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Social and Educational Functioning in College Students with a Chronic Physical Health Condition

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SOCIAL AND EDUCATIONAL FUNCTIONING IN COLLEGE STUDENTS WITH A
CHRONIC PHYSICAL HEALTH CONDITION

A Thesis
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By
Natalie Truba
August 2010

SOCIAL AND EDUCATIONAL FUNCTIONING IN COLLEGE STUDENTS WITH A
CHRONIC PHYSICAL HEALTH CONDITION

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TABLE OF CONTENTS

Acknowledgments.....	i
Table of Contents.....	iii
List of Tables.....	v
Abstract.....	vi
Introduction.....	3
Methods.....	16
Participants.....	16
Design.....	18
Measures.....	19
Biographical Information.....	19
Educational and Social Adjustment.....	19
Anxiety and Depression.....	20
Procedures.....	20
Results.....	22
Preliminary Analyses.....	22
Hypothesis Testing.....	24
Discussion.....	28
References.....	36
Appendices	
A. Demographics.....	40
B. Pediatric Quality of Life Inventory for Young Adults.....	45
C. Costello-Comrey Depression and Anxiety Scales.....	49

D. Human Subjects Review Board Approval.....54

LIST OF TABLES

TABLE

1	Demographics Composition of CPHC and Healthy Groups.....	18
2	Correlations between Demographics Variables and the Dependent Measures....	23
3	Means (and Standard Deviations) of ANCOVA Analyses.....	26
4	Correlations with Overall Perceived Social Understanding.....	27

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The purpose of the current study is to examine the academic and social functioning of college students with a chronic physical health condition (CPHC). For the current study, chronic physical health condition will be defined as follows: “A physical [or mental] health condition that has lasted or is expected to last at least 6 months and interferes with their activities,” (Varni & Limbers, 2008, p. 107).

The sample consisted of 174 participants attending Western Kentucky University. Two groups (CPHC vs. Healthy) were comprised based on the participants’ self-reported health status. Participants were solicited through Western Kentucky University’s department of Psychology Study Board as well as through the university’s Department of Disability Services. The participants completed the demographics questionnaire, Pediatric Quality of Life Inventory for Young Adults (PEDSQL), and the Costello-Comrey Depression and Anxiety Scales (CCDAS). All the measures were completed online. Three hypotheses were made. Hypothesis one stated that college students who have a chronic physical condition will have a lower level of social functioning when compared to their healthy peers. Hypothesis two stated that college students who have a chronic physical health condition will have a lower level of educational adjustment when compared to their healthy peers. Hypothesis three stated that female college students who

have a chronic physical health condition will endorse higher levels of the internal symptoms associated with anxiety and depression.

Results yielded support for the second hypothesis, as individuals with a CPHC did report lower levels of academic adjustment than healthy individuals. The first hypothesis was marginally supported as participants with a CPHC reported lower levels of social functioning than healthy individuals. The third hypothesis was not supported as females and males with a CPHC reported similar levels of anxiety and depression.

Introduction

Having a chronic physical health condition as a child can significantly impact an individual's well-being throughout adolescence and adulthood (Farrant & Watson, 2004). Rosina, Crisp, and Steinbeck (2003) found that young people with a chronic physical health condition had lower levels of emotional and behavioral functioning when compared to their healthy peers. For those individuals who develop a chronic physical health condition in their childhood or adolescence, understanding the psychological impact that the condition may have on their later psychosocial and academic functioning is important. Rosina et al. also found that young people with chronic physical health conditions scored lower than their acutely ill peers on psychosocial functioning. These results suggest that the extended duration of an individual's chronic physical health condition has a more profound effect on that individual's psychological health than the actual condition itself. Therefore, determining the effects that chronic physical health conditions have on young people as they transition into adulthood is important to help ensure improved quality of life and overall psychological functioning for these individuals.

Given the amount of literature published since 1990 (Farrant & Watson, 2004; Key, Brown, Marsh, Spratt, & Recknor, 2001; Leong & Bonz, 1997; Newacheck & Taylor, 1992; Rosina et al., 2003; Shiu, 2001), it is apparent that there has been a recent growth in psychological literature regarding the effects that chronic health conditions have on children. However, not much is known about the effects that chronic health conditions have on individuals as they transition from adolescence to young adulthood and enter college.

Due to medical advancements, a growing number of individuals with chronic physical health conditions are living longer than they previously would have (Newacheck & Taylor, 1992; Rosina et al., 2003; Shiu, 2001). An estimated 31% (20 million) of children 18 years or younger have one or more chronic physical health conditions, and 71% of these children have two or more physical health conditions (Newacheck & Taylor, 1992). As more children and adolescents suffering from chronic physical health conditions are living into adulthood, the effects of their conditions become apparent, not only on their social development, but on their academic functioning as well.

For the current study, chronic physical health condition was defined as follows: “A physical [or mental] health condition that has lasted or is expected to last at least 6 months and interferes with their activities,” (Varni & Limbers, 2008, p. 107). The current study also defined quality of life as: “the subjective sense of overall well-being that results from an individual’s evaluation of satisfaction with an aggregate of personally or clinically important domains” (Bishop, 2005, p. 221).

Chronic Health Conditions and Depression

Zashikhina and Hagglof (2007) found that disease condition and level of control over the disease played a crucial role in mental health stability and presence of depressive symptoms in individuals with a chronic physical health condition. These findings have implications regarding the type of therapeutic provisions, academic outlets and social outlets provided to college students who have a chronic health condition.

Having a chronic physical health condition has a range of impacts on a young person’s well-being throughout adolescence and into adulthood (Farrant & Watson, 2004;

Pless & Douglas, 1971). Key et al. (2001) found that adolescents with a chronic physical health condition had nearly twice the prevalence of moderate to severe depressive symptoms as the normative population. As these adolescents move away from home and attend college, understanding the elevated levels of depression they experience is important. Since depression can cause an array of debilitating symptoms, including diminished interest in activities, significant weight loss or weight gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or loss of energy, feelings of worthlessness or excessive guilt, diminished ability to concentrate and recurrent thoughts of death (American Psychiatric Association, 2000), it may be more detrimental to those individuals who are suffering from a chronic physical health condition than it would be to their healthy peers.

