>

Note: **Regression is significant at 0.05 level

Note: The household roles variable describes the occupations of both the patient and the partner in the dyad. Partner is the homemaker =1; Patient is the homemaker =2. The variables for mean frequency of SSEs with partner at four different time points are as follows: SSEs with partner at baseline, SSEs with partner at 4 months, SSEs with partner at 12 months, and SSEs with partner at 24 months. Sig, p-value, measure significance in the relationship when p < 0.05.
DISCUSSION

This study examined the effects of occupation of the partners in the dyad on frequency of SSEs. It was originally hypothesized that when the partner holds the role of the homemaker (in charge of medical affairs), there will be a greater frequency of SSEs overall because he/she is already comfortable with the newfound responsibilities. However, results indicated there was no relationship between occupation of participants and frequency of SSEs performed with a partner, and only at baseline was there a significant association between household roles and SSEs performed alone.

As previously mentioned, for SSEs of patient performed alone the correlational analysis showed no significant association ($p > 0.05$) between the household roles variable (occupations of both patients and partners) and SSEs at 4 months, 12 months and 24 months, but a significant association at baseline ($p < 0.05$). In the subsequent regression analysis for patients alone, no significant association existed between occupations of partners in the dyad and SSEs alone at 4 months and 12 months ($p’s >0.05$). However, at baseline, there was a positive association between household roles and number of SSE alone. Since $B$ is positive for SSEs performed alone at baseline and higher scores on household roles indicates the patient was the homemaker, it indicates that when patients were the homemakers in the dyad, they were more likely to check their bodies by themselves. The same association was trending significance at 24 months. Patients who are homemakers may have higher frequencies of SSEs performed alone because they may have more time to spend checking opposed to patients who work full time. It remains unclear why this association was significant only at baseline. The results cannot be attributed to the intervention since randomization to the control or intervention group was controlled for in the analyses. Future studies need to be done with larger samples to understand this possible relationship further.
When examining the results of the correlational analysis and regression analysis of SSEs with partner, there was no significant association found between the occupations of both partners in the dyad and frequency of SSEs with partner at short-term, medium-term, and long-term (all \( p's > 0.05 \)).

Perhaps the most important finding in the present study was that SSEs with partner were not affected by who holds the homemaker role. The results suggest that when a patient becomes ill, regardless of whether the partner is a full-time worker or a homemaker, he/she will provide the same amount of assistance and engagement to the patient and frequency of SSEs will be consistent. Based on these results, physicians should treat all dyads equally regardless of both which partner is in charge of medical responsibilities and what interventions the dyads receive.

These results are inconsistent with the previous caregiver literature that says partners who are also full-time workers are not able to put full effort into helping with SSEs due to an overload of responsibilities (Health Advocate, n.d.). On the other hand, these findings are consistent with the other research that found that even individuals with poorer relationships from the SSE training had the same, and sometimes increased, rates of SSE frequency (Hultgren, Turrisi, Mallett, Ackerman, Robinson, 2015).

Reasons that the findings may contradict previous caregiver literature may be attributed to limitations in initial recruitment and formulation of the homemaker variable. First, patients that were recruited for the sample had to have a partner that was willing to participate in this study. Therefore, right away these partners may already contain a certain level of engagement, which may skew the results of this study, potentially making frequency of SSEs static for partners who work full time versus partners who are homemakers. If partners were gathered from the general population, full time working partners may not necessarily be enthusiastic about
helping with the SSEs due to their significant workload, thus, affecting the prevalence of SSEs. Second, an exact question of who was taking on the medical responsibilities of the household was not asked. For the purpose of formulating a homemaker variable, it was assumed that those who did not work would take on the medical responsibilities. However, in some households, individuals who work full time may actually take on the medical responsibilities for their family; thus, this situation adds bias to our study and may have an effect on the results.

This study sets the stage for subsequent research. In the future, researchers may want to expand this specific research by looking at shared household roles. For instance, adding two groups to the household roles variable: both partners as homemakers, or both partners as fulltime workers. In other prospective studies, researchers could actually ask partners in the dyad who controls the medical responsibilities. By asking this question, the homemaker variable will be formulated without bias, and researchers may find that a majority of the patients are actually homemakers or vice versa. In addition, the Skin Watch data can be used to examine distinct demographic variables gathered during recruitment (for instance, race) and to see how differences between them affect frequency of SSEs. With these types of studies, researchers will be able to push prevention of melanoma in a forward direction, thus, decreasing the likelihood of actually developing the disease.
CONCLUSION

