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The Sibling Study: How Does Having a Sibling with a Mental Disorder Affect the Lives of College Students

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Abstract

Although there are many positive outcomes of growing up with a sibling having a psychological or behavioral disorder, typical siblings can potentially experience harmful effects of managing and coping with the special demands and stresses of having a sibling with these kinds of difficulties. The college years are often a time to restructure sibling relationships. It is a time when young adults experience what it is like to be away from home for the first time, develop new groups of friends, and start new behavior patterns, attitudes, goals, and relationships that call for a more mature individual. The current study was designed to investigate psychosocial experiences of college students who have siblings with psychological and behavioral disorders as compared to college students who have typically developing siblings. A stress and coping model was used to examine cognitive appraisal, coping, and adaptational outcome. Using the data from approximately 250 students, 36 students who identified their siblings as having a psychological or developmental disorder and 36 students with typically developing siblings were identified. Analyses were conducted to test hypotheses about (a) group differences in sibling-related worries, adaptational outcome, and coping, and (b) associations among cognitive appraisal, coping and the outcome variables. This study enriches the limited research literature on the experiences of college-aged siblings with respect to their sibling-related worries and coping styles.

Introduction

In order to better understand families, researchers have shown an increasing interest in investigating sibling relationships. Relationships between siblings can be life's most influential and longest lasting relationships. Brody (1998) argued that both the prosocial and conflictual aspects of sibling relations produce experiences that, in most cases, nurture children's social, cognitive, and psychosocial development. For example, Brody (1998) argued that the naturally occurring interactions between siblings aid in the development of their conceptual and semantic capabilities. This development grows during interactions with siblings who play a variety of roles. This allows the child to learn his or her role as well as the corresponding one. In these various roles, older siblings act not only supervisors and aides, but also as teachers to their younger siblings. Thus, their younger brothers and sisters take on the complementary roles, learning as they go along. Thus, relationships between siblings function as model for later relationships.

Siegelman (2001) reports that adult siblings are more likely to report long-term benefits than shorter-term benefits. Interactions with siblings during childhood "... [are] how most people learn to deal with their peers. Further, it is likely that the behavioral strategies that worked well in dealing with peers during childhood will mature into a style of handling other relationships in adulthood" (p. 24). The current study is designed to investigate psychosocial experiences of college students who have siblings with psychological and behavioral disorders as compared to those college students who have typically developing siblings. This study focuses on how college students are affected by and, more specifically, how they cope with having a sibling with psychological or behavioral disorders. Therefore it is important to note that the general literature on

siblings of children with chronic disease also provides valuable background information for the study. The following review of the literature will focus on typical sibling relationships, sibling experiences when one sibling has a chronic illness or mental disorder, influences on sibling experiences and adaptation, and a stress and coping model for understanding sibling experiences and outcomes.

Typical Sibling Relationships

Typically, sibling relationships have great importance as a contributor to individual children's development and family harmony. For example, Lobato (1998) found that siblings can serve as educators to one another, as negotiators of parental attention and control, and as peers with which to socialize with and provide experience. Other research describes the childhood and adolescent periods as times when siblings form a companionship. During this time siblings provide emotional support to one another and assign care taking and chores amongst themselves. As they progress toward early and middle adulthood, siblings' friendship and support generally mature. They begin to care for their parents and provide emotional support and companionship for them as well. Additionally, in adulthood, siblings sometimes provide long distance support and encouragement to one another. This progression demonstrates that siblings often continue to support and care for one another over the lifespan and function as caretakers and helpers.

Studies have shown that having a sibling has been found to augment positive feelings such as competence and self-worth. Brody et al., (2003) designed a study to expand the knowledge about older siblings' contribution to their younger siblings' development through their interactions. They found that experience with academic and

social competence of an older sibling had a positive effect on the younger siblings' self-regulated behaviors. Younger siblings' self-regulation of undesirable behaviors were also positively linked to competent older siblings' high level of self-regulation. An example of this relationship was seen in older siblings that tutored their younger siblings, helped them solve problems, provided them with social support, and discouraged physical, emotional, and relational aggression.

Behaviors that are often a positive result of childhood experiences, especially in sibling relationships, are altruism, and nurturance. Generally, the idea is that challenges rooted in childhood have the ability to create a healthier, more altruistic adult with an enhanced feeling of self-worth. Additionally it may enhance social and cognitive development, especially related to learning social roles.

Sibling Experiences When One Sibling Has a Disorder

In any family, each relationship that a sibling has with another is significant in the fact that it plays an important role in each sibling's life. When this relationship is affected by a sibling's disability, chronic illness, psychopathology, or other serious condition, the benefits or development of a typical relationship may be altered. Living with a sibling with a psychological or behavioral disorder can ultimately be educating and gratifying or confusing and stressful. Children must adjust to the sibling, which can necessitate a considerable amount of family attention, time, money, and emotional support. Both positive and negative experiences have been noted in relationships where one sibling has some type of psychological or behavioral difficulty. Although there is a considerable amount of research in this area, studies investigating the well-being of young adults with these siblings have been rarer and provided inconsistent results.

Research regarding influences on sibling experiences has found that siblings and families in this category confront many common problems and challenges within the family atmosphere including care-giving burdens, tension on financial and emotional family resources, and problems regarding interaction and communication within the household. According to McHale & Gamble (1989), the lives of children with chronically disabled siblings may be negatively altered in regards to their family environment. It may be altered in that the care parents provide for a special sibling may cut into time and attention parents usually devote to other children in the family, non-disabled children may have to do more household chores and sibling care-giving, there may be increased alterations in family roles as well as feelings of rivalry towards the disabled sibling. In addition, the normal siblings may miss out on experiences outside the home.

Furthermore, Siegelman (2001) found that siblings are negatively affected by their sibling with some type of disorder in regards to the levels of responsibilities and privileges as compared to normal families. Parents may delegate many of the responsibilities to the older children who are expected to care for themselves, be more independent, and help more with care giving or household chores. These normal siblings consequently begin to worry about the future of the special needs sibling when parents can no longer take care of him or her.

William's (2002) empirical study concluded that children in families with a chronically ill or disabled brother or sister are at risk for unfavorable health and psychosocial outcomes. More specifically, young adults with siblings having a chronic illness showed increased risk in the emotional, social, and academic adjustment relative

to control siblings. Similarly, Siegelman (2001) reported similar that siblings who reported negative effects of having a child with a psychological or behavioral disorder stated that they often felt that they struggled with feelings of depression, self-worthlessness, and a lack of internal self-validation. In William's (1997) findings, the negative experiences appeared to be internalizing. The typical sibling keeps these feelings hidden due to insufficient amount of opportunities to feel special, worthwhile, important, or the center of positive attention. Therefore, the birth of a child with a psychological, developmental or behavioral disorder may have a profound effect on the family and has the potential to influence the social, psychological, and emotional development of each child. Since reactions to a sibling with a chronic illness can ultimately affect self-esteem development and adjustment in both children, it is important that the normal sibling adjust to the sibling with the illness or disorder.

There is relatively limited research on adult samples, but there is suggestion that risks for typical siblings continue across the life span. In a study done by Greenburg et al., (1995), experiences of subjective burden were analyzed in a sample of adult siblings of people with serious mental illness. Their results indicated that the typical siblings who viewed the disabled sibling's behavior as out of their control, showed lower levels of subjective burden than did those who saw the behavior as within their control. Further, Seltzer & Krauss (2000) in their extensive empirical study of family experiences found that the normal adult sibling often experiences psychological problems in adolescence. This includes psychopathology, which is sometimes, but not exclusively, attributable to the uncommon role expectations assigned to them in early childhood.

In contrast to the research and clinical literature that has emphasized potential negative psychosocial outcomes, other research positively describes families with one sibling that has a disorder. It has been hypothesized that having a child with a psychological or behavioral disorder in the family may foster a sense of responsibility and maturity. Sibling care-giving, in these cases, may provide a noteworthy means of learning parental roles and responsibilities. In McHale and Gamble's (1989) review of the literature, they found that by acting as the 'teacher' for the younger sibling with a disorder, the older sibling's intellectual development was enhanced. Many times, siblings of children with some type of psychological or behavioral disorder must put off their own desires in order to attend to the happiness of their brother or sister. Some of these siblings report satisfaction in deferring their needs to meet the needs of someone else. Similarly, Sieglman (2001) in reviewing research on siblings argues that brothers and sisters of a sibling having a disorder may benefit and grow in this way from their experiences with their sibling.