Given that adolescents with a chronic physical health condition have higher rates of depression than their healthy peers, it would also be expected that these adolescents continue to experience elevated levels of depression as they enter young adulthood and attend college. This was demonstrated by Aronen and Soininen (2000), who found that depressive symptoms in childhood predicted depressive symptoms in young adulthood. For those students with chronic physical health conditions, this has several ramifications, as depressed students may withdraw from school or do poorer both academically and occupationally than those students who are not depressed. This is further exacerbated if these students do not have a strong social support system or the means to gain access to the necessary accommodations. In many cases, students who suffer from chronic physical health conditions become entangled in this unfortunate cycle.

Students attending college who have a chronic physical health condition may also have a more difficult time developing friendships with their peers. Eberhart and Hammen (2006) found that increased symptoms of depression were predicted by poorer quality of peer relationships. Therefore, students with a chronic physical health condition may be caught in a quagmire that aggravates itself and significantly thwarts their chances of developing a supportive peer group or achieving academically.

The high rates of depression exhibited by this population are important to consider as individuals with a chronic physical health condition enter college and move away from home, possibly for the first time. Since there is a potential interaction between a student's health status, their peer relationships and their levels of depression, understanding how a student is adjusting socially, academically and personally will allow administrators to design programs aimed at assisting those students who have a chronic physical health condition as they transition and adjust to college.

The College Lifestyle and Chronic Health Conditions

Entering college is, in itself, a stressful experience (Leong & Bonz, 1997), which is intensified when the individual has a chronic physical health condition. The reality for many college students with a chronic physical health condition is that they must maintain a lifestyle that is significantly different from that of their healthy peers (Shiu, 2001). These students may have to monitor their eating habits, sleep patterns, activity levels, and alcohol consumption more so than their healthy peers. Also, along with the stress that is expected to accompany college, students with a chronic physical health condition may experience elevated levels of stress and anxiety as a result of the level of impairment associated with their condition. In addition to learning how to manage their class

schedule and their developing social life, students with chronic physical health conditions must also monitor their health status, decide whether or not they are going to inform their new friends of their health status and continue to be aware of any limitations they may experience as a result of their chronic physical health condition.

College freshman are faced with numerous changes in their lives, as emerging from childhood into the early stages of young adulthood can be a challenging and somewhat confusing transition (Enochs & Roland, 2006). From a research standpoint, this transition is not greatly understood for individuals who have a chronic physical health condition. Based on the research previously discussed, it can be speculated that those individuals who suffer from a chronic physical health condition will have a more difficult time transitioning both socially and academically to college than the average, healthy college freshman. It is important to recognize the psychological problems confronting these young adults as they enter college, and, potentially, move away from home for the first time.

Social Anxiety and Chronic Health Conditions

Individuals suffering from a chronic physical health condition face numerous challenges in regards to their social adjustment that do not affect their healthy peers (McCarroll, Lindsey, MacKinnon-Lewis, Chambers, & Frabutt, 2009). As a result, these individuals experience more social anxiety than healthy individuals (McCarroll et al.). This is not surprising since a childhood history of a chronic illness was identified as the most optimal predictor for experiencing social anxiety later in life (Hayward et al., 2008). Individuals with a chronic physical health condition may also have elevated levels of worry and fear if they hold a belief that their health condition causes discomfort in others

(Rector, Kocovski, & Ryder, 2006). This can lead an individual to perceive him or herself as overly responsible for other people's discomfort, which then increases his or her overall level of social anxiety (Rector et al.). Once individuals with a chronic physical health condition feel they are the cause of others' discomfort, they may begin to feel socially shunned and experience feelings of "otherness" (Green, Davis, Karshmer, Marsh, & Straight, 2005). Consequently, this perception increases how frequently these individuals avoid social situations, which, subsequently reinforces their feelings and beliefs about being shunned.

Discrimination, Stigma and Chronic Health Conditions

Individuals with a chronic physical health condition often have to worry about overt discrimination, the risk of disapproval and the risk of rejection from others (Balfe, 2007). It is important to look at the effect this has on their development and maintenance of peer and intimate relationships. If individuals with a chronic physical health condition face discrimination, disapproval and rejection from others, it should also be expected that they experience more difficulty establishing and maintaining friendships and intimate relationships than their healthy peers. Often, individuals with chronic physical health conditions are perceived as "different," resulting in these individuals being stigmatized. The effects of stigma can lead to negative self-perceptions or depression that, in turn, discourages social participation in individuals with a chronic physical health condition (Green et al., 2005). The depression associated with stigma can have very negative consequences such as suicidal ideation or the removal of oneself from school (American Psychiatric Association, 2000).

Physical Restrictions, Peer Relationships and Chronic Health Conditions

Considering the findings suggesting that children with physical restrictions are less involved in social activities than children without physical restrictions (Meijer, Sinnema, Bijstra, Mellenbergh, & Wolters, 2000), it is important to determine if this relationship also exists for college students suffering from a chronic physical health condition. Understanding whether or not physical restrictions affect the peer relationships of young adults in college is important when trying to understand the overall social adjustment of individuals who have a chronic physical health condition. The research available regarding the reactions to seriously ill persons suggests that healthy individuals express both pity and anxiety (Dijker & Raeijmaekers, 1999) towards their chronically health conditioned peers. The resulting implications include the social stigmatization of these individuals by their peers once their condition is revealed or discovered. This can have a profound effect on those young adults who have entered higher education, as this is a time of personal and intimate development for most individuals. Green et al. (2005) found that individuals who have a disability are perceived by others as possessing traits that are undesirable. Therefore, healthy individuals feel sadness and pity when they are around individuals who have a disability, which can interfere with the social interaction (Green et al.). The separation inflicted by the reactions of others can seriously interfere with the ability to establish healthy romantic partnerships and friendships (Green et al.). Those individuals with chronic physical health conditions must constantly work against the perceptions and beliefs held by their peers as they attempt to “fit in.”

Provided that college is often considered to be characterized by an increase in social participation, dating and the development of life-long friends, individuals with a chronic physical health condition may be at a significant disadvantage for finding an intimate partner and/or developing a supportive social network. Green et al. (2005) found that, when disabilities are invisible or appear to be mild, they may not evoke as much social awkwardness as more visible or severe disabilities. In the context of chronic physical health conditions, those individuals who have an invisible chronic physical health condition may have lower levels of depression, social anxiety and/or social exclusion than their healthy peers, which increase the likelihood that they will develop stable and fulfilling relationships.

