Growing Old at a Young Age:

Do Depressive Symptoms Result in a Shortened Time Perspective?

by

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Abstract

Researchers have used Socioemotional Selectivity Theory (SST; Carstensen, 2006) to explain findings that older adults and younger adults with a known ending (e.g., college graduation) prefer to interact with familiar partners as compared to novel partners. According to SST, choosing familiar partners with whom to interact is indicative of increased preference of emotionally salient material resulting from a shortened time perspective. The objective of this study is to expand SST to a clinical sample by examining if the interpersonal orientation observed in Major Depressive Disorder (MDD) can be explained by a shortened time perspective. A total of 97 undergraduate psychology students took part in this study. Participants were asked to choose between familiar or novel partners under various levels of time constraint in order to examine the impact of time perspective on preference for social partners. In addition, participants were asked to estimate their lifespan with reference to the average lifespan, as well as provide estimates for four other life events, to assess time perception. Participants also completed measures to assess depressive symptoms. The primary hypothesis was that individuals with high levels of depressive symptoms would show a more limited time perspective, compared to individuals with low depressive symptoms, and a preference for familiar partners under all time constraint conditions. Findings in this study may help to provide information in treating patients with MDD.
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Humans are social creatures and social relationships are universally important. There are developmental changes that occur in human relationships over the course of the lifespan. Researchers have demonstrated that as we age, we become more selective in how we spend our time and, as a result, we have fewer, albeit more meaningful, relationships in our lives (Carstensen, 1995). As older adults become more selective in their relationships with age, there is also evidence that these relationships become more important, compared to other types of goals. Research has shown that older adults tend to orient more toward interpersonal relationships and socially salient goals (as compared to novel experiences or information gathering goals) than younger adults (Fung, Carstensen, & Lutz, 1999). One way in which this has been demonstrated is through the assessment of preferences for spending free time; older adults tend to prefer familiar social partners (like a family member) to a greater degree than younger adults, who report equal preferences for family members, acquaintances, and authors of their favorite novels (Fredrickson & Carstensen, 1990).

There are many ways in which relationships are important to humans. One way in which relationships may be important is through the role they play in affect regulation. It is possible that relationships and attention to these relationships help us to regulate our emotional states. Carstensen and Turk-Charles (1994) found that older adults prioritize emotional information compared to non-emotional information. In addition, older adults were found to remember more emotional material than their younger adult counter-parts, even though memory declines with age (Carstensen & Turk-Charles, 1994). Additionally,
researchers have shown that older adults show declines in negative affect but maintain positive affect (Carstensen & Turk-Charles, 1994). This decline in negative affect, with the associated maintenance of positive affect, has been suggested as evidence of improved emotion regulation with age, potentially through enhanced interpersonal functioning.

Carstensen (1987) posited Socioemotional Selectivity Theory (SST) to explain enhanced emotion regulation and increased orientation toward emotionally salient information. SST addresses three main ideas. First, the theory is based on the premise that social interaction is core to survival (Carstensen et al., 1999). Second, the theory incorporates findings suggesting that humans are consistently engaged in behaviors that are geared toward the completion of goals (e.g., Bandura, 1997). Lastly, the theory holds that whether time is perceived as expansive or limited influences the assessment process that paves the way for goal selection (Carstensen et al., 1999). According to the theory, as time perception becomes more limited (in the case of older adults, through approaching the end of the lifespan), individuals turn to more meaningful, socially salient goals and let go of information gathering and novel experience goals. According to SST, emotion regulation is impacted through adequate progress toward goals and, as such, turning attention toward emotionally salient, interpersonal goals will not only increase the likelihood of accomplishing those goals, but will also increase the likelihood that emotional homeostasis will be maintained.

Researchers have tested the contention that people facing social endings (i.e., limited time perception) may favor familiar over novel social partners in order to maximize pleasurable social contact and meet emotionally salient goals. Carstensen,
Isaacowitz, and Charles (1999) argued that the approach of an ending is related to the heightened emphasis on feelings and emotional states and that the most compelling activities would be those that might regulate emotion effectively. They proposed that activities that are viewed as unpleasant or without meaning are not compelling when time is perceived as limited or finite. Carstensen (2006) has suggested time perceived as finite is associated with focusing more on emotionally-relevant stimuli and interpersonal connectedness. However, when time is perceived as infinite, it is associated with seeking novel experiences and achievement-oriented stimuli. This may be due to the decreased need for affect regulation that allows for the orientation toward other important goals, such as achievement and accumulation of new experiences.