In addition to benefiting from their experiences with their sibling, care-giving roles may extend across their life course. In Krauss, Seltzer, Gordon, & Friedman (1996) study of people having children with mental retardation, it was affirmed that adult siblings' likeliness to take direct and personal responsibility in the future for their brother or sister depends on their current patterns of interaction. As they get older, adults with mental retardation often move in with their sibling or live in an apartment or group home. Research shows that almost half of adults with siblings having mental retardation were willing to take on responsibilities of care giving in the future. Additionally, Orsmond and Seltzer (2000) did a study investigating brothers and sisters of adults with mental

retardation and focused on the gendered nature of the sibling relationship. In this study, siblings completed questionnaires. The surveys measured four aspects of the sibling relationship: instrumental involvement (care giving and companionship) and affective involvement (positive affect and emotion). Then, siblings were also asked to rate the extent to which they gave 11 types of support to their brother or sister. Types of support included: financial support, dealing with service providers and agencies, running errands, direct care giving, providing transportation, and checking in on the brother or sister. They found that, in comparison to their brothers, sisters reported providing more care and companionship, and feeling more positive toward and closer to their sibling with mental retardation. Consequently, sisters are more likely to have elevated responsibilities for their sibling and function in many ways as a caregiver, even at an early age, than their brother. On a different note, the study found that higher levels of pessimism/worries about the future were strongly related to higher levels of negative feelings about the sibling relationship.

In an additional investigation identifying positive correlates, McHale, Sloan, and Simeonsson (1986) found that when children were questioned about their sibling relationship in an open-ended interview they rated the relationship positively. More specifically, the sibling relationship tended to be even more positive when there was a better knowledge of the child's condition/special needs and children perceived their parents and peers as responding in a positive way toward the sibling with a disorder. Roeyers & Mycke (1995) found a trend in their study for children with a sibling having some type of disorder to rate their relationship positively regardless of whether the sibling was autistic, mentally retarded, or normally developed. Along with rating their

relationship more positively, the normal siblings also rated their behavior towards their brother or sister more positively than children without a sibling with some type of disorder. Thus, the results revealed that having a brother or sister with a psychological or behavioral disorder did not automatically result in negative sibling relationships.

Influences on Sibling Adaptation

What accounts for these varied findings and what influences sibling risk or resiliency? Just as results are inconsistent in children's interactions and experiences when one sibling has a disorder, so are the results for influences on sibling experiences and adaptation. Clinical evidence suggests that reactions to having a sibling with a psychological or behavioral disorder varies with age and tends to change over time as the normal sibling adapts to the sibling with special needs and copes with day-to-day tasks. Williams (2002) found a relationship between the typical sibling's knowledge/attitude toward their brother or sister's illness, mood, self-esteem, and feelings of social support and the behavior of the typical sibling. For example, sibling mood was found to have a direct effect on sibling self-esteem, which consequently had a direct effect on the attitude of the sibling toward the illness. In addition, support that was felt by the sibling had a very significant direct effect on sibling self-esteem. Sibling feelings of social support were extremely affected by sibling mood and family cohesion.

Research on parents provides additional insight on potential mediators such as maternal health, age, and the child's disorder. These factors may influence family reactions and adaptation. Seltzer and Krauss (1995) studied older parents that have gone through years of care giving. They found that a decline in health tends to occur with old age and can often cause depression and problems with coping. They also found that

while aging mothers of adults with mental illness and aging mothers of adults with mental retardation used similar levels of problem-focused coping strategies, mothers in the mental illness group reported greater use of emotion-focused coping strategies. Ultimately, their study showed that this latter group of mothers had greater difficulty with depression as well as stress and coping.

The literature indicate that there the risk of developing a psychiatric disorder for individuals having siblings with some sort of psychological or behavioral disorder. These risks refer to emotional, social, behavioral, and developmental challenges. Researchers have also concluded that the roles environmental, familial, and psychosocial variables play on development are also significant. Various studies have investigated why some at risk siblings of these are able to adapt while others develop less optimal psychosocial outcomes and heightened risk for problems with coping and adaptation. Stress and coping models of adaptation suggest that siblings able to avoid pathology successfully apply a variety of coping skills that "provide the child with an edge for problem solving, a means by which to manage environmental and internal influences, and thus to, decrease his or her likelihood for pathological development" (Kinsella, 1996). The sibling literature presented shows not only the need for an improved assessment of these siblings, but also the need to predict which siblings are the most at-risk. A stress and coping model is provided to better classify the variables involved in the outcome of the sibling.

Stress and Coping Model

Stress and coping models allow researchers to predict the ways that individuals respond to the stressors in their environments. Additionally, it provides a framework in

predicting sibling outcome by organizing the variables that affect these outcomes. The classic Stress and Coping model was proposed by Lazarus and Folkman (1984) as a response to public interest in emotions and psychosomatic medicine, stress management, and stress and coping in adult life during the aging process. Lazarus and Folkman (1984) defined stress as "...a specific relationship between the person and the environment that is appraised by the person" (O'Neill, 2003). An environment could be seen by the individual as too challenging and beyond his or her resources therefore endangering the individual's well-being. Thus, this type of dynamic stress is continuously changing due to the interactions between the individual and his or her environment. Clearly, there are many background variables that can be a large part of the outcomes of the typical sibling.

Figure 1 presents a stress and coping model of sibling adjustment. It is based on the assumption that psychosocial adjustment to the stressors associated with having a sibling with some type of psychological or behavioral disorder is influenced by multiple background factors and mediated by cognitive appraisal processes and coping efforts. Each of the components of the model is described in detail below:

Background Factors Affecting Cognitive Appraisal

Biological Factors

Background factors include biological factors, person factors, sibling factors, family factors and public/cultural factors. From a biological point of view, the genetic liability for psychiatric disorders may influence a child's adjustment to the stressors of having a sibling with a disorder. An increased likeliness of depression, eating disorders, behavioral problems, anxiety, and so forth may stem at least partially from hereditary factors. Biological factors are common in families of children with psychiatric disorders

and, ideally, should be controlled for when assessing siblings' adaptation . In practice, this is seldom achieved.

Person Factors

Person factors include such things as developmental or cognitive level, chronological age, gender, cognitive maturity, the person's knowledge of the disorder of his or her sibling, and their sense of self. For example, when siblings of a child with a psychological, behavioral, or developmental disorder are unable to comprehend the disorder, their cognitive appraisal and coping efforts are influenced. Understanding of the disorder can be linked with types of worries and how they view their brother or sister, family, or self (O'Neill, 2003). Also, age of the typical sibling is a factor that affects a child's cognitive level. For example, younger siblings at lower cognitive levels commonly are less motivated to talk with their family about the sibling with the disorder due to confusion or lack of vocabulary to describe the disorder.

Sibling Factors

Sibling factors may also influence the typical child's adjustment to a sibling with psychological or behavioral difficulties. A study done by Greenberg et al., (1997) investigated these factors and noted that families that have a child in the family with a mental illness experience high levels of "subjective burden associated with worries about their ill relative's care, fear of their relative harming self or others, and feelings of stigma" (p. 1214). According to Greenburg, sibling factors include objective caregiver burden, family attributions, care giving context health and other factors. The current study focuses on this background factor of sibling factors and especially the nature, intensity, and duration of these types of sibling-related problems.

Relative age and gender may also have an effect on the typical sibling's adjustment in regards to family roles, future concerns, and feelings toward the sibling with a disorder. Research shows that younger typical siblings have more negative or rejecting emotions toward the sibling with the disorder than do older typical siblings. Research also provided evidence for the fact that children saw more concerns for the future and negative family role when the sibling with a disorder was a male as compared to a female (O'Neill, 2003).