The Visibility and Invisibility of Chronic Health Conditions

While some individuals who develop a chronic physical health condition experience changes in their physical appearance, others may have a condition that is not immediately apparent to others. It is important to understand how the visibility or invisibility of an individual's chronic physical health condition mediates the relationship between the elements of stigma and whether or not an individual chooses to disclose his or her chronic physical health condition (Joachim & Acorn, 2000). Considering that people with a visible condition have less of a choice about disclosure than those individuals with conditions that are either invisible or a combination of visible and invisible (Joachim & Acorn), it is important to determine whether the relationships developed and maintained by individuals with a chronic physical health condition are moderated by the visibility of their condition. In the present study a condition that is immediately and overtly apparent to others, will be considered "visible," while a

condition that is not immediately and overtly apparent to others will be considered “invisible.” As those young adults who have a chronic physical health condition enter college and begin to form new relationships, the visibility of their condition becomes a potentially stressful factor. Joachim and Acorn assert that the more visible and aesthetically displeasing the condition, the more the individual’s social relationships are strained. Understanding the differences that exist in social and academic adjustment between individuals who have visible and those individuals who have invisible chronic health conditions, is instrumental for universities wanting to develop program that will be effective at helping students who are a member of either category.

Although Joachim and Acorn (2000) found that the more visible an individual’s chronic condition is then the more it will negatively affect their relationships, Huurre and Aro (2002) found that, the invisibility of the individual’s condition was associated with the individual being at a higher risk for problems. This difference is important to recognize because it demonstrates that there may be a third variable present that influences whether or not the visibility of a chronic physical health condition increases the negative effects a chronic health condition has on an individual.

Posttraumatic Stress Disorder, Generalized Anxiety Disorder and Chronic Health Conditions

Barakat and Wodka (2006) found symptoms of posttraumatic stress disorder evident in college students with a chronic illness. Given that, individuals with a chronic physical health condition experience symptoms of Posttraumatic Stress Disorder (PTSD), it is important to understand the influence these symptoms may have on the individuals’ overall psychological functioning. Lawler, Ouimette, & Dahlstedt (2005) found that

Generalized Anxiety Disorder (GAD) and Major Depressive Disorder were significantly associated with PTSD. If college students with a chronic physical health condition are experiencing elevated levels of depression and GAD as a result of PTSD symptoms, it should be expected that they also experience lower levels of psychological functioning in comparison to their healthy peers. Lawler et al. also found that symptoms of PTSD were significantly associated with poorer physical health. This is particularly important for those individuals whose chronic health condition is primarily related to their physical health. Individuals who have a physical-based chronic health condition and are experiencing symptoms associated with PTSD may experience a decrease in their physical health status that is more significant than it would otherwise be (Lawler et al.). These individuals have a high likelihood that their health will deteriorate while they are attending college, which increases the likelihood that they will withdraw from school, be hospitalized, have a high rate of absenteeism and/or achieve lower grades.

Social Functioning

Dijker and Raeijmaekers (1999) found that, when nothing else is known about a person except his or her health status, people are less likely to choose them as a partner, friend, or colleague if given the choice between him or her and a seemingly healthy individual. In addition, Meijer et al. (2000) found children with physical restrictions to be less involved in social activities than children without physical restrictions. Social stigma or stereotyped beliefs about children with a chronic physical health condition may contribute to reluctance on the part of others to include that child in social activities (McCarroll et al., 2009). It is not surprising that, for many of these youth, living with their chronic physical condition is challenging and overwhelming and leads to poor

psychosocial development (Rosina et al., 2003). As these children become older, it should be expected that they will be more socially isolated than their healthy peers, further decreasing their quality of life.

Once these individuals enter college, they begin to make the transition from child to young adult. For some of these individuals, their transition to college could be the first time they have the opportunity to be autonomous. While this transition is not unique to chronically health conditioned individuals, it is less understood. Enochs and Roland (2006) assert that, when a person is faced with having to make numerous changes simultaneously, the ability to make social connections directly impacts his or her overall adjustment. This is important to note, as chronically ill children reported having less peer contact than their healthy peers (McCarroll et al., 2009). Since these children have less peer contact as children, their social skills may not be as developed as those of their healthy peers; once they actually begin college, and their ability to form new social relationships is thus hindered. A chronic physical health condition may also affect the way a person feels about him or herself, leading to the belief that he or she does not “fit in” with peers due to his or her chronic physical health condition (McCarroll et al., 2009). All of these factors influence whether or not an individual with a chronic physical health condition will succeed throughout their life.

Health Risks

Although children with invisible conditions may not exhibit overt physical limitations, they are often limited by their condition. These children often avoid needed health maintenance in the effort to appear “normal” (Evans, 2004). This is often seen in young adults who have diabetes. Balfe (2007) found that, young people with diabetes

worried about showing their peers that they control their condition, often times partaking in risky behaviors, such as drinking alcohol, to demonstrate that they, are indeed, “normal.” These individuals felt that not drinking could threaten their identity as a regular young person (Balfe). The fear of not being seen as “normal” by their peers may strongly influence the effects a chronic physical health condition has on an individual’s social adjustment while at college. Students who have a chronic physical health condition may develop and maintain social relationships differently than their healthy peers. Understanding this potential difference is important in order to provide the most socially viable environment for students with a chronic physical health condition.

Educational Adjustment

Compared to children without health problems, children with chronic physical health conditions are twice as likely to have learning disabilities, and children with activity-limiting conditions were almost 12 times as likely (McDougall et al., 2004). Provided that the rate of learning disorders is elevated for children suffering from a chronic physical health condition, it should be expected that college students with a chronic physical health condition also experience academic challenges at a higher rate than their healthy peers. McDougall et al. found that children living with activity-limiting chronic physical health conditions were absent from school almost twice as often as their healthy peers. Absenteeism from school may greatly affect a child’s ability to succeed academically (Shiu, 2001). Additionally, Shiu found that, in all age groups, school refusal rates were significantly higher for students with chronic illness.

