Support Substitution and Provision of Sibling Support:

The Role of Obligation and Resentment on Student's Mental Health

by

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ABSTRACT

Older children are expected to serve as support substitutes when parents are not able to adequately provide the support needed to their younger siblings. This exchange of resources may influence the individual who is serving as a substitute to experience feelings of obligation and resentment that can ultimately lead to mental health symptoms. The term mental health is broadly conceptualized in this thesis as negative affect and positive affect. Online surveys were conducted on a sample of 170 Arizona State University students to analyze whether the provision of sibling support was related to worse affect. Hypotheses included: 1) provision of support from the student to the sibling will be related to lower positive and higher negative affect, 2) sibling support provision will be related to greater feelings of obligation and resentment, 3) obligation and resentment will mediate the relationship between sibling support provision and affect and 4) gender differences exist in the mediational relationship of sibling support provision, obligation/resentment, and affect. Results showed that sibling support provision is related to higher levels of *both* negative and positive affect. Moreover, provision of sibling support was significantly related to feelings of obligation and resentment. There was also some evidence for a mediational model, such that there was an indirect effect of sibling support provision on negative and positive affect through feelings of obligation, but not resentment. Lastly, females experienced significantly greater feelings of obligation to provide support, while males experienced significantly greater feelings of resentment. However, there was no evidence of a moderated mediation by gender. These results

i

suggest that sibling support provision is related to affect and one potential explanation is the feelings of obligation engendered by the sibling support provision.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

It is instilled in many of us from an early age that it is a duty to protect and care for younger siblings. Although parents are considered primary caregivers in a family, when they are unable to carry out this role, older children may step in and take responsibility to provide care. This situation can be explained by the process of *parentification*, which is characterized by the assumption from parents that their child will take on parental responsibilities in the family if necessary (Early & Cushway, 2002). In fact, studies have shown that siblings are a significant source of support and help when parents were unavailable (e.g., Kosonen, 1996); they can mediate between their siblings and parents by acting as a buffer and interpreting the parents' behavior. In this situation, the role of a parent is being filled by a non-traditional support figure, namely an older sibling. Support substitution theory (Rook & Schuster, 1996) suggests that these support surrogates may provide different types of support than the traditional support figure, depending on the needs of the recipient and the resources available to the provider. This substitution however may not always compensate for the deficit in support from parents (East & Rook, 1992).

Moreover, the impact of this support substitution has yet to be examined from the perspective of the support provider. These substitute support providers may feel a sense of obligation to provide support and/or resentment towards filling a role that is not traditionally theirs. It is also worth noting that the substitute support providers may not be psychologically, physically, or emotionally well equipped to handle the duties involved in the non-traditional role. An older child stepping up to occasionally help with their

1

younger siblings is not uncommon; however, taking on a more substantial support role for their siblings may lead to negative mental health outcomes. Specifically, feelings of obligation and resentment may mediate the association between support provision to siblings and mental health outcomes for the support provider. An additional factor to consider when studying this issue of substitute support provision is whether males and females differ in the impact of support provision on their mental health, as well as the mediating processes in the association. The current thesis examined these issues in a sample of students dealing with the efforts of attending college.

Defining Social Support

Dunkel-Schetter and Skokan (1990) define social support as paired interactions in which a person attempts to provide support to another who is experiencing distress. Social support can be broken into five different components: 1) type of support provided, 2) recipients' perceptions, 3) intentions or behaviors of the support provider, 4) reciprocity, and 5) social networks (Hupcey, 1998). In taking apart this definition, it is important to address that an attempt to provide social support, whether executed successfully or not, can still play an important role depending on whose perspective is being taken into consideration. Social support is a very broad term that includes a vast amount of conditions. Restated simply, social support is a transfer of resources in which the provider or the recipient feel that the support being given is meant to enhance the recipient's well-being (Shumaker & Brownell, 1984). Most studies only consider the recipient's perceptions, but rarely consider the perceptions of the support provider. The

present study focuses on the support provider – specifically, providing support to one's sibling(s).