Family Factors

Family factors have an important environmental influence on the development and adjustment of the typical sibling. Important influential family demographics include: socioeconomic status, family size and presence of extended family, resources, quality of parent-child relationships, family communication, and parental marriage satisfaction. First, caring for children with a psychological, behavioral, or developmental disorder often has substantial financial influences on the family that add stress and consequently increase the risk of problems within the family. Second, a larger family size can increase the amount of normalcy in the family environment when one sibling has a disorder, while having more extended family members can help reduce stress within the family atmosphere. Third, the amount and quality of social support within and outside of the family may influence the typical child's adjustment to their brother or sister. For example, if their parents make use of support groups, the typical siblings will quite often have more access to information about their brother or sister's disorder and will be able to use it in their interactions with that sibling. Fourth, the quality of the parent-child relationship and family communication are likely to predict sibling risk for adjustment

problems. For example, good communication within the family is apt to be useful for easing the typical siblings' concerns about their parents or their brother or sister. Finally, marriage satisfaction is a family factor that influences the adjustment of children who have siblings with a disorder. Essentially, research has concluded that adjustment to the disabled child is better for parents and siblings in families with more satisfying marriages (O'Neill, 2003).

Public/Cultural Factors

Public/cultural factors include the public's reaction to and knowledge of the psychological or behavior difficulties of the child as well as accessibility of services. Research has grown regarding children with psychological, behavioral, or developmental disorders making people more aware, however, there are still harmful or incorrect labels and depictions used by the media and in daily life Public misconceptions regarding a child's disorder can affect the adjustment of children having siblings with a psychological, behavioral, or developmental disorder. In addition, the reactions of children's' peers can be a painful experience and can affect the adjustment of typical siblings negatively. Another factor influencing a sibling's adjustment to a disabled sibling is a lack of readily accessible services. Not all communities and schools provide multiple services for families of disabled children. Currently, there has become more of an effort to provide community programs and facilities, respite care, day care, summer camp and school programs, and support groups for parents. These readily accessible services are offered in hopes to ease the problems facing families with a disabled child.

Cognitive Appraisal

Cognitive appraisal is depicted in the second column in Figure 1. This includes the person's assessment of threats (primary appraisal) and the appraisal of their own capability of coping with these threats (secondary appraisal; Lazarus & Folkman, 1984). Both types influence the way in which the individual reacts to stressors in his or her environment. *Primary appraisal* is the assessment of the potential effect of an event on an individual and can consist of irrelevant, benign-positive, and stressful evaluations. Irrelevant appraisals are those in which a stressor is believed to have no effect on the well-being of the individual. If the appraisal is benign-positive, it means that the outcome is perceived positively. Stressful appraisals include feelings of harm/loss, threat, and challenge. *Secondary appraisal* is more of an assessment process where the individual investigates possible methods to manage the stressful event., Thus, the methods an individual uses to appraise an event are thought to influence the coping process and, eventually, the individual's psychosocial adaptation to the stressor.

Coping

Lazarus and Folkman (1984) defined coping as cognitive and behavioral attempts to handle specific external and/or internal demands that are appraised as straining or surpassing the resources of the individual. Additionally, coping efforts are hypothesized to be mediators of thought, feeling, and action. These efforts are constantly changing and have the ability to either help or impede the adaptational outcomes. Cognitively and behaviorally, these changing efforts manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. Two types of coping strategies, problem focused strategies and emotion focused strategies, are used to

change the meaning of the stressful event in itself to ultimately decrease the stress. *Problem focused* strategies are aimed toward managing or changing the dilemma causing stress when the individual appraises stress as open to change. *Emotion focused* strategies are applied when the appraisal is that there is no method for modifying harmful, threatening, or challenging environmental conditions (Lazarus and Folkman, 1984).

Adaptational Outcome

The final element of the model (Figure 1), adaptational outcome, refers to the individual's overall and specific psychological, social, emotional, behavioral adjustment. It can include depression, and anxiety.

Summary

This stress and coping model may help researchers in the accuracy of their predictions and identification of siblings more at-risk for pathology, and knowledge of factors that affect normal siblings. Although thorough tests of this model are beyond the scope of the proposed study, the goal is to test some of the presumed associations among cognitive appraisal, coping efforts, and sibling outcomes.

Current Study

Although there are many positive outcomes of growing up with a sibling having a psychological or behavioral disorder, typical siblings can potentially experience harmful effects of managing and coping with the special demands and stresses of having a sibling with these kinds of difficulties. There is little empirical research on the experiences of college-aged siblings especially with respect to their worries and coping styles. The college years are often a time to restructure sibling relationships. It is a time when young adults experience what it is like to be away from home for the first time, develop new

groups of friends, and start new behavior patterns, attitudes, goals, and relationships that call for a more mature individual (Erickson, 1968, as cited by Newman, 1991). During this important time in the life of a young adult, siblings can provide a significant amount of aid and support for one another. Thus, data from college students supplies important information on sibling relationships during this period of their lives.

The current study used a quantitative approach to assess the psychosocial experiences of college students who have siblings with psychological or behavioral difficulties as compared to a matched control group of college students with typically developing siblings. The control group was matched by sex, age, and age in relation to sibling. Additionally, the following variables were explored: Cognitive appraisal (both primary and secondary), coping methods, psychosocial outcome (depression, anxiety, etc...), and quality of the sibling relationship.

There were two sets of hypotheses. The first set of hypotheses focuses on expected group differences between the control group and clinical group. In hypothesis one, the college students in the clinical group are expected to report a higher level of overall worries than the college students in the control group. Further, I hypothesized that emotion focused coping would be higher with the college students in the clinical group than those in the control group. Finally, I hypothesized that the college students' relationship quality, anxiety, and depression would not differ between the groups based on sibling status. It was unknown whether or not there would be a higher amount of problem-focused coping in the control group.

The second set of hypotheses was inclusive of only the clinical group. This set of hypotheses was also investigating whether or not the variables in the Stress and Coping

Model could predict each other. In the clinical group, it was hypothesized that there would be higher levels of perceived threat and lower expectation of their ability to cope with sibling related problems. Specifically, I predicted that, with an increase in appraisal of threat and harm and a decrease in appraisal of their ability to cope there would be an increase in emotion-focused coping. Additionally, an increase in emotion-focused coping would predict a more negative adaptational outcome (more worries, depression, and anxiety).

Method

Participants

Participants included 170 students recruited either from the Illinois Wesleyan University Psychology department subject pool or from sophomore level psychology classes. Recruitment announcements invited all students with siblings to participate, without identifying the specific focus of the study. Participants were 97.1% white males and females with ages ranging from 18 $\leq$ 22 (M = 19.23, SD = .97). The ages of target siblings ranged from 14 - 23 (M = 19.22, SD = 2.65). Postings for the subject pool invited any students with siblings to participate. Table 1 shows descriptive statistics for each group.

For this study, two subgroups of participants were selected: a clinical group and a control group. In order to be placed in the clinical group, the college students had to report that their sibling had a diagnosed problem in one of the following three areas: (a) psychological disorder (e.g., depression), (b) substance related disorder (e.g., sibling getting a DUI, frequent use of cocaine), and (c) developmental disorder (e.g., a learning disorder, autism, ADHD). Some of the students placed in the clinical group reported that

the problem was suspected rather than diagnosed but, provided concrete evidence of severe or frequent problems (e.g., was hospitalized and on medication for "suspected" depression). Of the clinical group (n= 35), 22.9% of the students reported that their sibling had drug/alcohol problems, 74.3% reported psychological disorders, and 40% reported developmental disorders. Percents sum to more than 100% because some participants reported that sibling had more than one problem.

Participants were considered potential controls if they did not report diagnosed or suspected problems in any of the six areas (psychological, drug/alcohol, developmental, school, physical health, and legal problems). Potential controls made up the greatest percentage of the 170 participating students (65.7%), but only 35 were selected as the best matches for clinical participants based on the following variables: Participants' gender, sibling gender, age of the participant, sibling age, and age in relation to sibling (e.g., younger, older). Table 1 shows the means and standard deviations within each group, showing that groups did not differ significantly on any of the matching variables.