If college students are similarly absent from class, it should be expected that they are not as likely to succeed academically as their healthy peers. It is also important to

recognize that, for some students suffering from a chronic physical health condition, school may represent the only place where they can be viewed as a person rather than as a patient (Shiu, 2001). Understanding the impact that chronic physical health conditions have on the academic endeavors of young college students will allow universities and other institutions of higher learning to better serve those students who have a chronic physical health condition.

Current Study

The purpose of the current study was to determine the differences in social and educational adjustment to college that exist between individuals who have a chronic physical health condition and their healthy peers.

The following hypotheses were evaluated. Hypothesis One: College students who have a chronic physical condition will have a lower level of social functioning when compared to their healthy peers. Hypothesis Two: College students who have a chronic physical health condition will have a lower level of educational adjustment when compared to their healthy peers. Hypothesis Three states: Female college students who have a chronic physical health condition will endorse higher levels of the internal symptoms associated with anxiety and depression relative to males with a chronic physical health condition.

Methods

Participants

There were a total of 174 participants recruited for the current study. Since this study was designed to evaluate healthy individuals and individuals currently suffering from a chronic physical health condition (CPHC), 125 (71.8%) of the participants were healthy and 49 (28.2%) of the participants were suffering from a CPHC. The healthy participants were recruited online from undergraduate Psychology courses at Western Kentucky University through the Department of Psychology Study Board. Students recruited through the Department of Psychology Study Board that were suffering from a CPHC counted toward the chronic physical health condition group. Participants were solicited through the Department of Psychology Study Board until the quota for 100 healthy participants had been met. Those participants obtained through the Department of Psychology's Study Board were rewarded for their participation with course credit, at the discretion of their course instructor.

In order to be able to do a comparison to healthy students, a percentage of the participants recruited were presently suffering from a CPCH. The most frequently reported chronic physical health conditions were asthma, migraines, spinal disabilities, and severe allergies (such as to food). To make the CPCH comparison group, participants were recruited through the University's Department of Disability Services until the power analysis revealed a large effect size ($d = .9$) for hypothesis one and two. All participants recruited through the Department of Psychology's Study Board and the University's Department of Disability Services were over the age of 18.

Analysis of the demographic items revealed that the participants in the present study were primarily female (60.9%), with a mean age of 20.59 ($SD = 4.99$), and primarily Caucasian (96.6%), which is consistent with the demographic composition of the university at which data was collected. In addition, participants were primarily enrolled as full-time students (67.8%). Furthermore, those participants who identified as having a chronic physical health condition comprised 28.2% of the total participants. In addition the demographics data was further examined using independent t -tests and chi-square analyses based on the health status of the participants (CPHC vs. healthy). Those individuals with a CPHC significantly differed from healthy individuals in their mean age and education level as individuals with a CPHC were significantly older and had completed more years of college than healthy individuals. Table 1 provides a detailed description of the demographics based on health status.

Table 1: Means (and Standard Deviations) for the Demographics Composition of CPHC and Healthy Groups

	CPHC	Healthy	<i>t</i>	<i>p</i>
Age	23.43 (8.75)	19.29 (1.57)	-5.125	.000
Total Education	2.73 (1.38)	1.56 (0.96)	-4.918	.000
Ethnicity ¹				
Caucasian	(23%)	(62%)		
African American	(4%)	(5%)		
Asian/Pacific Islander	(2.5%)	(2%)		
Other	(0%)	(1.7%)		
Gender ²				
Female	30 (17%)	75 (43%)		
Male	17 (10%)	48 (28%)		
¹ Chi-Square = 2.795 <i>p</i> = 0.424 ² Chi-Square = 0.003 <i>p</i> = 0.959				

Design

This study was a quasi-experimental design with the grouping variables being chronic physical health condition and gender. The dependent variables were the individuals' responses to questions on the Pediatric Quality of Life Inventory (PedsQL), their responses to the demographic variables and their responses to the anxiety and depression inventories. The independent variables were the chronic physical health condition status of the individual and the length of time the individual had suffered from the chronic physical health condition.

Measures

Biographical Information. Participants were asked to provide biological information, including their gender, age, ethnicity, chronic health condition, type of chronic health condition, academic standing in college, and length of time suffering from their chronic health condition (See Appendix A). Participants were also asked to supply information regarding the visibility of their chronic physical health condition, current medications being taken, amount of money spent on medications, parental education level, average number of days absent from school, whether they live on or off campus, the relationship between themselves and with whom they live, the extracurricular organizations of which they are a member, whether or not they disclose their chronic physical health condition to others and whether or not they believe their professors and peers understand their condition.

Educational and Social Adjustment. The Pediatric Quality of Life Inventory (PedsQL) Young Adult Generic Core Scales (Varni, 1998, see Appendix B) was used to evaluate the overall quality of life, academic adjustment and social adjustment of the participants. The PedsQL is a 23-item questionnaire that measures an individual's perception of his or her functioning in the following areas in the past month: physical functioning ("It is hard for me to do sports activities or exercise"), emotional functioning ("I worry about what will happen to me"), social functioning ("I have trouble getting along with other young adults"), and educational functioning ("I have trouble keeping up with my work or studies"). The response options for all of the items on the PedsQL are as follows: *never*, *almost never*, *sometimes*, *often*, and *almost always*. The individual's response to each item is indicated by circling a number from 0 to 4, respectively. The

reliability score for generic scales of the PedsQL is high, with a Cronbach's alpha of .88. The items on the PedsQL are reversed scored, so that higher scores indicate better Health-Related Quality of Life (HRQOL).

Anxiety and Depression: The Costello-Comrey Depression and Anxiety Scales (CCDAS) (Costello and Comrey, 1967; see Appendix C) was used to evaluate the participant's level of depression and anxiety. The CCDAS is comprised of 14 questions designed to evaluate an individual's self-reported symptoms of depression and nine questions designed to evaluate an individual's self-reported symptoms of anxiety. The items on the CCDAS are scored using a 1 to 9 Likert-type rating scale with two categories of responses ranging from *absolutely* to *absolutely not* and *always* to *never*. Items 1, 6, 7, 8, 9 and 10 of the depression items and item 3 of the anxiety items are reversed scored so that higher scores indicate the individual is experiencing higher levels of anxiety and/or depression. The split half reliability for the CCADS is .90. The test-retest reliability for anxiety is .72 and .70 for depression.