Many types of support exist (e.g., emotional, informational, and instrumental), but the support a sibling provides will vary given the situation. Support provision to a sibling can include help with housework or schoolwork, help with odd jobs, giving advice, and showing interest in a sibling's personal life (Voorpostel, van der Lippe, Dykstra, &Flap, 2007). Sibling support will also change depending on what stage of life is being examined. In early childhood, the help siblings provide is rooted in functional task-oriented actions (e.g., picking up their toys); help provided in middle childhood revolves around care giving, assistance with schoolwork, and serving as a mediator between siblings and parents; and, in adolescence, siblings serve as someone with whom to share information and confidences (Kosonen, 1996). Children may turn to their older siblings for support, but the older sibling may not be able to provide social support equivalent to the support provided by a parent, which can lead to feelings of inadequacy on the part of the sibling provider.

Another crucial consideration is how the recipient perceives the aid their sibling is trying to render. Dunkel-Schetter and Skokan (1990) argue that prior support exchanges will impact the desire to provide support later on. A recipient may perceive the support as inadequate or that the support being provided comes with judgment or evaluation from the sibling. This type of misunderstanding may result in the sibling provider feeling unappreciated, which can lead to a variety of outcomes, such as the provider changing the type of support they are giving or refusing to provide any further support. In other words,

past negative support interactions are likely to result in a sibling provider's unwillingness to provide support in the future, which can damage the sibling relationship in addition to allowing negative outcomes related to mood to arise for both the recipient and provider.

Social Support Providers

How commonly are siblings used as a source of support? Social networks consist of a mixture of people, which vary in size and can change due to major life events. Wellman and Wortley (1989) categorize *familial* social networks into two groups: immediate kin (parents, older children, siblings and in-laws) and extended kin (grandparents, aunts, uncles, cousins, etc.). Researchers typically focus on parents and siblings as these network members provide high amounts of support. The expectation that these individuals will have the capacity and resources required to provide the support needed is a factor inherent in family support. Scholte, Van Lieshout, and Van Aken (2001) found that adolescents identified parents, siblings, and friends as important support providers, with parental support ranked highest but steadily decreasing in importance with age (in comparison to the other providers). By age 17, friends were found to provide just as much support as parents. Although, on average, adults feel a sense of obligation in helping a sibling who is in need, this feeling is lower than in the relationship between parent and children (White, 2001).

Antonucci (1985) reasoned that we use different standards to judge what kind of social support family and friends should provide and how successful they are at providing it. We expect family to provide support, especially when we are going through hardships. In turn, friends do not feel the same type of obligation that family members feel to

provide support, but rather offer it voluntarily. As a result, unmet expectations for family

to provide social support can lead to negative emotions, which do not always occur if

friends fail to provide support.

Of all the various kinds of relationships that exist, the parent and child connection

is the most supportive and provides the most emotional and instrumental support

(Wellman, 1992). However, Wellman also discusses how siblings provide one another

with adequate support, although the amount of support varies depending on the strength

of their bond. He also explains that not all of the ties formed between siblings may be

considered supportive in families with more than two siblings. He attributes this to the

idea that the sense of responsibility to provide support is dispersed because more people

are available, which is akin to the bystander effect. In contrast, Eriksen and Gerstel

(2002) discuss how having more siblings creates the assumption that help will be

available from at least one sibling, which actually results in more help being provided

compared to those with fewer siblings.

The factors that have been discussed (e.g., traditional role providers, feelings of

resentment and obligation) are important to consider when evaluating the composition of

sibling relationships. The number of children varies from family to family, but this does

not automatically allow for the assumption to be made that a person with more siblings

provides more social support. A few other factors that should be considered are birth

order and how often siblings are in contact with one another. Additionally, feelings of

resentment and obligation surrounding sibling support provision could be influenced by

reasons such as a parent being unable to fulfill their support role (i.e., being laid off work,

drug abuse, etc.). Thinking about all these circumstances can help in our understanding of support provision among siblings.