Fredrickson and Carstensen (1990) designed a study to examine the preference in social partners under unspecified (i.e., infinite) and ending (i.e., finite) conditions. They examined whether partner selectivity is responsive to situational constraints, mainly the constraints associated with anticipated social endings. They hypothesized that in general, older people (because of their place in the life cycle) would choose familiar social partners more often than would younger people but younger people would mirror the social choices of the elderly when endings were made salient. The first condition asked participants to choose from among three social partners: (a) a member of the participant’s immediate family; (b) the author of a book that the participant had read; or (c) an acquaintance with whom the participant seemed to have much in common. In the first condition, there was no specific timeframe given. In the second condition, a time constraint was introduced, in which the participant was asked to imagine that in a few weeks, they would be moving across the country by themselves and that they only had
had thirty free minutes. They were then given the same three choices of social partners. This study found that older adults were more likely than younger adults to prefer familiar social partners in the condition where time was unspecified. However, in the condition in which a social ending was presented, younger adults’ preferences for social partners mirrored older adults’ preferences and participants in both groups were more likely to choose spending time with a family member over the other options. This suggests that when someone perceives a social ending, or a limitation on available time, they prefer social partners that are familiar compared to novel partners.

Fung, Carstensen, and Lutz (1999) repeated the study by Fredrickson and Carstensen (1990) in a Hong Kong sample and found similar results with older adults preferring familiar social partners to novel ones when time was not experimentally constrained. In addition, further research has found that when older adults are provided with instructions to make time infinite (imagining that an extra twenty years of good health has been added to their life expectancy; Fung et al., 1999) or younger adults are given instructions to make time seen finite (Fredrickson & Carstensen, 1990), age differences in interpersonal orientation and goal orientation (as operationalized by choice of social partner) disappear.

Research on SST has expanded beyond the interpersonal orientation of older adults by focusing on other groups with naturally occurring limitations on available time. For example, Carstensen and Fredrickson (1998) looked at a sample comprised of young gay men who were divided into three groups: HIV negative, HIV positive/asymptomatic, or HIV positive/symptomatic. The mean age in all three groups was 37 years old. Those who were HIV positive and symptomatic placed greater
emphasis on emotionally salient goals (i.e., known partners) than informational (i.e., author) or future possibilities (i.e., acquaintance) in social partners. This finding helped to support the idea that the perception of available time is an important factor in the way people think about social partners.

Further evidence is provided by looking at first year students and seniors in college. Seniors represent a group approaching the social ending of graduation from college with a finite amount of time left in an important developmental stage and freshman serve as a comparison group, as they are not yet facing a developmental ending. Fredrickson (1995) studied the daily patterns of social interaction between college students, looking specifically at partner selectivity, time selectivity, and emotional selectivity. Social interaction patterns were assessed by having students keep a journal to record their social partners, how much time they spent together, and the emotional aspects of their interaction three weeks before graduation. Fredrickson found that graduating seniors reported greater emotional involvement with close friends compared to acquaintances. Interestingly, seniors and other college students did not differ in the balance between time spent with acquaintances or close friends. This study helped to show that when approaching a social ending there is a greater desire for emotional support.

Pruzan and Isaacawitz (2006) examined differences in affect between college freshman and seniors. They hypothesized that college seniors would show a bias against negative stimuli because they were approaching a social ending and, as such, would demonstrate a preference for positive information. The authors examined this hypothesis by assessing the amount of time participants focused on positive facial images compared
to negative facial images and had participants complete the Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988). Pruzan and Isaacawitz found that college seniors acted similarly to older adults in that they avoided negative stimuli and had higher levels of positive affect than first year students. Both of these studies (Fredrickson, 1995; Pruzan & Isaazawitz, 2006) provide support for SST by demonstrating that a perceived social ending, graduating college, could influence the preference for emotionally salient and familiar experiences.