Procedures

After obtaining Human Subjects Review Board approval, participants were recruited from undergraduate Psychology courses at Western Kentucky University through the Department of Psychology's online Study Board and through the Department of Disability Services. Participants were granted course credit for their participation at the discretion of their course instructors. To fulfill the desired quota of individuals who have a chronic physical health condition, the Department of Disability Services sent their students an email containing a link to the present study. There were no repercussions to the students if they chose not to participate in the study. Participants began by

completing a prescreen questionnaire to determine their eligibility for this study.

Students were not eligible if they were over the age of 25, as the PedsQL has only been validated for participants 18 to 25 years of age. Since the measures used in the current study were completely anonymous, eligible participants were considered to give consent by completing the questionnaires. Eligible participants then completed the demographics questionnaire, the PedsQL and the CCDAS. It took the participants approximately 20 minutes to complete the study.

Results

Preliminary Analysis

Arithmetic means and standard deviations were computed for the participants' responses. First, the individual responses to the demographics and the total PedsQL summed score (range: 23-81), the total PedsQL social functioning summed score (range: 0-20), and the total PedsQL academic function summed score (range: 0-22) were correlated. Cronbach's alpha was computed for the Social Functioning ($\alpha = .72$) and School Functioning ($\alpha = .75$) summed group scores as well as the Total Scale Score provided by the PedsQL ($\alpha = .88$). Cronbach's alpha was also computed for the depression ($\alpha = .57$) and anxiety ($\alpha = .70$) measures.

The responses to the demographics questions that were highly correlated with the PedsQL total, social and academic summed scores were used as covariates in subsequent analyses as a means to control for unaccounted variance. Table 2 provides a detailed summary of the covariates controlled for in subsequent analyse.

Table 2: *Correlations between Demographics Variables and the Dependent Measures*

	TP	TE	TS	TA	TD
TP	---	.73**	.72**	.41**	.47**
TE	---	---	.41**	.33**	.31**
TS	---	---	---	.27**	.35**
TA	---	---	---	---	.42**
TD	---	---	---	---	---
A	.32**	.02*	.20**	-.05	.04
G	.21**	.03	.01	.18*	.05
HS	.37**	.24**	.20**	.08	.06
V	-.22**	-.07	-.16*	-.04	-.06
LDP	-.40**	-.28**	-.23**	-.05	-.07
PU	-.36**	-.25**	-.23**	-.07	-.07
DP	-.32**	-.25**	-.20**	-.07	-.03
PRU	-.37**	-.24**	-.26**	-.11	-.03
PRE	-.37**	-.26**	-.23**	-.08	-.06
MC	.27**	.45**	.12	.10	.13
LOC	.21**	.20**	.09	.06	.01
RM	.12	.20**	-.02	-.02	-.02

**denotes significance at the .01 level

*denotes significance at the .05 level

Note: TP = Total summed PedsQL score; TE = Total educational functioning scaled score; TS = Total social functioning scaled score; TA = Total Anxiety; TD = Total Depression; A = Age; G = Gender; HS = Participant's current health status; LD = Length of diagnosis; V = How visible the participant feels his/her chronic physical health condition (CPHC) is to others; LDP = How likely the participant is to disclose their CPHC to their peers; PU = How much the participants feel their peers understand their CPHC; DP = How often participants discuss their CPHC with their professors; PRU = How understanding the participants feel their professors are of their CPHC; PRE = Whether or not participant takes prescription

medications; MC = How often participant misses class; LOC = Whether or not the participant lives on campus; RM = Whether or not participant has a roommate

Scores from the social functioning and educational function subscales of the PedsQL were summed to create a total score for overall social functioning and overall educational functioning. The five items from the social functioning subscale were combined into a single measure of total social adjustment for participants with a CPHC ($M = 8.75, SD = 2.70$) and healthy participants ($M = 7.57, SD = 2.60$). The five items utilized by the PedsQL to assess academic function were combined to create a single measure to evaluate the academic adjustment of participants with a CPHC ($M = 12.20, SD = 3.53$) and healthy participants ($M = 10.54, SD = 2.84$). The participants' responses to all the questions on the PedsQL were also summed into one total score for participants with a CPHC ($M = 51.95, SD = 11.67$) and healthy participants ($M = 43.09, SD = 9.81$).

Additionally, the participants' responses to the following demographics questions were collapsed into one group titled *social understanding*: How likely participants are to discuss their CPHC with their peers, how well they feel their peers understand their CPHC, how likely participants are to discuss their CPHC with their professors, and how well they feel their professors understand their CPHC. This summed group was created after preliminary analysis revealed that these items were significantly correlated with the dependent measures.

Hypothesis Testing

Hypothesis one stated that college students with a chronic physical health condition would have a lower level of social adjustment when compared to their healthy peers. Results of a One-Way Analysis of Covariance (ANCOVA) revealed that

individuals with a CPHC marginally differ ($M = 8.75$, $SD = 2.70$) from their healthy peers ($M = 7.57$, $SD = 2.60$) regarding their levels of social adjustment as a condition of their health status, $F(3,171) = 3.20$, $p = .07$, $d = .01$.

Hypothesis two stated that college students with a chronic physical condition would have lower levels of educational adjustment when compared to their healthy peers. Results of the factorial ANCOVA analysis revealed students with a chronic physical health condition ($M = 12.54$, $SD = 3.53$) did have lower levels of academic adjustment than their healthy peers ($M = 10.54$, $SD = 2.84$), $F(3,17) = 6.81$, $p = .01$, $d = .40$.

Hypothesis three stated that female college students with a chronic physical health condition would endorse higher levels of the internal symptoms associated with anxiety and depression relative to male participants with a chronic physical health condition. A One-Way ANCOVA revealed that women did not differ from men in their levels of anxiety, $F(1,48) = 2.06$, $p = .16$, $d = .43$ or depression, $F(1,49) = .001$, $p = .975$, $d = .000$.

Further ANCOVAs revealed that students with a chronic physical health condition also endorsed items pertaining to experiencing lower levels of overall quality of life than their healthy peers, $F(3, 162) = 14.97$, $p < .001$, $d = .87$. Table 3 provides the means and standard deviations of the previously discussed ANCOVA analyses.