Procedure

Participants were run in groups and data was collected by one of the researchers or a research assistant trained in study procedures. After reading and signing an informed consent form, participants independently and anonymously completed a packet of measures. Data collection was anonymous to maximize the chance that students would acknowledge sensitive information. Surveys were assembled in a random order with the exception of the demographic form being first and the overall evaluation form being last.

As participants left, they were given a debriefing form which described the purpose of the study, the interview interest sheet, and contact information in case they

had any questions about the study. In addition, it provided contact information for the university counseling center and local services so that the participant has the availability of these services for outside support.

Measures

Demographic Form. The questionnaire was constructed to acquire background on the participating college student as well has his or her sibling. The information from the questionnaire was used to identify the proper sibling sample. Participants were asked to indicate whether they suspect a sibling of having the following difficulties: drug/alcohol problems, psychological or behavioral disorder, developmental disorder, major physical/health disorder, legal problems, and/or major school difficulties. Participants with only one sibling or only one sibling diagnosed with or suspected of having a psychological or behavioral disorder were instructed to fill out the surveys on that sibling. In addition, participants that had siblings with a disorder were asked to briefly explain the nature of those difficulties and whether or not the siblings had experienced any major life difficulties. Participants without special needs siblings were instructed to choose the sibling who was closest to them in age and younger (Demographic form A), closest to them in age and older (Demographic form B), furthest from them in age and younger (Demographic from C), or furthest from them in age and older (Demographic form D). These demographic forms were randomly distributed across packets.

Sibling Worries Survey: Threat, Frequency, and Coping Form- Part 1: This measure was developed for the current study to assess a more complete picture of sibling experiences. Fifteen items were written to assess general themes covered on the SWS

and respondents were asked to respond to each item on how threatening the situation would be, how frequently it occurs (accuracy of frequency), (primary cognitive appraisal), and their self-appraisal of their ability to cope with the problem (secondary cognitive appraisal). Some item examples include sibling engages in aggressive or destructive behavior, sibling is too self-critical, and you feel inadequate in providing help and support to your sibling. This survey directly measures cognitive appraisal. Internal consistency was high for threat (alpha = .94), number of problems (alpha = .84), and coping estimate (alpha = .92).

Sibling Worries Survey: Threat, Frequency, and Coping Form- Part 2: There were five items asking them to compare themselves to other college students with siblings regarding (a) how much they worry about their sibling, (b) how many difficulties their sibling has, (c) how well they cope with sibling-related difficulties, and (d) whether or not their sibling's difficulties have interfered with their own life. Additionally, the participant was asked (e) what percent of days during the past two months they addressed a sibling-related difficulty or concern. The participants were requested to answer the items by providing the best possible estimate (0,1, or 2 with 2 being the highest) of their overall experience with their sibling.

COPE: (Carver, Scheier, & Weintraub, 1989). This 60-item measure was used to evaluate ranges of coping responses to difficult or stressful life events. This measure of coping has been used extensively in the literature on stress and coping and has excellent psychometric properties. This questionnaire required that the participant respond in regards to how they would generally act and feel when they are in situations *related to their sibling.* Based on prior research by Seltzer et al., (1995), four subscales were used

to assess emotion focused coping (behavioral disengagement, denial, focus on and venting of emotions, and mental disengagement) and four subscales used to assess problem-focused coping (active coping, planning, positive attitude, and suppression of competing activities). The means of scales in each set were used as summary means of emotion-focused coping and problem-focused coping.

The Sibling Worries Survey: This measure was taken from the Autism worries Survey (Kunce and Groh, 1998). The sibling worries survey is a 75-item measure used to identify worries detected in the clinical and research literature that are typical of siblings of children with special needs. For example, one statement states that some people worry that their brother or sister will hurt themselves. Participants were then asked to indicate on a scale how much they worry about each item. Eight new questions were added in order to be more pertinent to college students as well as to investigate worries about potential sibling hostile and disruptive behaviors (e.g., running away, legal problems, and breaking rules at home or school) (Shoenbeck, 2000). The Sibling Worries Survey yields nine subscales, all of which had acceptable to high internal consistency: social worries (alpha = .90), responsibility worries (alpha = .80), worries about the future (alpha = .77), worries about the sibling's development (alpha = .80), worries about breaking rules (alpha = .89), worries about separation (alpha = .90), worries about destructiveness or anger (alpha = .87), worries about parent resources and family functioning (alpha = . 97), and the intensity of worries (alpha = .97).

The Center for Epidemiological Studies Depression Scale (CES-D): This is a 20-item scale that asked participants to describe how frequently they experience depressive symptoms in the last week. This scale has been significantly utilized in empirical

research because of its good psychometric properties (Lewinsohn, Hoberman, & Rosenbaum, 1988).

Somatic, Cognitive, And Behavioral Anxiety Inventory (SCBAI; Leher & Woolfolk, 1982): This 36-item device measured three key factors of anxiety: behavior (social avoidance), cognition (worrying), and somatic symptoms (hyperventilation). The items were obtained from well known and commonly used anxiety measures and from clinical experience.

Results

Between Groups Comparisons

The first hypothesis set focused on differences between the control group and the clinical group. The first hypothesis predicted that the college students in the clinical group would report more sibling-related worries on the sibling worries survey than would college students in the control group. On average, students in the clinical group endorsed 36.3% of all possible worries and showed more variability in their data (M = 25.03, SD = 16.92) than did controls (M= 12.88, SD = 11.52) who endorsed, on average, 18.7% of all possible worries. Paired t-test analyses also supported this hypothesis, showing that college students in the clinical group reported significantly more worries than students in the control group, t (33) = 3.46, p = .01. Students in the clinical group also reported more intense worries than those in the clinical group t (33) = 3.88, p = .00. Table 2 shows a breakdown of the different types of worries, intensity, and total number of worries reported by each group. It also shows that significant group differences emerged on all Sibling Worries Survey subscales except separation.

The second hypothesis was that students in the clinical group would report using more emotion-focused coping strategies than the control group. *T*-test analyses did not support this hypothesis. No significant differences were found in emotion-focused coping styles between the two groups, $t\,(33) = 1.17, p = .25$, or problem-focused coping, $t\,(33) = -.33, p = .74$. See Table 3 for means and standard deviations.

Contrary to expectations that college students' anxiety and depression would not differ between the groups based on sibling status, some differences did emerge. *T*-test analyses showed that there was a significant difference between the two groups regarding general anxiety, $t\,(33) = 2.27, p < .03$, with students in the clinical group scoring higher on the SCBAI than the controls. Levels of depression, measured with the CESD, did not differ between the groups as was expected. See Table 3 for means and standard deviations.

Within Groups Analyses- Clinical Group

The second set of hypotheses was inclusive of only the clinical group and aimed to investigate whether or not the variables in a Stress and Coping Model could predict each other. A correlational matrix in Table 4 presents correlation coefficients for associations among problems, cognitive appraisal, coping, and psychosocial outcome measures. As hypothesized, the number of sibling-related problems predicted decreases in the students' appraisal in their ability to cope; however, the number of sibling-related problems did not predict the primary appraisal of threat. Second, contrary to the hypothesis, cognitive appraisal did not predict more emotion-focused coping. Finally, it was hypothesized that an increase in emotion-focused coping would predict negative psychosocial outcomes such as more worries, depression, and anxiety. The results

showed that an increase of emotion-focused coping could significantly predict worries, depression, and anxiety.

Exploratory Analyses

When asked to give a percent of the amount of sibling difficulty or concern within the last two months, the results showed a significant difference between the two groups $t\,(30) = 2.34, p < .05$, with the clinical group reported more contact days with their sibling than the control group. Overall, for college students, the mean percent of the amount of sibling concern within the last two months (M = 15.29, SD = 36.44) showed that they did not have an extreme amount of sibling difficulty, however there was a lot of variability in this data.