Further support for SST is gained by looking at prison inmates. Bond, Thompson, and Malloy (2005) compared older inmates to younger inmates. During their study, the inmates where asked to indicate the members of their social circle and then asked how close they felt to those individuals. They found that the inmates’ social circles decreased as age increased. In addition, even though the older inmates’ social networks were smaller, perceived closeness was significantly higher than for the younger inmates. This study mirrored the results of previous research done with older people by Carstensen and Fredrickson (1990).

With SST, Carstensen and colleagues (Carstensen et al., 1999; Fung et al., 1999) have offered an explanation of how time perception influences the preferences for emotionally salient and familiar experiences. Research has demonstrated that it is not the age, but rather the perception that time is finite that appears to influence the preferences of emotionally salient experiences over other options. In other words, SST is supposed to explain the interpersonal orientation seen in those who perceive an upcoming ending.

The purpose of this study was to expand the tenets of SST to a clinical sample by examining if the interpersonal orientation seen in Major Depressive Disorder (MDD) can
be explained by a shortened time perspective. MDD is an Axis I disorder that is characterized by having a depressed mood with no signs of manic behavior (American Psychiatric Association, 2000). Many individuals with MDD have a unique interpersonal orientation that is often referred to as dependency or neediness (Blatt, 1974). Adult patients with MDD have been found to have high levels of dependency, defined as a personality style characterized by strong need to be loved, taken care of, intense fears of loss and abandonment, and the tendency to seek support from others (Luyten et al., 2007). Cogswell, Alloy, and Spasojevic (2006) suggested that dependency might be a trait-like depressogenic characteristic. In their study, they focused on the maladaptive form of dependency, which they labeled as neediness. They found that neediness was a stable factor for individuals diagnosed with MDD. This close interpersonal orientation is similar to that of older adults and college seniors, in that they seek interpersonal connectedness (Carstensen, 2006). However, those with MDD have significantly fewer positive interactions and more negative interactions with the people closest to them (Zlotnick, Kohn, Keitner, & Della, 2000). This differs significantly from the findings with older adults and suggests that the interpersonal orientation of individuals with MDD might not serve the same emotion regulation function as interpersonal orientation in older adults.

MDD was selected as a criterion group because it is characterized by high suicidal ideation (Soloff & Fabio, 2008) and chronic suicidal ideation may be another form of perceived limitations on available time. Bradvik, Mattison, Bogren, and Nettelbladt (2008) found that the long term risk of suicide for those with depression ranged from 3.15% to 13.8%. Severity of depression is also related to an increase in suicidal risk.
(Bradvik et al., 2008). Garlow et al. (2008) found that students who had the most severe symptoms of depression were most likely to experience suicidal ideation and conversely, students with suicidal ideation had the worst symptoms of depression. Suicidal ideation may be a form of shortened time perception, with individuals with chronically high suicidal ideation constantly focusing on the immediate future and losing track of more long-term (i.e., infinite) time spans and related goals. If this is the case, the shortened time perspective may help to explain the interpersonal orientation and social salience seen in individuals with MDD.

The three major hypotheses in the study are the following:

Hypothesis 1: Individuals with high levels of depressive symptoms will show a more limited time perception as evidenced by choices made in a behavioral task.

Hypothesis 2: Induced limited time perception (i.e., completing the behavioral task under instructions to imagine oneself getting ready to leave for a year abroad) will cause an increase in the choice of close family member over other options from spending time for control group participants and will not impact choices of high symptom depressive participants.

Hypothesis 3: When asked to predict personal lifespan, individuals with high depressive symptoms will predict a significantly shorter lifespan than individuals in the control group, demonstrating a finite time perception.

Method

Participants

The sample was drawn from the Research Experience Pool which is comprised of undergraduate students enrolled in a Psychology 100 course. The planned enrollment was to have a sample consisting of 45 individuals with high depressive symptoms and 45
individuals with low depressive symptoms. Students were recruited during winter and spring quarters. During winter quarter 180 students completed the CES-D prescreening, 180 were invited to participate and 58 of those students accepted our invitation to participate. During spring quarter 161 students completed the CES-D prescreening, 161 were invited to participate and 39 accepted our invitation to participate. Of the final 97 participants, 45 prescreened as high in depressive symptoms and 52 indicated few depressive symptoms at pre-screening. However, when students came to participate, 19 out of the 45 who prescreened high in depressive symptoms no longer met the criteria of being 16 and above on the CES-D measure. We decided to define the symptoms of depression group as individuals who had scored above the cut-off at 16 at pre-screening, regardless of their classification at the time of participation. This decision was made because by taking the number of participants who changed after prescreening would reduce the power of our analysis.