Table 3: Means (and Standard Deviations) of ANCOVA Analyses

	CPHC	Healthy
Total Peds	51.95 (11.67)	43.09 (9.81)
Total Ed	12.20 (3.53)	10.54 (2.84)
Total Soc	8.75 (2.60)	7.75 (2.60)
Anxiety	29.95 (8.87)	28.60 (7.19)
Depression		
Men	52.45 (14.15)	49.50 (11.47)
Women	52.30 (12.47)	51.33 (12.04)

Further correlational analyses revealed that students with a chronic physical health condition endorse items pertaining to lower levels of overall perceived social understanding. The items that were summed to form the *social understanding* group variable were: *How likely are you to discuss your CPHC with your peers, I believe my peers understand by CPHC, How often do you discuss your CPHC with your professors, and I believe my professors understand my CPHC*. Overall, correlation analyses revealed that participants that endorsed lower levels of social understanding also reported higher levels of impairment with quality of life, educational adjustment, and social adjustment. Table 4 provides the significance level for the *social understanding* collapsed variable and the dependent variables.

Table 4: *Correlations with Overall Perceived Social Understanding*

	Social Understanding
Total PedsQL	-.38**
Total Education	-.27**
Total Social	-.23**
Health Status	-.96**

**Correlation significant at the 0.01 level (2-tailed).

Discussion

The current study evaluated the educational and social functioning in college students who suffer from a chronic physical health condition (CPHC) and those who do not have a CPHC. This study also evaluated the differences in the levels of self-reported anxiety and depression between those college students with a CPHC and those who do not have a CPHC. Lastly, this study examined the differences in the overall level of quality of life experienced by college students who suffer from a CPHC and their healthy peers. It was expected that those individuals suffering from a CPHC would endorse lower levels of social and academic function. In addition, it was expected that females with a CPHC would report increased levels of anxiety and depression in comparison to males with a CPHC.

The first hypothesis, which stated that college students who have a CPHC would have a lower level of social adjustment when compared to their healthy peers, was marginally supported. This suggests that those college students suffering from a CPHC do not experience decreased levels of social adjustment while attending college. Several explanations regarding the lack of difference in social functioning between the two groups exist. Estrada, Dupoux, and Wolman (2006) found that college students with an external locus of control have higher levels of social adjustment regardless of whether or not they meet diagnostic criteria for a learning disorder. Therefore, an individual's locus of control and not his or her health status may be more important as individuals with a CPHC progress through college. Gerdes and Mallinckrodt (1994) found that first time college students overestimate how easily they will socially transition to college. Given the findings that healthy college students overestimate their social adjustment and

subsequently have lower levels of social adjustment than they originally believed they would have. This provides another possible explanation for the results of the current study. That is, those individuals with a CPHC may experience more difficulties relating to social adjustment prior to attending college, which results in an improved ability to form social relationships. Whereas those individuals without a CPHC have a more difficult time socially adjusting to college since they have little prior experience adapting to social situations in which they are perceived as “different” or an “outsider.” This relationship would then lead individuals who have a CPHC and those who do not to be on a similar level during their initial social transition to college.

The second hypothesis, which stated that college students with a CPHC would have a lower level of educational adjustment when compared to their healthy peers, was supported. This result suggests that college students with a CPHC have more academic-related difficulties than their healthy peers. Although the present study did not evaluate the participants for Learning Disorders, given previous research conducted by McDougall et al. (2004), who assert that individuals with a CPHC are twice as likely as their healthy peers to suffer from a Learning Disorder, one possible explanation for the differences observed in the current study is that students with a CPHC may suffer from a Learning Disorder, which would increase their likelihood of having academic difficulties. Saracoglu, Minden, and Wilchesky (2001) found that college students with a Learning Disorder report significantly lower levels of self-esteem and academic adjustment than individuals without a Learning Disorder. Given previously discussed research suggesting that individuals with a CPHC are twice as likely to have a Learning Disorder as healthy individuals, perhaps their lower levels of academic adjustment are the result of a decrease

in self-esteem as a result of their academic difficulties and not as a result of their CPHC. If this assertion is accurate then institutions of higher learning may be able to increase significantly the academic adjustment experienced by college students with a CPHC.

Another possible explanation for the lower academic adjustment experienced by individuals with a CPHC is that having a CPHC interferes with one's ability to learn. McDougall et al. (2004) found that individuals with chronic health conditions are twice as likely to suffer from a Learning Disorder as their healthy peers. Additionally, Heiman and Precel (2003) found that individuals with a Learning Disorder experience more academic difficulties while attending college than students who do not have a Learning Disorder. If having a CPHC increases an individual's likelihood of suffering from a learning disorder and suffering from a Learning Disorder results in the individual having more academic difficulties than their healthy peers throughout college, then the notion that having a CPHC interferes with one's ability to learn should be an area of consideration and further study.

The third hypothesis, which stated that female college students who have a CPHC would endorse higher levels of the internal symptoms associated with anxiety and depression than males with a CPHC, was not supported. The results of the present study indicate that female college students with a CPHC do not experience more symptoms of anxiety or depression than male college students with a CPHC. Given previous research suggesting that female college students rely more on social relationships than their male counterparts (Kenny & Rice, 1995), it is noteworthy that the female students with a CPHC experience did not express an increase in anxiety as a result of the social transition to college. Furthermore, the results of the current study did not support the second

portion of this hypothesis because regardless of gender, individuals with a CPHC did not significantly differ in their levels of depression. Eberhart and Hammen (2006) found that increased symptoms of depression were predicted by poorer quality of peer relationships. Given this finding the inference can be made that because individuals with a CPHC do not experience a decrease in social functioning when compared to their healthy peers they are less likely to experience increased levels of depression. Given the previous research findings, if symptoms of depression are predicted by poorer peer relationships and those individuals with a CPHC do not experience a deficit in social functioning, then the inference can be made that the quality of peer relationships experienced by those individuals with a CPHC act as a buffer against symptoms of depression while these students attend college.