Discussion

The purpose of this study was to enrich the limited research literature on the experience of college-aged siblings with respect to their sibling-related worries and coping styles. This study used a stress and coping model in order to better understand the relationships between appraisal, coping, and the adaptational outcome in college students with siblings who have psychological, substance abuse, or developmental disorders. Analyses were conducted to test hypotheses about (a) group differences in sibling- related worries, coping, and adaptational outcome, and (b) associations among sibling factors, cognitive appraisal, coping, and psychosocial outcome.

The first hypothesis set focused only on the group differences between college students who did and did not have a sibling with a disorder. In line with hypotheses, college students that have a sibling with a psychological, developmental, or behavioral disorder experienced both a higher number and a higher intensity of worries than age and

gender matched college students with typically developing siblings. College students with diagnosed siblings worried with significantly greater intensity about the following types of worries : (a) worries about social situations including fears that others will tease or criticize, (b) worries that they will have heightened responsibility for their sibling, (d) worries about their sibling breaking social, legal, or home rules, (e) worries about their sibling's ability to care for themselves in the future, or about taking care of the sibling in the future themselves, (f) worries about a mixed group of habits and problems that the sibling may have, (g) worries about their sibling acting out in anger or causing destruction, and (h) worries about not getting enough love, attention, time, or money due to having a sibling with a disorder. Separation, or worrying about being away from a sibling proved not to be specific to the clinical group but to be a general trend among college students with siblings. Additionally, groups did not differ in perceived threat or a negative expectation of their ability to cope in stressful sibling-related situations. We found that, contrary to the hypothesis, while depression did not differ among the groups, anxiety did and was higher for the clinical group.

The second major question of the study was whether a stress and coping model, such as the one presented in the introduction, could be used to assist researchers and clinicians in better understanding risk factors and contextual variables and identifying individuals at-risk for poor psychosocial outcomes.

For students who report having a sibling with a diagnosed psychological, substance abuse, or developmental disorder, the model predicts that the number of sibling problems (a background factor) will be associated with students' primary and secondary cognitive appraisal. Results showed that college students who reported more sibling

problems did have a lower expectation of their ability to cope. This suggests that college students with more sibling-related problems have less confidence in their ability to cope with everyday sibling-related problems. In contrast, the number of problems did not predict the student's perceived threat. Second, the model predicts that an increase in appraisal of threat and a decrease in appraisal of one's ability to cope, will lead to increases in emotion-focused coping and, perhaps, decreases in problem-focused coping. Surprisingly, cognitive appraisal did not predict either emotion- or problem-focused coping strategies used by the students. Finally, based on prior research showing significant correlations between emotion-focused but not problem-focused coping and depression, it was expected that an increase in emotion-focused coping would predict more negative adaptational outcome (more worries, depression, and anxiety). This hypothesis was supported. Overall, students with more sibling-related problems reported using more emotion-focused coping strategies and were the students who also had more worries, depression, and anxiety.

In summary, the model as set up, received only partial support. The results of the study show that having a brother or sister with a disorder does influence the sibling experience. Sibling-related problems did predict secondary, but not primary appraisal. Cognitive appraisal did not predict coping strategies used. Lastly, coping efforts did predict psychosocial outcome. Sibling-related problems, coping appraisal, and emotion-focused coping efforts did all predict psychosocial outcome, but the pathways by which they do so are still unknown.

That is, students who had a sibling with disorder, those who had siblings with more problems, lower confidence in their ability to cope, and higher levels of emotion-focused coping also reported more specific worries, depression, and anxiety. With these findings, overall the factors influence the adaptational outcome. However, this is correlational data and no conclusions about causations can be formed. That is, the factors could be associated with one another in reverse (e.g., an increase in depression and anxiety could increase the use of emotion-focused coping). Further, a third variable such as the known genetic risk for psychiatric disorders in families, may account for some of the observed associations.

Regardless of the questions remaining about the reasons for observed associations, there are some clinical implications of this research. The results indicate that the students most likely to need help are those using high levels of emotion-focused coping strategies since they are the ones who had more worries, depression, and anxiety. A positive result of this study could be to start a support group for students that have a sibling with a disorder in order to decrease their amount of worries, guide them towards more active coping strategies, and help them cope in order to prevent or decrease depression and anxiety.

Conclusion

This study attempted to look at the differences between college students with and without a sibling diagnosed with a psychological, substance abuse, or developmental disorder. First, one of this study's strengths was that there were no significant differences between gender, age, and age in relation to sibling between the two groups. This was done by very careful matching on these variables. Second, this study was able to get a

broad sense of the worries of college students and the types of problems their siblings can have. Third, this study took advantage of the Stress and Coping model in order to better understand what predicts more negative outcomes in college students that have a sibling with a disorder.

While there are many strengths of this study, there are also some weaknesses. The first limitation comes from the homogeneity of the sample. All of the college students that participated were from Illinois Wesleyan University. Most were Caucasian and, in the clinical group, female college students that had a brother with a disability. What this implies is that this sample is not representative of college students in general, and thus, cannot be generalized to all college students. The second limitation, is that there was heterogeneity in psychological disorders. This could be a limitation because we cannot assume that our findings hold for all sibling situations. We did not have a large enough in our sample to study these differences. Third, the fact that the potential effects of parents or the myriad of other potential factors on psychosocial outcome were not accounted for in the study. Future studies should examine the role of the parents in the lives of the students and their sibling relationship as well as genetic liability for pathology. Also, we were unable to locate a measure of cognitive appraisal that was appropriate for sibling relationships. The measure that was made up for this study, while it did have high internal reliability, does not have any other substantiation regarding its validity. Refining this measure would be very useful for future studies. Finally, while there were 170 total participants, only 35 pairs were able to be matched. Hypotheses that were not support might receive support with a larger sample size because a small sample size does not give us the ability to generalize to the larger population.

College students who have siblings with a psychological, substance abuse, or developmental disorder face many challenges and deal with many different kinds of worries about their sibling. This study was an attempt to discover what factors influence these worries and potential negative psychosocial. The current study focused on negative outcomes such as depression, anxiety, worries, threat, and emotion-focused coping. It may be interesting to study the more positive correlates, especially with regard to IWU students on self-regulation, altruism, self-worth, and enhancement of cognitive development.

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Table 1

Descriptive Data for Clinical Participants and Matched Controls

	Clinical	Control
	M (SD)	M (SD)
Ages		
Participant's age	19.23 (18-22)	18.94 (18-21)
Sibling's age	19.23 (14-23)	18.94 (13-23)
Gender Matches (Participant: Sibling)		
M:M	7	7
M:F	7	7
F:F	7	7
F:M	14	14
Ethnic Groups		
Caucasian	34	31
Asian American	--	1
Other	1	1
Number of Siblings		
1	46%	54%
2	34%	37%
>2	20%	9%

Table 2
Means and Standard Deviations of Sibling Worries Subscales

	Clinical	Control	*t*
	M (SD)	M (SD)	
Sibling Worries			
Total Intensity	.63 (.53)	.24 (.24)	3.88**
Total Worries	25.03 (16.92)	12.88 (11.52)	3.46*
Social	.43 (.60)	.17 (.23)	2.27*
Responsibility	.72 (.67)	.30 (.31)	3.70**
Separation	.84 (.84)	.57 (.66)	1.76
Rules	.76 (.84)	.18 (.36)	3.54**
Future	.91 (.77)	.28 (.37)	3.96**
Habit	.65 (.55)	.20 (.28)	4.17**
Anger	.58 (.63)	.17 (.24)	3.22**
Family	.49 (.58)	.18 (.22)	2.95**

Note: Scales ranged from 0-3 with higher scores indicating a higher intensity of worries.