The age range was from 18 to 24 ($M = 19.35$, $SD = 1.19$). Thirty one of the participants were male and 56 were female. There were 13 males and 32 females in the high depressive symptom group, and 28 males and 24 females in the control group. Of the 97 students, 70 identified themselves as White, 8 as Asian American, 4 as African American, 3 as native Hawaiian, 2 as Hispanic, 1 as American Indian, and 8 identified as something other than the groups mentioned. Students participated in the study from January 2009 to April 2009.

**Measures**

*Depression.* Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977) is a 20-item self-report scale with a 4-point Likert scale (0 = rarely, 3 =
most of the time) designed to measure the presence and severity of depressive symptoms. Participants were asked to indicate the response that best described how they felt or behaved during the past week. An example of a CES-D question is: “I felt that everything I did was an effort.” The CES-D has demonstrated very high internal consistency in both patient (alpha=.90) and community adult (alpha=.85) samples as well as sufficient test-retest reliability (Radloff, 1977). The CES-D was used in this study as the prescreening tool to differentiate those with high depressive symptoms from those with low symptoms (see Appendix A).

Demographic Questionnaire. A 6-item self report questionnaire was used to gather basic information about participants’ age, sex, ethnicity, marital status, and education (see Appendix B).

Design and Procedure

First, 341 students were prescreened using the CES-D (Radloff, 1977). Participants scoring 16 or higher on the CESD were classified as high depressive symptoms. This cut-off for screening purposes was used in Radloff and Locke (1986) and Radloff and Teri (1986). We also recruited a group of participants who were low in depressive symptoms to create a control group. The study is a 2 (group = control, high depressive symptoms) X 2 (time perception instructions = control, induced limited time) mixed design. Students who accepted the invitation to participate after pre-screening were given an informed consent, which included detailed study information, provided with the opportunity to have any questions answered, and then were asked to sign a copy of the informed consent. The participants completed several questionnaires, in addition to the Demographics form and CES-D, as part of a larger study.
After finishing the measurement packet, participants completed the estimation and time perception tasks on the computer. The estimation task was completed in order to assess chronically limited time perception. In this task, participants were given normative data and then asked to estimate particular information related to possible events in their own lives. The five target estimates were: age at time of birth of first child, amount of future income, age at which they would purchase their first house, age at retirement, and anticipated lifespan (i.e., age at death).

Next, the participants completed the time perception task (Carstensen & Fredrickson, 1998). In the first condition, participants saw the following statement: “Imagine that you have half an hour of free time, with no pressing commitments. You have decided that you would like to spend this time with another person. Assuming that the following three people are available to you, which person would you choose to spend time with? (a) a member of your immediate family, (b) the author of a book that you have read, (c) an acquaintance with whom you seemed to have much in common.” The second condition included a shortened time perception induction in which the participants read: “Now imagine this new situation: In just a few weeks, you plan to leave for a year abroad – by yourself. No members of your family or current social circle will be accompanying you on this move to a new country. Although you are preparing for your big departure, you find that you have half an hour of free time with no pressing commitments. You have decided that you would like to spend this time another person. Assuming that the following three people are available to you, which person would you choose to spend that time with?” Each participant was then given the same options of who they would prefer to spend a free half-hour. The choices were presented in random order. That marked the
completion of the experiment and the participants were then debriefed. The entire experiment (including questionnaires) took approximately 30 to 40 minutes.

**Results**

As hypothesized, in the time perception condition 1 (i.e., participants chose a social partner without any time constraint) there was a significant difference between the high depressive symptom and control groups in terms of social partner choices. A two-way contingency table analysis was conducted to evaluate the association. The two variables were group with two levels (high depressive symptoms, control) and social partner preference with two levels (family, combined acquaintance/author). Group and preference were found to be significantly related, Pearson $\chi^2 (2, N = 97) = 3.61, p = .05$, Cramér’s $V = .19$. Fifty-eight percent of the high depressive symptom group chose a family member compared to the 39% of the control group who chose a family member (see Table 1).