Additional analyses revealed that participants who indicated that they were suffering from a CPHC experienced lower levels of overall quality of life in comparison to their healthy peers. Because academic functioning, but not social functioning, was significantly lower in the CPHC group, one possible explanation for this finding is that academic difficulties impact these students' lives more strongly than social difficulties.

Furthermore, these results indicate that the level of social understanding from others a college student with a CPHC perceives his or herself as having should be an area of further study, as it significantly correlated with the following variables: total PedsQL summed score, total PedsQL educational functioning summed score, total PedsQL social functioning summed score and the participants' health status, which suggests that perceived social support is influential in the context of social and academic adjustment as well as overall quality of life for college students with a CPHC. Since these items are

significantly correlated with total PedsQL summed score, total PedsQL educational functioning summed score, total PedsQL social functioning summed score and the participants' health status, these results indicate that social understanding from others may play an important role for the social and academic functioning as well as the overall quality of life in students attending college who also have a CPHC as more perceived social understanding was correlated with higher quality of life and few difficulties adjusting socially and academically to college. This difference should be further examined as it may significantly impact the ways in which educational institutions aid individuals with a CPHC.

There are several practical implications to the presented findings of the current study. Researchers could utilize the results of this study as a starting point in developing empirically supported academic programs aimed at increasing the academic success for those individuals with a CPHC. Researchers could do this by looking at whether the effectiveness of the programs already available for students with a CPHC differs between traditional and non-traditional students. Researchers may also utilize these findings as a means to develop more sensitive and specific research designs to examine the academic and social functioning of college students with a CPHC. Researchers could do this by using objective measures to determine an individual's levels of academic and social functioning, such as the number of absences a student has.

Clinicians, such as those working in a university counseling center, may utilize these findings to gain an understanding of the academic difficulties experienced by their clients with a CPHC. These clinicians may also find these results helpful when designing treatment plans for their clients with a CPHC as these results provide insight into specific

aspects of quality of life, social functioning, academic functioning and psychopathology experienced by individuals with a CPHC.

The demographics information obtained in the current study indicates that college students with a CPHC are also significantly older than their healthy counterparts. Institutions of higher education may want to take an interdisciplinary approach as they develop programs to aid non-traditional students with a CPHC. Universities may approach this by encouraging departments, such as those responsible for providing tutors to students and disability services, to work together using a holistic approach in order to provide the most beneficial services to students with a CPHC. Universities could also develop an honor society with the main objective of the organization being providing services for disability services on a volunteer basis, such as note-taking or tutoring. If institutions of higher education have designed their accommodations and programs for individuals under the age of 23 (traditional students), they may be doing a disservice to their non-traditional students with a CPHC. Given this information, institutions of higher learning may find it beneficial to design the accommodations and programs they offer for students with a CPHC for students who are older than the “average” college student. Universities could do this by creating more opportunities for non-traditional students with a CPHC to earn their degrees online. Universities may also do this by providing additional off-campus services for those non-traditional students with a CPHC, such as tutoring options and study groups.

There are limitations to the current study. One limitation is that the internal consistency of the depression measure was low. Therefore, the levels of depression reported in the current study may not be methodologically sound. As such, using a more

reliable measure to assess the participants' levels of depression may have yielded different results. A second limitation is that this study utilized a relatively small sample size. Increasing the sample size by working with organizations outside of the University to recruit participants with a CPHC may have yielded different results. Another limitation is that there were significantly fewer participants with a CPHC than healthy individuals used as participants in the current study. Increasing the number of individuals in the CPHC condition may have altered the results of the current study. These findings can also not be generalized to individuals with non-physical chronic health conditions since these individuals were not the primary focus of the current study. Additionally, the quality of life measure used has only been validated on individuals between the ages of 18 and 25. However, this study demonstrates that individuals with a CPHC who attend college are typically older than their healthy peers. It should also be noted that all the measures utilized were self-report measures so using objective measures may have yielded different results. Lastly, this was a preliminary study and should be treated as such.

Future researchers may seek to increase their sample size in the CPHC by recruiting participants through various institutions of higher education. Future research should also strive to utilize a quality of life measure that has been validated for the use with individuals over the age of 25. In addition, researchers should utilize objective measures to examine the social and academic adjustment of students with a CPHC, such as the number of credits taken by students with a CPHC or the number of absences accumulated by students with a CPHC. Similarly, future research should focus on more specific aspects of the functioning of college students with a CPHC. Since the present

study is a preliminary study, the main objective was to gain a broad understanding of the factors impacting college students with a CPHC. Results from the present study demonstrate that more research needs to be conducted in the area of improving the quality of life and academic functioning for college students with a CPHC.

In conclusion, results indicate that college students with a CPHC have lower levels of academic adjustment and quality of life than their healthy peers. Researchers, clinicians and Universities should strive to improve the ways in which they seek to serve those individuals with a CPHC as a means to improve both their overall quality of life and academic adjustment to colleges.

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Appendix A
Demographics

1. **Age:** _____ Prefer not to respond
2. **Gender:** Male Female Prefer not to respond
3. **Student Status:** Part-time Full-time
4. **Ethnicity:** *circle all that apply*
- | | |
|--|--------------------|
| American Indian or Alaska Native | Asian |
| Black or African American | Hispanic or Latino |
| Native Hawaiian/Other Pacific Islander | White/Caucasian |
| Other: _____ | |
5. **What was your parent/legal guardian's annual income per year?**
- | | | | |
|---------------|----------------|---------------|---------------|
| 0-15,000 | 15,001-30,000 | 30,001-45,000 | 45,001-60,000 |
| 60,001-85,000 | 85,000-100,000 | 100,000 + | |
6. **What is your father's educational level?**
- | | |
|------------------------------|-------------------|
| Less than High School Degree | Associates Degree |
| High School Graduate | Bachelors Degree |
| Some College | Post Bachelors |
7. **What is your mother's educational level?**
- | | |
|------------------------------|-------------------|
| Less than High School Degree | Associates Degree |
| High School Graduate | Bachelors Degree |
| Some College | Post Bachelors |
8. **What is your current education level:**
- | | |
|---------------------|----------------------|
| Freshman in college | Sophomore in college |
| Junior in college | Senior in college |

College graduate

Graduate student

9. Do you have a chronic physical health condition that has been present for at least the last six months?

Yes

No (if “no” please skip to the next question)

The following is a list of possible chronic health conditions. Your health condition may not be on here. That is OK. If you have a chronic health condition, please circle “Yes” and write the medical terminology of your health condition. If you do not remember the actual name, please write in the most commonly known term associated with it.