Support Substitution and Compensation

Social network substitution and compensation theory can assist in the effort to comprehend why a younger sibling may rely on an older sibling for social support. The theory is comprised of two distinct processes: *substitution* (the replacement of social ties or functions) and *compensation* (the extent to which substitute social ties benefit well-being) (Rook & Schuster, 1996; Zettel & Rook, 2004). Recognizing the difference between the two terms is crucial, due to the fact that not all cases of support substitution lead to positive outcomes. For example, Rook and Schuster (1996) suggest that a lost relationship will be effectively compensated for by a substitute relationship. A study carried out by Zettel and Rook (2004) examined support substitution and compensation in the lives of older widowed women. This particular study looked at a relationship loss (i.e., death of a spouse) rather than a relationship deficit. Three forms of substitution were looked at (rekindling of dormant social ties, intensification of existing social ties, and formation of new social ties) (Zettel & Rook, 2004). The predominant type of substitution reported was rekindling of old ties, but there were also reports of the other two substitution types. Regardless of the type, support substitution was beneficial for these widowed women's well-being.

When a member of the immediate kin is unable to provide support, another member is usually substituted in order to attain those resources. Thus, support from siblings may substitute when parents are unavailable or unwilling. Siblings can serve as a

great source of support for one another and pro-social interactions flourish between siblings when parents are unavailable. Older siblings care for their younger siblings, and in turn younger siblings view their older siblings as a valuable resource (Kosonen, 1996). The older sibling will presumably feel inclined to serve as a substitute as explained by the *hierarchical-compensatory model*, which illustrates how family support follows a sequential order starting with close kin and following with distant relatives (Rook & Schuster, 1996). However, sibling support substitution may not always be compensatory. East and Rook (1992) examined aggressive and isolated children who felt that the relationship with their school peers was unsupportive and instead sought support from their siblings. This substitution in the form of sibling support was helpful for the aggressive and isolated children, but did not appear to be on equal standing to that of average children receiving support from school peers.

Although substitution of sibling support for support from friends is more advantageous than no support at all, the two kinds of support substitution are not equivalent. Similarly, the substitution of sibling support for parental support may not be equivalent. Another study that looked at a case of substitution due to deficit found that the stressed social networks of low-income women influenced them to seek support from their minor children (Mickelson & Demmings, 2009). This substitution led to a decrease in women's well-being, which may be attributed to the awareness of the burden placed on their minor children. Thus, the type of support that a substitute relationship provides may be very different depending on whether it is due to loss or deficit (Rook, 2009).

Obligation and Resentment

Regardless of whether substituting sibling support for parental support is beneficial to the recipient, it is likely to engender complex feelings in the sibling support provider. The literature has found that individuals have mixed views regarding how they feel about taking care of their younger siblings. A variety of explanations have been offered to help explain why feelings of resentment and/or obligation may be present when providing support more generally. Trobst, Collins, and Embree (1994) proposed that support can be provided as part of a contractual role, a sense of obligation, or inadvertently. Hupcey (1998) argues that feelings such as obligation and empathy, as well as a willingness to provide support in order to receive support in return, are a few of the many reasons people choose to give support.

Ajzen (1985) discusses the theory of planned behavior, which encompasses three factors that influence intention. These three factors are: 1) beliefs about the consequences of the behavior, 2) perceived pressure to perform a behavior and 3) perceived difficulty of performing a behavior. The theory of planned behavior is relevant to the current study in that older siblings are likely to provide help if they feel that it will benefit their younger sibling, they feel pressured to provide support (which can be due to a sense of obligation), and they have access to resources that will allow them to provide the support. If one or more of these factors are not met, it is unlikely that the older sibling will provide support, which can result in poor mental health outcomes such as stress or depression because they feel unable to fill the role of caregiver (Azjen, 1985).

8

Additionally, Dunkel-Schetter and Skokan (1990) discuss how the provision of support can be associated with altruistic (i.e., selfless) objectives. Altruistic behavior can be due to an acceptance of norms of social responsibility. In other words, we feel responsible for those who we consider as being dependent on us, which in turn leads to an increase in the amount of social support we provide. Batson, Quin, Fultz, Vanderplas and Isen (1983) found that altruistic motivation is awakened when the provider feels empathy, whereas egoistic (i.e., selfish) motivation is awakened when there is an experience of personal distress.