A two-way contingency table analysis was also conducted to evaluate the time perception in the high depressive symptoms and the control groups with a time limit imposed. The two variables were group with two levels (high depressive symptoms, control) and social partner preference with two levels (family, combined acquaintance/author). Group and preference were not found to be significantly related, Pearson $\chi^2 (2, N = 97) = .91, p = .34$, Cramér’s $V = .09$. Ninety percent of the high depressive symptom group chose a family member compared to the 94% of the control group who chose a family member. As hypothesized, the proportion of those in the control group choosing a family member with whom to spend time dramatically increased (from 39% to 94%) under the finite time instructions. Counter to the
hypothesis, those in the high depressive group were also impacted by the induced time constraint as their preference for a close family member increased from 58% in condition 1 to 90% in condition 2. This suggests that the manipulation to induce a limited time perception in the second condition was successful across groups (see Table 2).

An independent-sample *t* test was conducted to evaluate the third hypothesis, which stated that participants with high depressive symptoms would predict a shorter personal lifespan than participants in the control group. To evaluate this hypothesis using the most accurate lifespan estimates, the group was divided by gender and different estimates were provided for men and women. The test was significant for female participants, *t*(51) = -2.12, *p* = .04. Female participants in the high depressive group (M = 81.72, SD = 7.87) on the average predicted a shorter lifespan than those in the control group (M = 87.24, SD = 11.09). The test was not significant for males, *t*(39) = 2.77, *p* = .78. Male students in the high depressive group (M = 81.46, SD = 11.22) did not predict a lifespan different from those in the control group (M = 80.54, SD = 9.36) (see Figure 1).

**Discussion**

Our study has provided results that suggest that it may be useful to examine the tenets of SST in clinical samples in the future studies. The results generally supported the hypotheses. Those in the high depressive symptom group were significantly more likely to choose a family member than a novel social partner, which may be evidence of a more limited time perception than found in the control group. In addition, similar to pervious research, when a social ending was imposed on the control group (i.e., study a year abroad), these participants overwhelming preferred a familiar social partner compared to a novel partner. The third hypothesis was partially supported with females in
the high depressive symptoms group predicting a significantly shorter lifespan than the females in the control group; however, this finding did not hold for male participants.

There are several limitations within our study. The first is that a large number of participants (i.e., n = 19) who prescreened high on the CES-D did not score above the cut off of 16 at the time when they participated in the study. Pre-screening took place, on average, four to five weeks before study participation. It is likely that individuals who scored high on the CES-D at pre-screening but not at the time of the study had more fleeting depressive symptoms. As such, these individuals likely do not represent individuals with a possibly chronic shortened time perception. This could possibly explain why the proportion of those who chose to spend time with a family member was significantly different than the control group but was not as robust as other studies looking at groups approaching social endings. Fung, Carstensen, and Lutz (1999) found that 76% of older adults chose a familiar partner compared with 48% of younger adults. This could also explain the significant increase in the preference for the familiar in the second condition in the high depressive symptom group. Unfortunately, there were not enough participants who scored high on the CES-D at both pre-screening and the time of the study to adequately test the hypotheses with just those participants.

Another limitation within our study was the small number of males (i.e., n = 13) in the high depressive symptoms group. The control group contained more than twice as many males as the high depressive symptoms group (i.e., n = 28), which made it difficult to compare the two groups. An equal number of males in each group would have allowed for a better conclusion when looking at Hypothesis 3. Nevertheless, with our results we predict that males and females might differ in their perception of their lifespan and future
research will have to determine what causes this difference. A possible explanation is that males might have a more realistic idea of lifespan than females.

Possible suggestions to strengthening the study would be to only include participants who had scores that placed them in the same group (e.g., either high depressive symptoms or control) at both pre-screening and time of testing. In addition, an equal number of males and females need to be enrolled in order to have an accurate picture of the differences in predicting future life span. Lastly, suicidal ideation needs to be assessed directly. Part of the theory behind the study was that individuals with high depressive symptoms are likely to demonstrate suicidal ideation, which could be considered a form of shortened time perspective. However, without direct assessment of suicidal ideation it is difficult to know whether or not this mechanism can account for the findings.