*Significant at the .05 level
**Significant at the .01 level

Table 3
Means and Standard Deviations of Measures of Cognitive Appraisal, Coping, and Psychosocial Outcome

	Clinical	Control	*t*
	M (SD)	M (SD)	
Cognitive Appraisal			
Threat (Primary)	1.08 (.56)	.78 (.58)	1.87 +
Coping (Secondary)	1.77 (.55)	2.03 (.81)	-1.59
Coping			
Emotion-focused	7.43 (1.77)	6.94 (1.58)	1.17
Problem-focused	9.59 (2.44)	9.76 (1.98)	-.33
Depression	.98 (.61)	.80 (.45)	1.55
Anxiety	2.84 (1.38)	2.22 (1.16)	2.27*

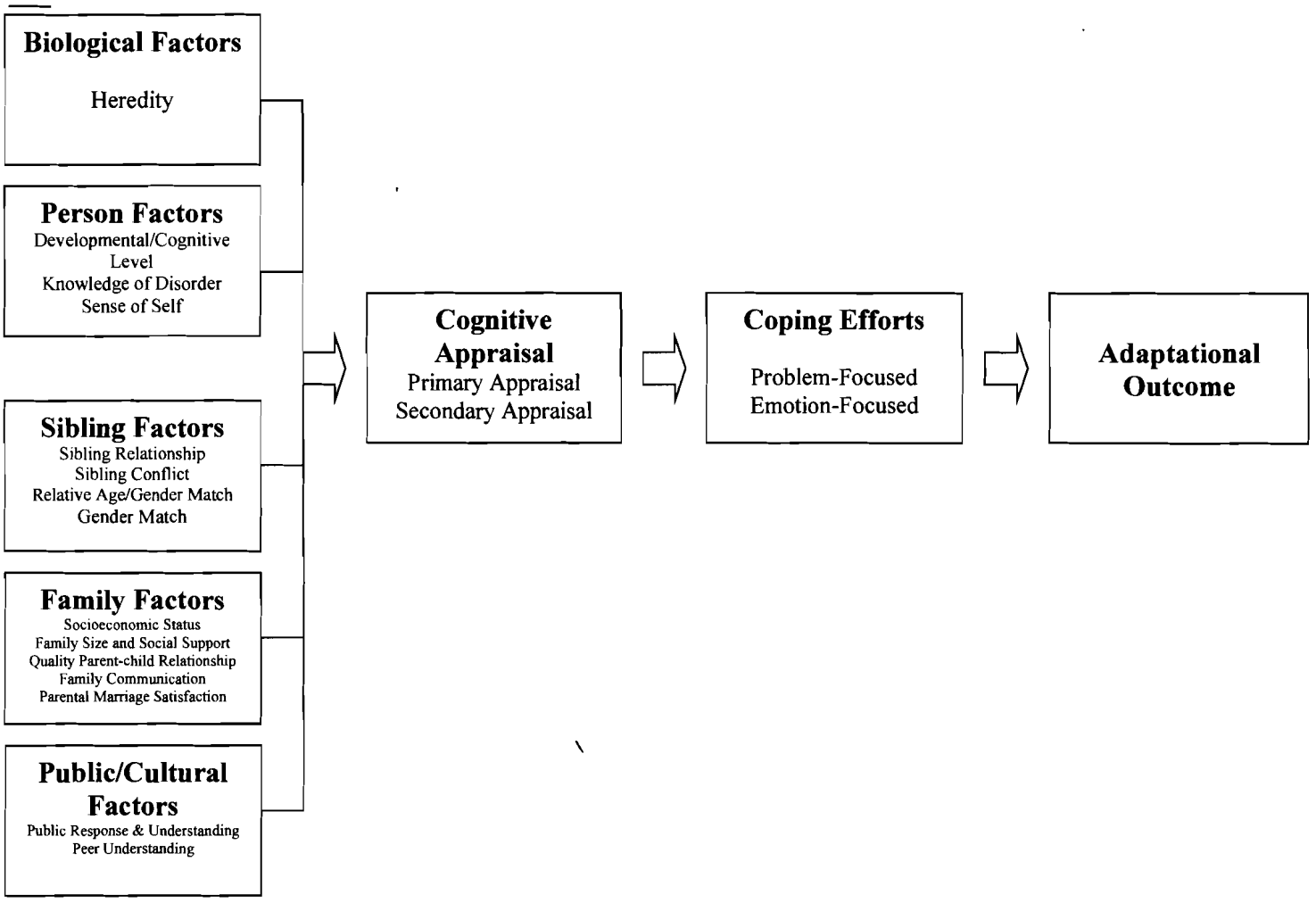
Note: Scales range from 0-4 for depression and 1-8 for anxiety with higher scores indicate more depression and anxiety.

+Indicates a trend in the data
*Significant at the .05 level
**Significant at the .01 level

le 2
relations for College Students with Siblings in the Clinical Group

	Background	Primary Appraisal	Secondary Appraisal	Coping		Adaptational Outcome		
	No. of problems	Threat	Coping	Emotion focused	Problem focused	Worries	Depression	Anxiety
kground No. of problems	--							
ary Appraisal Threat	.18	--						
ondary Appraisal Coping	-.41*	-.50	--					
ing Emotion-Focused	-.42*	.22	-.09	--				
Problem-Focused	-.36*	-.05	.27	.14	--			
aptational Outcome Worries	.68**	.35*	-.52**	.42*	-.11	--		
Depression	.35*	.19	-.21	.66**	.04	.42*	--	
Anxiety	.41*	.17	-.24	.50**	-.03	.48**	.74**	--

Figure 1. A stress and coping model of typical children's adjustment to having a sibling with a psychological, behavioral, or developmental disorder.



Demographic Form (A)

Today's Date_____

Background Information

1. Your gender: [ ] Male [ ] Female

2. Your age: _____

3. Your ethnicity: _____

4. How many siblings do you have, including half- and step-siblings:_____
   What are their ages?_____

Sibling Information

1. Do you have a sibling(s) with any of the following problems? ***(Check ALL that apply)***

YES	MAYBE*	NO	
[ ]	[ ]	[ ]	Drug/Alcohol Problems (drug dependence, DWI's, alcohol abuse, etc.)
[ ]	[ ]	[ ]	Psychological or Behavioral Disorder (major depression, eating disorder, anxiety disorder, schizophrenia, ADHD, etc.)
[ ]	[ ]	[ ]	Developmental Disorder (learning disability, autism, mental retardation, etc.)
[ ]	[ ]	[ ]	Major Physical/Health Disorder (paraplegic, diabetes, asthma, etc.)
[ ]	[ ]	[ ]	Legal Problems (shoplifting, arrests, etc.)
[ ]	[ ]	[ ]	Major School Difficulties (suspension, expulsion, repeating a grade, etc.)

*Please check the middle box if problems are suspected, but not diagnosed or confirmed.

2. Pick a sibling to write about for this survey packet, by deciding which of the following situations applies to you:

Situation #1: If you answered NO to all of the items in Question #1, *pick the sibling who is closest from you in age and younger.*

Situation #2: If you answered YES or MAYBE on Question # 1 for ONLY ONE sibling, *pick that sibling.*

Situation #3: If you answered YES or MAYBE on Question #1 for MORE THAN ONE sibling, and ONE of those siblings has diagnosed psychological, behavioral, or developmental disorder, *write about that sibling.* If you have more than one sibling with a diagnosed disorder, *pick the sibling closest to you in age.*

Situation #4: If you answered YES or MAYBE on Question #1 for MORE THAN ONE sibling, and ONE of those siblings has a suspected psychological, behavioral, or developmental disorder, *write about that sibling.* If you have more than one sibling with a suspected disorder, *pick the sibling closest to you in age.*

Situation #5: If you answered YES or MAYBE on Question #1 for MORE THAN ONE Sibling, but NONE have diagnosed or suspected psychological, behavioral, or developmental disorders, *pick the sibling closest to you in age.*

Which situation applies to you?

[ ]Situation #1 [ ]Situation #2 [ ]Situation #3 [ ]Situation #4]Situation #5

Not sure? Special situation? Ask the research assistant for guidance.

3. For the sibling that you picked please fill out the following:

a. Sibling's age:_____

b. Sibling's gender: [ ] Male [ ] Female

c. Sibling is: [ ] Full [ ] Half [ ] Step [ ] Other_____

d. How much time did you spend in the same household as this sibling when you were growing up? Explain.

_____

_____

e. For each of items in Question #1 that you answered YES or MAYBE for this sibling, briefly explain the nature of his/her difficulties below. (If you answered NO to all items on Question #1, skip to f.)