Understanding the feelings behind a provider's behaviors can help us gain knowledge on how factors such as obligation and resentment might mediate the association between social support provision and outcomes related to mental health. Dunkel-Schetter and Skokan (1990) acknowledge many favorable effects following the experience of being a support provider, including improved behavioral skills, increased confidence, and reduced anxiety. Konrath and Brown (2013) also found that in reviewing both correlational and longitudinal studies, people who volunteered to help others reported higher levels of positive affect, greater life satisfaction, and more psychological well-being than individuals who did not offer support. Yet, there appears to be no empirical evidence that a support provider recognizes that support provision will improve one's mood (Iida, Seidman, Shrout, Fujita, & Bolger, 2008). In fact, Shumaker and Brownell (1984) mention that providing support can be an emotional strain and being aware of the stress in the lives of other people can make the provider feel more vulnerable in their own lives. Another important factor to consider is that the provider

9

and recipient may share a similar source of stress (e.g., death of a loved one; frustration/conflict with parents), which means that the provider is giving support while also being in need of it. As a result, they may feel resentment that they have to provide support to the sibling instead of receiving it from them. Moreover, they may resent that their parents are unable or unwilling to provide the support, or are not being sought out by the sibling.

Hupcey (1998) acknowledges that a provider may become weary, overstressed or burnt out from providing support for a long time period and will then decide to stop giving support. This situation may or may not be the case with our target population of college students who face their own daily struggles and stresses. The feeling of obligation to try to meet the demands of another individual may cause a strain on their own lives, which may lead them to either stop providing social support, or neglect their own needs. As stress levels for students increase, it may gradually become more difficult for them to provide adequate social support to their sibling(s).

Gender differences

A final consideration is whether males and females differ in the amount and type of support provided to their siblings. Literature on support provision has studied how males and females differ, such as the number of people they can turn to for support and the amount of support they are willing to provide. Trobst, Collins, and Embree (1994) found that females have more people they can turn to in times of need and are more willing than males to provide support. Furthermore, interactions between females and males differ, which may explain why sister-sister pairings are more likely to provide help

compared to brother-brother pairings, and overall sisters provide more help than brothers (Eriksen and Gerstel, 2002). Voorpostel, van der Lippe, Dykstra, and Flap (2007) discuss how the literature surrounding gender differences varies greatly regarding sibling composition and type of support provided. For instance, it has been argued that same-gender pairings are more beneficial than mixed-gender pairings, but research shows inconsistencies with respect to composition (Lippe et al., 2007).

The type of support that is provided by each gender differs as well. Females are naturally thought of as more nurturing, which is why both males and females are more likely to seek emotional support from a sister than a brother (Voorpostel et al., 2007). Similarly, females are more likely to help with other tasks that are associated with their gender, such as housework and males are more apt to help with male-related tasks such as repairing things (Voorpostel et al., 2007). Based on the previous literature, there is a high probability that female students will provide more support to their siblings than male students and feel a greater sense of obligation to do so. On the other hand, males may view the requests to provide support to siblings with more resentment given that it is not their "natural" role in the family. For these reasons, it is important to consider gender differences in the current thesis.

Current Thesis Study

Research has found that provision of social support tends to benefit the mental health of recipients, but there is less research that looks at how support provision is related to mental health symptoms. Some of the literature discusses how providers may experience feelings of obligation and/or resentment, but how this is related to mental

11

health symptoms more broadly is not entirely known. The purpose of my thesis is to help fill the gap in the literature on the role of sibling support provision on mental health symptoms among college students. For this thesis, mental health symptoms will be broadly defined and operationalized specifically as low positive affect and high negative affect. My thesis study examines four specific aims: 1) to determine whether support provision to a sibling is related to worse affect; 2) to examine whether sibling support provision is related to feelings of resentment and obligation; 3) to investigate whether feelings of resentment and obligation mediate the relationship between sibling support provision and affect; and 4) to assess gender differences in the mediational relationship of sibling support provision, obligation/resentment, and affect. My specific hypotheses are based on the existing literature on social support processes. First, I predict sibling support provision will be related to lower positive and higher negative affect. Second, I predict that sibling support provision will be positively related to both obligation and resentment. Third, I predict that both obligation and resentment will explain the association between sibling support provision and affect. Finally, I predict that females will show a stronger mediational pathway through obligation due to their gender role as caregiver, whereas males will show a stronger mediational pathway through resentment.

METHOD

Sample and Procedure

Participants consisted of 170 students (124 female, 46 male) attending Arizona State University. Recruitment was conducted through Arizona State University's SONA System. Eligibility criteria included being 18 years of age or older and having at least one sibling. The participants responded to an online questionnaire through Qualtrics and were

awarded course credit upon completion. Time for completion was approximately 30 minutes.