The current study examined whether frequency of SSEs in a partner based intervention is directly related to which role the patients hold: are they considered homemakers responsible for managing medical affairs in their homes, or is that role held by their partners. While it was hypothesized that when the partner is the homemaker, there will be a larger frequency of SSEs, correlational analyses, as well as regression analyses, provided findings that were inconsistent with this prediction. When the patient was the homemaker there was a significant association at baseline for SSEs of patients’ alone, while for all other time points for both SSEs of patient alone and SSEs with partner there was no significance. Since the SSEs performed with a partner have been shown to be more effective to check all areas of the body, it is encouraging that SSEs with partner are not affected by who holds the homemaker role, thus, showing that whether the partner is a full-time worker or a homemaker, he/she will provide the same amount of assistance and engagement to the patient and frequency of SSEs will be consistent.
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Thesis Supervisor: Dr. Rob Turrisi

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Research Assistant
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- Personally more involved in the dermatological side of prevention
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Laboratory for Personality, Psychopathology, and Psychotherapy Research,
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Trier Social Stress Test Coordinator
Participant Recruitment Co-Coordinator
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- Responsibilities include entering participant data into Excel and SPSS, finding and scanning journal articles into EndNote and Mendeley, editing citations, transcribing
- Adult Attachment Interviews, and consenting and running participants in various studies using E prime, Inquisit, and Biopac software
- Various responsibilities as the Trier Social Stress Test Coordinator include consenting and running participants through the Trier Test, collecting cortisol samples, and observing psychophysiological measures. Responsibilities also include coordinating resource availability, research assistant availability, as well as coordinating across research labs to run participants in various studies.
- Responsibilities as a Participant Recruitment Co-Coordinator include calling clinical and university subject populations for participating recruitment, scheduling individuals to run in various studies, placing reminder calls, creating participant records in Access database, and ensuring participant payment.

**Golden Living Nursing Home, Exeter, PA**  
*Summer 2013*

*Dietary Food Aid*
- Responsible for working in the kitchen and organizing the food into steam table
- Responsible for entirely setting up dining rooms
- Interacting with the patients and serving them their meals
- Responsible for knowing the dietary restrictions of all patients and properly following those restrictions
- Making sure nurses or nurse aids are present to feed specific patients
- Other responsibilities include cleaning up dining rooms/washing all dishes/making sure the kitchen is clean.

**RACC Yocum Library, Reading, PA**  
*Summer 2013*

*Circulation Desk Volunteer*
- Responsible for preparing new library cards/accounts
- Interacting with students and people of the community
- Responsible for working the desk; checking products in and out

**Shadowing Reading Hospital Anesthesia Department, Wyomissing, PA**  
*Under Dr. Igor Maidansky, MD.*  
*Summer 2013*

- Observed patient cases from pre-op to post-op.
- Observed multiple surgeries including orthopedic knee replacement surgery, vascular surgery, heart bypass surgery, gallbladder surgery, and multiple cesarean sections
- Learned how to administer the medication, and monitor the anesthesia
- Learned how to administer epidurals
- Interacted with surgeons, anesthesiologists, and anesthesia nurses

**Shadowing Reading Hospital Internal Medicine, Wyomissing, PA**  
*Residency Program under Dr. Anthony Donato, MD*  
*Summer 2013*

- Observed patient cases from admission to discharge
- Saw everything from cancer cases to HIV cases
- Was taught the proper technique of using Electronic Medical Records
- Sat in on attending/resident brainstorming discussions

**Shadowing Family Dermatology, Exeter, PA**  
*Under Dr. Tara H. Lawlor, DO*  
*Summer 2011*
• Observed biopsies on skin cancer patients
• Observed laser procedures
• Observed patient interaction in many different cases

**Reading Hospital, Wyomissing, PA**  
*Summer 2010*

**Nursing Floor Volunteer**
• Responsible for filling the patient’s rooms with supplies
• Interacting with the patients
• Handles basic clerical assignments, including filing charts and organizing papers
• Responsible for making patients’ beds and changing the sheets

**Awards/Achievements**
• Schreyer Honors College Academic Excellence Scholarship Recipient- 2012-2016
• Dean’s List 2013, spring 2014, 2015
• Penn State Adult Literacy Program tutor at Skills of Centre County

**Volunteering & Community Service**
• Amnesty International Member, 2008-2016
• Save the Children Member, 2010-2016
• Operation Smile Member, 2014
• American Cancer Society Member, 2009-2016
• Water Project Member, 2013-2016
• Green Peace Member, 2011
• Circle K Organization Member, 2012-2014
  o Organization that provides service opportunities on and off campus
    ▪ Red Cross Blood Drive Volunteer
    ▪ Cold Stone Creamery Volunteer
    ▪ Carving pumpkins for Shavers Creek
    ▪ Kiwanis Dinners
    ▪ Nittany Greyhounds (Animal Shelter)
    ▪ Raise money for THON
• Tennis Varsity Team Member, 2008-2009, 2010-2011
• Alpha Epsilon Delta Member, Pre-Med Honors Society, 2012-2014