Drug/Alcohol Problems. Explain: _____

_____

Psychological or Behavioral Disorder (*Be sure to mention diagnoses if known*). Explain: _____

_____

Developmental Disorder *(Be sure to mention diagnoses if known)*. Explain: _____

_____

_____

Major Physical/ Health Disorder. Explain: _____

_____

Legal Problems. Explain: _____

_____

Major School Difficulties. Explain: _____

_____

f. Has this sibling experienced any major life difficulties (e.g., abusive relationships, death of a close relative, etc.) besides those mentioned in Question #1 and/or described above?

[ ] Yes [ ] No

If yes, briefly describe _____

COPE-60

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel, when you experience stressful events related to your sibling. Obviously, different events bring out somewhat different responses, *but think about what you usually do when you encounter stressful situations with your brother or sister.*

Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU—not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event. Use the response choices listed below:

1 = I usually don't do this at all
2 = I usually do this a little bit
3 = I usually do this a medium amount
4 = I usually do this a lot

Remember to answer with regard to how you generally act and feel when you encounter stressful situations <u>related to your sibling.</u>

	I usually don't do this at all.	I usually do this a little bit.	I usually do this a medium amount.	I usually do this a lot.
1. I try to grow as a person as a result of the experience.	1	2	3	4
2. I turn to work or other substitute activities to take my mind off things.	1	2	3	4
3. I get upset and let my emotions out.	1	2	3	4
4. I try to get advice from someone about what to do.	1	2	3	4
5. I concentrate my efforts on doing something about it.	1	2	3	4
6. I say to myself "this isn't real".	1	2	3	4
7. I put my trust in God.	1	2	3	4
8. I laugh about the situation.	1	2	3	4
9. I admit to myself that I can't deal with it and quit tryingng.	1	2	3	4
10. I restrain myself from doing anything too quickly.	1	2	3	4

Remember to answer with regard to how you generally act and feel when you encounter stressful situations <u>related to your sibling.</u>

	I usually don't do this at all.	I usually do this a little bit.	I usually do this a medium amount.	I usually do this a lot.
11. I discuss my feelings with someone.	1	2	3	4
12. I use alcohol or drugs to make myself feel better.	1	2	3	4
13. I get used to the idea that it happened.	1	2	3	4
14. I talk to someone to find out more about the situation.	1	2	3	4
15. I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
16. I daydream about things other than this.	1	2	3	4
17. I get upset, and am really aware of it.	1	2	3	4
18. I seek God's help.	1	2	3	4
19. I make a plan of action.	1	2	3	4
20. I make jokes about it.	1	2	3	4
21. I accept that it has happened and can't be changed.	1	2	3	4
22. I hold off doing anything about it until the situation permits.	1	2	3	4
23. I try to get emotional support from friends or relatives	1	2	3	4
24. I just give up trying to reach my goal.	1	2	3	4
25. I take additional action to try to get rid of the problem.	1	2	3	4
26. I try to lose myself for awhile by drinking alcohol or or taking drugs.	1	2	3	4
27. I refuse to believe that it has happened.	1	2	3	4
28. I let my feelings out.	1	2	3	4
29. I try to see it in a positive light, to make it seem more positive.	1	2	3	4
30. I talk to someone who could do something concrete about the problem.	1	2	3	4
31. I sleep more than usual.	1	2	3	4
32. I try to come up with a strategy about what to do.	1	2	3	4
33. I focus on dealing with this problem, and if necessary, let other things slide.	1	2	3	4
34. I get sympathy and understanding from someone.	1	2	3	4
35. I drink alcohol or take drugs, in order to think about it less.	1	2	3	4

Remember to answer with regard to how you generally act and feel when you encounter stressful situations <u>related to your sibling.</u>

	I usually don't do this at all.	I usually do this a little bit.	I usually do this a medium amount.	I usually do this a lot.
36. I kid around about it.	1	2	3	4
37. I give up the attempt to get what I want.	1	2	3	4
38. I look for something good in what is happening.	1	2	3	4
39. I think about how I might best handle the problem.	1	2	3	4
40. I pretend that it hasn't really happened.	1	2	3	4
41. I make sure not to make matters worse by acting too quickly.	1	2	3	4
42. I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
43. I go to the movies or watch TV, to think about it less.	1	2	3	4
44. I accept the reality of the fact that it happened.	1	2	3	4
45. I ask people who have had similar experiences what they did.	1	2	3	4
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot.	1	2	3	4
47. I take direct action to get around the problem.	1	2	3	4
48. I try to find comfort in my religion.	1	2	3	4
49. I force myself to waif for the right time to do something.	1	2	3	4
50. I make fun of the situation.	1	2	3	4
51. I reduce the amount of effort I'm putting into solving the problem.	1	2	3	4
52. I talk to someone about how I feel.	1	2	3	4
53. I use alcohol or drugs to help me get through it.	1	2	3	4
54. I learn to live with it.	1	2	3	4
55. I put aside other activities in order to concentrate on this.	1	2	3	4
56. I think hard about what steps to take.	1	2	3	4
57. I act as though it hasn't even happened.	1	2	3	4
58. I do what has to be done, one step at a time.	1	2	3	4
59. I learn something from the experience.	1	2	3	4
60. I pray more than usual.	1	2	3	4

SCBAI

Please circle the number that indicates how you feel for each item. *For example*, if you feel happy often, but not all the time, put:

I feel happy.

0 1 2 3 4 5 (6) 7 8
Never Extremely often

1. My throat gets dry.

0 1 2 3 4 5 6 7 8
Never Extremely often

2. I have difficulty in swallowing.

0 1 2 3 4 5 6 7 8
Never Extremely often

3. I try to avoid starting conversations.

0 1 2 3 4 5 6 7 8
Never Extremely often

4. My heart pounds.

0 1 2 3 4 5 6 7 8
Never Extremely often

5. I picture some future misfortune.

0 1 2 3 4 5 6 7 8
Never Extremely often

6. I avoid talking to people in authority (my boss, policemen).

0 1 2 3 4 5 6 7 8
Never Extremely often

7. My limbs tremble.

0 1 2 3 4 5 6 7 8
Never Extremely often

8. I can't get some thought out of my mind.

0 1 2 3 4 5 6 7 8
Never Extremely often

9. I avoid going into a room by myself where people are already gathered and talking.

0 1 2 3 4 5 6 7 8
Never Extremely often

10. My stomach hurts.

0 1 2 3 4 5 6 7 8
Never Extremely often

11. I dwell on mistakes that I have make.

0 1 2 3 4 5 6 7 8
Never Extremely often

12. I avoid new or unfamiliar situations.

0 1 2 3 4 5 6 7 8
Never Extremely often

13. My neck feels tight.

0 1 2 3 4 5 6 7 8
Never Extremely often

14. I feel dizzy.

0 1 2 3 4 5 6 7 8
Never Extremely often

15. I think about possible misfortunes to my loved ones.

0 1 2 3 4 5 6 7 8
Never Extremely often

16. I cannot concentrate at a task or job without irrelevant thoughts intruding.

0 1 2 3 4 5 6 7 8
Never Extremely often

17. I pass by school friends, or people I know but have not seen me for a long time, unless they speak to me first.

0 1 2 3 4 5 6 7 8
Never Extremely often

(continued...)