AIDS/HIV	Allergies	Arthritis
Asthma	Back Condition	Cancer
Cerebral Palsy	Chronic Fatigue	Chronic Pain
Diabetes	Epilepsy	Fibromyalgia
Heart Condition	Hepatitis	Lupus
Lyme Disease	Migraines	Multiple Sclerosis
Muscular Dystrophy	Myasthenia Gravis	Parkinson’s Disease
Vitamin Deficiency	Visual Disability	

If so, what is the medical terminology for your health condition?

How long have you been diagnosed with your chronic physical health condition? 0-5 months 6 months-1 year 1-2 years 2-3 years

3-5 years 5-6 years 6-7 years 7-8 years 8-9 years 10 + years

How visible do you believe your chronic physical health condition is to others?

1 2 3 4 5 6 7 8 9 10

Very Visible

Not at all Visible

What makes your chronic physical health condition visible to others?

How likely are you to discuss your chronic physical health condition with your peers?

1	2	3	4	5
Very Unlikely	Somewhat Unlikely	Neutral	Somewhat Likely	Very Likely

I believe my peers understand my chronic physical health condition?

Yes	No
-----	----

How often do you discuss your chronic physical health condition with your professors?

1	2	3	4	5
Very Often	Sometimes	Neutral	Usually	Always

I believe my professors understand my chronic physical health condition?

Yes	No
-----	----

10. Do you take any prescription medications as a result of your chronic health condition? Yes No (if “no” please skip to the next question)

How much money do you typically have to spend on your prescription medications? _____

11. On average, how many classes do you miss a week? _____

12. Do you live on campus? Yes No

13. Do you have a roommate? Yes No (if “no” please skip to the next question)

What is the relationship you share with your roommate?

Family member Friend I don't really know him/her

Significant other Other:_____

14. What extracurricular activities are you a member of?

15. How many alcoholic beverages do you consume per week?

0 1-2 3-4 5-6 7-8 9-10 10+

Typically, what type of alcoholic beverage do you consume?

Beer Wine Liquor Combination

Appendix B

Pediatric Quality of Life Inventory for Young Adults

ID#

Date: _____

PedsQL™

Young Adult Quality of Life Inventory

Version 4.0

YOUNG ADULT REPORT (ages 18-25)

DIRECTIONS

On the following page is a list of things that might be a problem for you. Please tell us **how much of a problem** each one has been for you during the **past ONE month** by circling:

- 0 if it is **never** a problem
- 1 if it is **almost never** a problem
- 2 if it is **sometimes** a problem
- 3 if it is **often** a problem
- 4 if it is **almost always** a problem

There are no right or wrong answers.
If you do not understand a question, please ask for help.

In the past **ONE month**, how much of a **problem** has this been for you ...

ABOUT MY HEALTH AND ACTIVITIES (problems with...)	Never	Almo st Never	Some- times	Often	Almost Always
1. It is hard for me to walk more than one block	0	1	2	3	4
2. It is hard for me to run	0	1	2	3	4
3. It is hard for me to do sports activity or exercise	0	1	2	3	4
4. It is hard for me to lift something heavy	0	1	2	3	4
5. It is hard for me to take a bath or shower by myself	0	1	2	3	4
6. It is hard for me to do chores around the house	0	1	2	3	4
7. I hurt or feel pain	0	1	2	3	4
8. I have low energy	0	1	2	3	4

ABOUT MY FEELINGS (problems with...)	Never	Almo st Never	Some- times	Often	Almost Always
1. I feel afraid or scared	0	1	2	3	4
2. I feel sad or blue	0	1	2	3	4
3. I feel angry	0	1	2	3	4
4. I have trouble sleeping	0	1	2	3	4
5. I worry about what will happen to me	0	1	2	3	4

HOW I GET ALONG WITH OTHERS (problems with...)	Never	Almo st Never	Some- times	Often	Almost Always
1. I have trouble getting along with other young adults	0	1	2	3	4
2. Other young adults do not want to be my friend	0	1	2	3	4
3. Other young adults tease me	0	1	2	3	4
4. I cannot do things that others my age can do	0	1	2	3	4
5. It is hard to keep up with my peers	0	1	2	3	4

ABOUT MY WORK/STUDIES (problems with...)	Never	Almo st Never	Some- times	Often	Almost Always
1. It is hard to pay attention at work or school	0	1	2	3	4
2. I forget things	0	1	2	3	4

3. I have trouble keeping up with my work or studies	0	1	2	3	4
4. I miss work or school because of not feeling well	0	1	2	3	4
5. I miss work or school to go to the doctor or hospital	0	1	2	3	4

Appendix C

Costello-Comrey Depression and Anxiety Scales

I feel that life is worthwhile.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8		7	6	5	4	3	2
1								

When I wake up in the morning I expect to have a miserable day.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I wish I had never been born.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8		7	6	5	4	3	2
1								

I feel that there is more disappointment in life than satisfaction.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

I want to run away from everything.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

My future looks hopeful and promising.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

When I get up in the morning I expect to have an interesting day.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

Living is a wonderful adventure for me.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I am a happy person.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

Things have worked out well for me.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

The future looks so gloomy that I wonder if I should go on.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I feel that life is drudgery and boredom.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I feel blue and depressed.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

When I look back I think life has been good to me.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

Anxiety**I get rattled easily.**

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

When faced with excitement or unexpected situations, I become nervous and jumpy.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I am calm and not easily upset.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

When things go wrong I get nervous and upset instead of calmly thinking out a situation.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

It makes me nervous when I have to wait.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I am a tense, “high strung” person.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

I am more sensitive than most other people.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

My hand shakes when I try to do something.

Always	Almost Always	Very Frequently	Frequently	Fairly Often	Occasionally	Rarely	Almost Never	Never
9	8	7	6	5	4	3	2	1

I am a very nervous person.

Absolutely	Very Definitely	Definitely	Probably	Possibly	Probably Not	Definitely Not	Very Definitely Not	Absolutely Not
9	8	7	6	5	4	3	2	1

HSRB Approval