Measures

Sociodemographics. A number of sociodemographic characteristics were gathered, including age, gender, relationship status, race, parents' marital status, and year in school. Additionally, information was gathered on the number, ages, and sex of their siblings, as well as the frequency of contact with their siblings. Students ranged in age from 18 to 50 years ($M = 21.56$, $SD = 4.50$ of females, and $M = 22.65$, $SD = 5.85$ of males) and were primarily Freshmen or Seniors (Females: 33.9% Freshmen, 6.5% Sophomore, 25.8% Junior, and 33.9% Senior; Males: 30.4% Freshmen, 13% Sophomore, 21.7% Junior, and 34.8% Senior). The majority of students were not in a relationship (Females: 50.8%; Males: 54.3%) and had parents who were married (Females: 51.6%; Males: 69.6%). Most of the students reported their race as White (Females: 48.4%; Males: 60.9%), closely followed by Hispanic (Females: 34.7%; Males: 21.7%), with less than 20% being of another race for either gender. The majority of the sample lived with their parents or relatives (Females: 50.8%; Males: 52.2%) and was employed at least part-time (Females: 65.3%; Males: 56.5%). The household income varied greatly for both genders; and, on average females worked 25.59 hours per week while males worked 28.81 hours per week. Table 1 may be referred to for sample demographics.

Positive and negative affect were assessed using the PANAS scale (Watson, Clark, & Tellegen, 1988). Participants indicated to what extent they felt 20 different emotions (e.g., interested; distressed) at the present moment of taking the questionnaire.

13

Responses ranged from 1 (*very slightly or not at all*) to 5 (*Extremely*). Mean scores were used to create separate scales for positive affect (10 items; a = 0.92) and negative affect (10 items; a = 0.91), with higher scores indicating greater positive and negative affect.

    Sibling support provision on behalf of the participant was assessed using a revised version of the Inventory of Socially Supportive Behaviors (ISSB; Barrera & Baca, 1990). Participants indicated how often they engaged in a variety of support activities with their sibling(s) (e.g., looked after your sibling(s) while your parents were away) in the past month. Responses ranged from 1 (*not at all*) to 5 (*about every day*); a mean score was calculated with higher scores indicating greater sibling support provision (40 items; a = 0.98).

    Obligation was assessed using 5 items created for the study based on various published scales on familialism. Participants reported to what extent they agreed with statements that target obligation to provide sibling support (e.g., "when my sibling(s) has a problem, they can count on me for help"). Responses ranged from 0 (*strongly disagree*) to 4 (*strongly agree*); a mean score was calculated with higher scores indicating greater obligation (5 items; a = 0.87).

    Resentment was assessed using a question directly asking about the degree of resentment felt by the participant: "I resent that I have to help my sibling(s), when my parent(s) or other family members could or should be helping them". Responses ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Table 1.

Complete Participant Demographics (*N* = 170)

	Females (*N*= 124)		Males (*N*= 46)	
	M	*(SD)*	*M*	*(SD)*
Age	21.56	(4.50)	22.65	(5.85)
Class Satus				
Freshman	33.9%		30.4%	
Sophomore	6.5%		13.0%	
Junior	25.8%		21.7%	
Senior	33.9%		34.8%	
Parents' Marital Status				
Married	51.6%		69.6%	
Cohabiting	3.2%		0.0%	
Never Married	11.3%		10.9%	
Divorced	21.0%		15.2%	
Seperated	8.1%		0.0%	
Widowed	4.8%		4.3%	
Relationship Status				
Single	50.8%		54.3%	
In a Relationship	41.1%		32.6%	
Married	7.3%		10.9%	
Div/Sep/Widowed	0.8%		2.2%	
Race				
White (Non-Hispanic)	48.4%		60.9%	
African American	4.0%		4.3%	
Hispanic	34.7%		21.7%	
Asian	5.6%		4.3%	
Native American	3.2%		2.2%	
Other	4.0%		6.5%	
Living Situation				
Own Apartment/House	17.7%		15.2%	
Apartment/House with Roommates	17.7%		21.7%	
Apartment/House with Parents/Relatives	50.8%		52.2%	
University Housing	12.9%		10.9%	
Other	0.8%		0.0%	