Future researchers could examine other clinical disorders characterized by interpersonal problems and chronic suicidal ideation (e.g., Borderline Personality Disorder) to examine if shortened time perception could be a possible explanation for interpersonal orientation. Also, replicating the study with a clinically diagnosed sample would allow for us to generalize our findings better to Major Depressive Disorder as well as possibly see if the severity of depression affects time perception.

Our study is important because it aimed to expand the SST theory to a clinical sample. By doing so it helped us to gain better understanding of the possible time perspective of those with high depressive symptoms as well as find a possible explanation to the observed interpersonal orientation seen with those diagnosed with
MDD. We believe that our study can help facilitate further treatment of the interpersonal orientation seen in MDD by expanding the perception of time.
References


Table 1

Cross-Tabulation of Group by Social Partner in Condition 1

<table>
<thead>
<tr>
<th>Social partner choice</th>
<th>High MDD symptoms</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiar</td>
<td>58</td>
<td>26</td>
<td>39</td>
</tr>
<tr>
<td>Novel</td>
<td>42</td>
<td>19</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>45</td>
<td>54</td>
</tr>
<tr>
<td>Social partner choice</td>
<td>High MDD symptoms</td>
<td>Control</td>
<td>Total</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Group</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Familiar</td>
<td>88</td>
<td>40</td>
<td>94</td>
</tr>
<tr>
<td>Novel</td>
<td>11</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>45</td>
<td>54</td>
</tr>
</tbody>
</table>
Figure 1

Prediction of lifespan

* p<.05
Appendix A

**CES-D**

*Fill in the number for each statement which best describes how often you felt or behaved this way – DURING THE PAST WEEK.*

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rarely or none of the time (less than 1 day)</th>
<th>Some or a little of the time (1-2 days)</th>
<th>Occasionally or a moderate amount of the time (3-4 days)</th>
<th>Most or all of the time (5-7 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I was bothered by things that usually don’t bother me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. I did not feel like eating; my appetite was poor.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. I felt that I could not shake off the blues even with help from my family or friends.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. I felt that I was just as good as other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. I had trouble keeping my mind on what I was doing.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. I felt depressed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I felt that everything I did was an effort.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I felt hopeful about the future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I thought my life had been a failure</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. I felt fearful.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. My sleep was restless.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. I was happy.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
13. I talked less than usual. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| **Rarely or none of the time (less than 1 day)** | | | |  
| **Some or a little of the time** | | | |  
| **Occasionally or a moderate amount of the time** | | | |  
| **Most or all of the time** (5-7 days) | | | |  

14. I felt lonely. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

15. People were unfriendly. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

16. I enjoyed life. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

17. I had crying spells. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

18. I felt sad. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

19. I felt that people disliked me. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |  

20. I could not get going. | 0 | 1 | 2 | 3  
--- | --- | --- | --- | ---  
| | | | |
Appendix B

Demographic Questionnaire:

1. Age ______
2. Sex: _____ Male _____ Female
3. What country are you from? ____________________________________________
4. Please answer both 4a and 4b:
   
   4(a) Do you consider yourself a person of Mexican, Puerto Rican, Cuban, or South Central American culture or origin (regardless of race)?

      _____ Yes
      _____ No
   
   4(b) What is your racial/ethnic background? Select one or more of the following:

      _____ American Indian or Native Alaskan
      _____ Asian
      _____ Native Hawaiian or Other Pacific Islander
      _____ Black or African-American
      _____ Hispanic or Latino
      _____ White
      _____ Other (please specify): __________________________________________

5. Current Marital Status:

      _____ Single
      _____ In relationship with significant other
      _____ Living with significant other
      _____ Married
      _____ Separated
      _____ Divorced
      _____ Divorced and Remarried
      _____ Widowed
      _____ Widowed and Remarried
      _____ Other (please specify): __________________________________________

6. Highest level of education completed and received credit for

      _____ High school degree or equivalent
      _____ 1\textsuperscript{st} year of college
____ 2\textsuperscript{nd} year of college
____ 3\textsuperscript{rd} year of college
____ 4\textsuperscript{th} year or final year of college
____ Other (please specify): ______________________________