18. I breathe rapidly.

0 1 2 3 4 5 6 7 8
Never Extremely often

19. I keep busy to avoid uncomfortable thoughts.

0 1 2 3 4 5 6 7 8
Never Extremely often

20. I can't catch my breath.

0 1 2 3 4 5 6 7 8
Never Extremely often

21. I can't get some pictures or images out of my mind.

0 1 2 3 4 5 6 7 8
Never Extremely often

22. I try to avoid social gatherings.

0 1 2 3 4 5 6 7 8
Never Extremely often

23. My arms or legs feel stiff.

0 1 2 3 4 5 6 7 8
Never Extremely often

24. I imagine myself appearing foolish with a person whose opinion of me is important.

0 1 2 3 4 5 6 7 8
Never Extremely often

25. I find myself staying home rather than involving myself in activities outside.

0 1 2 3 4 5 6 7 8
Never Extremely often

26. I prefer to avoid making specific plans for self-improvement.

0 1 2 3 4 5 6 7 8
Never Extremely often

27. I am concerned that others might not think well of me.

0 1 2 3 4 5 6 7 8
Never Extremely often

28. I try to avoid challenging jobs.

0 1 2 3 4 5 6 7 8
Never Extremely often

29. My muscles twitch or jump.

0 1 2 3 4 5 6 7 8
Never Extremely often

30. I experience a tingling sensation somewhere in my body.

0 1 2 3 4 5 6 7 8
Never Extremely often

31. My arms or legs feel weak.

0 1 2 3 4 5 6 7 8
Never Extremely often

32. I have to be careful not to let my real feelings show.

0 1 2 3 4 5 6 7 8
Never Extremely often

33. I experience muscular aches and pains.

0 1 2 3 4 5 6 7 8
Never Extremely often

34. I feel numbness in my face, limbs, or tongue.

0 1 2 3 4 5 6 7 8
Never Extremely often

35. I experience chest pains.

0 1 2 3 4 5 6 7 8
Never Extremely often

36. I have an uneasy feeling.

0 1 2 3 4 5 6 7 8
Never Extremely often

SWS: Threat, Frequency & Coping Form

General Directions: Below you will find a list of general concerns that college students may have with respect to their siblings. Please think about each situation carefully and indicate (1) How much you worry about this situation; (2) How accurately or "truly" this situation describes your sibling, self or family; and (3) How well you think you could cope with or "handle" the situation. Use the following scales:

Threat: *Whether or not it occurs for you, how threatening do you believe this situation is?*
0 = Not at all Threatening **1 = Somewhat or Sometimes Threatening** **2 = Very or Often Threatening**

Accuracy: *How accurately or "truly" does this situation describe your sibling, yourself, or your family during the last year?*
0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

Coping: *In general, how well do you think you could cope with this situation and your reactions to it? I.e., how successfully could you handle or "deal with" this situation?*
0 = Not at all Successful **1 = Somewhat or Sometimes Successful** **2 = Very or Often Successful**
Note: Circle **N/A** for "coping success" if you cannot imagine this situation describing your sibling, self or family.

Sibling-Related Situation	How Threatening?	How True?	Coping Success?
1. Sibling Engages in Illegal Behavior or Other Serious Rule Violations	0 1 2	0 1 2	0 1 2 NA
2. Parent(s) Treat You and Your Sibling Unequally (attention, time, love, money…)	0 1 2	0 1 2	0 1 2 NA
3. Sibling Engages in Aggressive or Destructive Behavior	0 1 2	0 1 2	0 1 2 NA
4. Sibling Difficulties Interfere with Your Own Life (e.g., relationships, focus at school, time…)	0 1 2	0 1 2	0 1 2 NA
5. Sibling Has Difficulty Maintaining Healthy Social Relationships	0 1 2	0 1 2	0 1 2 NA
6. Sibling is Too Self-Critical	0 1 2	0 1 2	0 1 2 NA
7. Sibling Fails to Handle His or Her Own Responsibilities	0 1 2	0 1 2	0 1 2 NA

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Accuracy: *How accurately or "truly" does this situation describe your sibling, yourself, or your family during the last year?*
0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

Coping: *In general, how well do you think you could cope with this situation and your reactions to it? I.e., how successfully could you handle or "deal with" this situation?*
0 = Not at all Successful **1 = Somewhat or Sometimes Successful** **2 = Very or Often Successful**
Note: Circle **N/A** for "coping success" if you cannot imagine this situation describing your sibling, self or family.

Sibling-Related Situation	How Threatening?	How True?	Coping Success?
8. Sibling Actions Place Him/Herself or Others in Danger (intentionally or unintentionally)	0 1 2	0 1 2	0 1 2 NA
9. Sibling Engages in Unhealthy Behaviors	0 1 2	0 1 2	0 1 2 NA
10. Sibling Difficulties Cause Family Problems (e.g., conflict ,communication problems)	0 1 2	0 1 2	0 1 2 NA
11. You Feel Inadequate in Providing Help and Support to Your Sibling	0 1 2	0 1 2	0 1 2 NA
12. Sibling Gets Frustrated or Gives Up Too Easily	0 1 2	0 1 2	0 1 2 NA
13. Others Tease, Ridicule, or Harshly Judge Sibling	0 1 2	0 1 2	0 1 2 NA
14. You Feel Embarrassed or Ashamed of Your Sibling	0 1 2	0 1 2	0 1 2 NA
15. You Take On Responsibilities in Regards to Your Sibling	0 1 2	0 1 2	0 1 2 NA
16. Sibling is Too Angry or Oppositional With Authority Figures	0 1 2	0 1 2	0 1 2 NA
17. You and Your Sibling Are Growing Apart	0 1 2	0 1 2	0 1 2 NA
18. Please write in any major sibling-related difficulties or concerns not listed above: _____	0 1 2	0 1 2	0 1 2
_____	0 1 2	0 1 2	0 1 2

CES-D

For the following statements, choose the letter for each statement which best describes how often your felt this way DURING THE PAST WEEK. Darken the corresponding circle on the score sheet.

DURING THE PAST WEEK:		Rarely or none of the time	Some or a little of the time	Occasionally or a moderate amount of time	Most or all of the time
1.	I was bothered by things that usually don't bother me.	0	1	2	3
2.	I did not feel like eating; my appetite was poor.	0	1	2	3
3.	I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4.	I felt that I was just as good as other people.	0	1	2	3
5.	I had trouble keeping my mind on what I was doing.	0	1	2	3
6.	I felt depressed.	0	1	2	3
7.	I felt that everything I did was an effort.	0	1	2	3
8.	I felt hopeful about the future.	0	1	2	3
9.	I thought life had been a failure.	0	1	2	3
10.	I felt fearful.	0	1	2	3
11.	My sleep was restless.	0	1	2	3
12.	I was happy.	0	1	2	3
13.	I talked less than usual.	0	1	2	3
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

Overall Evaluation Form

Directions: Answer the following items by providing the best possible estimate of your overall experience. *Continue to respond with regard to the same sibling.*

1. In comparison to other college students your age that have siblings, how much do you *worry* about your sibling?

-3	-2	-1	0	1	2	3
Much less than average	**Less than average**	**A little less than average**	**About Average**	**A little more than average**	**More than average**	**Much more than average**

2. In comparison to other individuals his or her age, how many *difficulties* does your sibling have? (regardless of type of difficulty, such as behavioral, emotional, school, social, physical....)

-3	-2	-1	0	1	2	3
Much less than average	**Less than average**	**A little less than average**	**About Average**	**A little more than average**	**More than average**	**Much more than average**

3. In comparison to other college students that have siblings, how well do *you cope* with sibling-related difficulties?

-3	-2	-1	0	1	2	3
Much worse than average	**Worse than average**	**A little worse than average**	**About Average**	**A little better than average**	**Better than average**	**Much Better than average**

4. In comparison to the experiences of other college students that have siblings, how strongly do you think your sibling's difficulties or problems have *interfered* with your *own* life?

-3	-2	-1	0	1	2	3
Much less than average	**Less than average**	**A little less than average**	**About Average**	**A little more than average**	**More than average**	**Much more than average**

5. *During the past two months,* on about what *percent* of days did you encounter, think about, or address a sibling-related difficulty or concern?

_____ %

Note: Write your answer as a percent anywhere between 0 and 100%. For example, if you encountered sibling-related difficulties on about ½ of the days during the past two months, you would write 50%. If you encountered these difficulties daily, you would write 100%, if never 0%.

6. Overall, how *honest and accurate* were you in responding to the questionnaires in this study?
   - [1] Very accurate (both honest and careful in responding)
   - [2] Mostly accurate (e.g., may have responded to quickly or superficially to a few items)
   - [3] Somewhat inaccurate (e.g., didn't read some items, mis-represented my experiences)
   - [4] Very inaccurate (e.g., I didn't take items seriously, didn't read items)