Table 1. (Continued)
Complete Participant Demographics (*N* = 170)

Employment Status				
Employed	65.3%		56.5%	
Unemployed	33.1%		43.5%	
Currently on Leave	1.6%		0.0%	
Household Income				
Less than $10,000	8.9%		4.4%	
$10,000 to $19,999	4.8%		4.4%	
$20,000 to $29,999	8.9%		11.1%	
$30,000 to $39,999	8.9%		6.7%	
$40,000 to $49,999	13.7%		6.7%	
$50,000 to $59,999	12.9%		13.3%	
$60,000 to $69,999	6.5%		6.7%	
$70,000 to $79,999	5.6%		8.9%	
$80,000 to $89,999	6.5%		8.9%	
$90,000 to $99,999	4.8%		4.4%	
$100,000 to $149,999	10.5%		13.3%	
More than $150,000	8.1%		11.1%	
Hours Worked per Week	25.59	(10.24)	28.81	(13.51)

Two potential moderator variables were included for post hoc analyses: perceived stress and sibling relationship quality. *Perceived stress* was assessed using the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). Participants reported how often they felt a certain way (e.g., "how often have you been upset because of something that happened unexpectedly?") during the last month. Responses ranged from 0 (*never*) to 4 (*very often*); a sum score was calculated with higher scores indicating greater perceived stress (14 items; a = 0.82).

Sibling relationship quality was assessed using the shortened version of the Sibling Relationship Questionnaire (SRQ; Furman & Buhrmester, 1985), which asks about the nature and quality of the sibling relationship. Participants reported to what

extent they do certain things or behave a certain way towards the sibling they provide the most care for. Responses ranged from 1 (*hardly at all*) to 5 (*extremely much*). Two scales were created from this measure: one assessing *positive* sibling relationship (21 items; "how much do you admire and respect this sibling?") and a second, assessing *negative* sibling relationship (9 items; "how much do you and this sibling insult and call each other names?"). Mean scores were calculated for both scales with higher scores indicating a more positive or negative sibling relationship (Positive: a = .97; Negative: a = .89).

Table 2.

Descriptive Statistics for Sibling Variables

	Females			Males		
	M	*SD*	*Range*	*M*	*SD*	*Range*
Num. of Siblings	2.48	1.52	1.00-6.00	2.00	1.51	1.00-6.00
Num. of Siblings You Live With	1.84	1.11	1.00-5.00	1.83	1.30	1.00-5.00
Frequency of Contact w/ Siblings	3.00	1.28	0.00-5.00	2.61	1.34	0.00-4.00

Overview of Analyses

To test the study hypotheses, I used Andrew F. Hayes's PROCESS macro (Hayes, 2013) in SPSS. Using PROCESS allows for the testing of multiple mediators (Model 4). Although I made specific predictions about which pathways will be stronger for males and females, PROCESS tests for all possible indirect effects. PROCESS reports all direct effects with the outcome and mediators as well as all indirect effects. I also bootstrapped the indirect effects using 5,000 replications to address issues of power, and I report the indirect effect, standard error, and 95% confidence intervals. A significant indirect effect is inferred if the bias-corrected confidence intervals do not include zero (Hayes & Preacher, 2014).

To reiterate, from PROCESS, I expected to find sibling support provision to be significantly related to higher levels of negative affect and lower levels of positive affect in college students (*Hypothesis 1*). I also expected to find an association of sibling support provision with both greater resentment and obligation (*Hypothesis 2*). Next, I predicted that there would be an indirect association of sibling support provision on positive/negative affect through obligation and resentment (*Hypothesis 3*). Finally, to test the hypothesis that the relation between provision of social support and affect would vary as a function of gender (*Aim 4*), a moderated mediation analysis (Model #8) was performed using PROCESS, in which the provision of sibling support and a variable reflecting gender (dummy coded: 0= male, 1= female). In this analysis, moderation was tested on both the direct path between sibling support provision and affect, as well as with both mediators. I predicted that the pathway through resentment would be stronger for males, whereas the pathway for obligation would be stronger for females (*Hypothesis 4*).

All of the assumptions of linear regression (i.e., random sample, linearity, normal distribution of error scores and IVs, homoscedasticity, and independent observations) were met and upon review of the bivariate correlation matrix, there were no issues found with multicollinearity (see Table 3). VIF scores were all well below 2.0. Prior to conducting the main analyses, I first examined whether any of the sociodemographics should be included as covariates in the analyses. All demographic variables (e.g., age, class status, relationship status, race, etc.) were entered into preliminary analyses to find any potential covariates. The number of siblings, how many siblings the student lives

with and how frequently they have contact with their siblings were also entered as

potential covariates. Results of these preliminary analyses concluded that there were no

significant covariates for any of the main study variables.

Table 3.

Descriptive Statistics of Major Study Variables

	Females			**Males**		
	M	*SD*	*Range*	*M*	*SD*	*Range*
Affect						
PANAS_NA	2.08	0.92	1.00-4.60	1.98	0.81	1.00-4.20
PANAS_PA	2.90	1.00	1.00-5.00	3.00	1.00	1.00-5.00
Support Provision						
ISSB	2.34	0.98	1.00-4.70	2.20	0.75	1.00-4.43
Mediators						
Resentment	1.88	1.18	1.00-5.00	2.15	1.17	1.00-5.00
Obligation	3.38	0.67	.80-4.00	3.21	0.70	1.00-4.00
Moderators						
PSS	29.20	7.44	9.00-48.00	28.20	7.93	11.00-48.00
SRQ_neg	2.39	0.88	1.00-4.00	2.57	0.90	1.00-4.33
SRQ_pos	3.54	0.85	1.38-5.00	3.34	0.82	1.14-4.76

RESULTS

In regards to the major study variables, as shown in Table 3, males and females

tend to report similar levels of negative and positive affect. Specifically, both genders

tend to feel more positive affect than negative affect, but these levels are low to

moderate. Males and females also reported similar levels of sibling support provision,

resentment and obligation. A paired-samples t-test was conducted to compare the levels

in the obligation and resentment conditions within each gender. There was a significant

difference between reports of obligation (*M*= 3.38, *SD*= 0.67) and resentment (*M*= 1.88,

SD= 1.18) for females, $t(124)= 11.28$, *p*= .000, and males (Obligation: *M*= 3.21, *SD*=

19

0.70; Resentment: *M*= 2.15, *SD*= 1.17), *t*(46)= 4.76, *p*= .000. These results suggest that both genders reported considerably higher levels of obligation than resentment. Males expressed similar levels of perceived stress in comparison to females, with both genders falling somewhere within the middle range of possible scores. Lastly, both males and females reported having a more positive relationship with their siblings rather than a negative relationship.

Table 4.

Bivariate Correlations of Main Study Variables ($N = 170$)

		1		2		3		4		5		6		7		8	
1	**PANAS_NA**	**1**		-0.1		0.2		-0.2	*	0.17		0.55	**	-0.1		0.10	
2	**PANAS_PA**	0.06		**1**		0.3	**	0.16		0.04		-0.4	**	0.15		0.11	
3	**ISSB**	0.19		0.10		**1**		0.20	*	0.23	*	-1.00		0.33	**	0.22	*
4	**Obligation**	-0.2		0.33	*	0.4		**1**		-0.2	**	-0.1		0.49	**	-0.1	
5	**Resentment**	0.29		-0.1		-0.1		-0.3		**1**		0.21	*	-0.2	**	0.06	
6	**PSS**	0.51	**	-0.5	**	0.2		-0.1		0.13		**1**		-0.2		-0.001	
7	**SRQ_pos**	0		0.35	*	0.6	**	0.64	**	-0.5	**	-0.1		**1**		0.13	
8	**SRQ_neg**	0.27		-0.1		0.5	**	0.32	**	0.01		0.38	**	0.46	**	**1**	

Note. Correlations for females are above the diagonal and correlations for males are below the diagonal. Correlations between females and males are bolded on the diagonal.
**p* < .05; ***p* < .01

Sibling Support Provision and Affect

Sibling support provision was directly related to negative affect ($b = 0.20$, *SE* = .08, *t*(167)= 2.68, *p* = .008) and positive affect ($b = 0.21$, *SE* = 0.09, *t*(167)= 2.41, *p* = .02). However, the results only partially support my hypothesis, as greater sibling support provision was related to higher the levels of *both* negative and positive affect.[1]

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[1] I also conducted all analyses using depressive symptoms (as assessed with the CES-D; Radloff, 1977). No significant results were found.

Sibling Support Provision and Obligation/Resentment

Next, the relation between sibling support provision and obligation (one of the proposed mediators) was confirmed ($b = 0.18$, $SE = 0.06$, $t(167)= 3.25$, $p = .001$). This provides support for my second hypothesis that sibling support provision would be positively related to feelings of obligation. The relation between sibling support provision and resentment (the other proposed mediator) was marginally confirmed ($b = 0.18$, $SE = 0.10$, $t(167)= 1.86$, $p = .06$), and similarly supported my hypothesis that sibling support provision would be positively related to greater feelings of resentment.
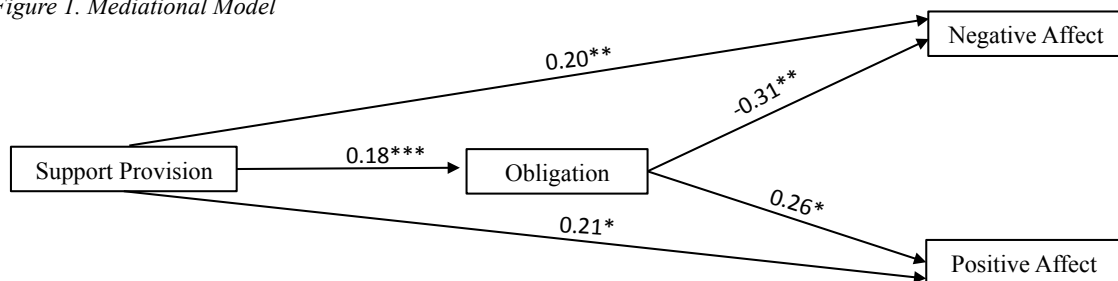
Mediational Model of Sibling Support Provision and Affect

As shown in Figure 1, the results of the multiple mediation model for negative affect revealed that obligation is a significant predictor of negative affect when controlling for sibling support provision ($b = -0.31$, $se = 0.11$, $t(167)= -2.89$, $p = .004$), specifically feelings of obligation predict lower levels of negative affect. Furthermore, there was a significant indirect effect of sibling support provision on negative affect through obligation ($b = 0.06$, $se = 0.03$, $LCI = -0.13$, $UCI = -0.01$), such that more sibling support provision is related to higher levels of obligation, which may lessen the negative affect of the provider. On the other hand, resentment was not found to be a significant predictor of negative affect. As a result, there was no significant indirect effect of sibling support provision on negative affect.

The results of the multiple mediation model for positive affect (also shown in Figure 1) revealed that obligation is a significant predictor of positive affect when controlling for sibling support provision ($b = 0.26$, $se = 0.12$, $t(167)= 2.17$, $p = .03$), such

that feelings of obligation predict higher levels of positive affect. There was also a significant indirect effect of sibling support provision on positive affect through obligation ($b = 0.05$, $se = 0.03$, $LCI = 0.01$, $UCI = 0.11$). In other words, students who provide more sibling support experience higher levels of obligation, which in turn in may be related to increased levels of positive affect. As with negative affect, resentment was not found to be a significant predictor of positive affect, so there was no significant indirect effect of sibling support provision on positive affect through resentment.

Figure 1. Mediational Model

$p < .05*$ $p < .01**$ $p < .001***$

Gender Differences in the Mediation Model

A moderated mediation analysis was tested for both the direct pathway of sibling support provision on negative affect and the indirect effect through obligation and resentment. Results revealed that gender does not moderate the process of sibling support provision on negative affect. Specifically, there was a marginally significant indirect effect of sibling support provision on negative affect through perceived obligation for both males ($b = -0.12$, $se = 0.06$, $LCI = -0.29$, $UCI = -0.02$) and females ($b = -0.04$, $se = 0.03$, $LCI = -0.12$, $UCI = -0.01$). There was no significant mediation for either males or females for sibling support provision on negative affect through resentment.

Next, a moderated mediation analysis was tested for both the direct pathway of sibling support provision on positive affect and the indirect effect through obligation and resentment. Results revealed that gender does not moderate the process of sibling support provision on positive affect. Specifically, there was a marginally significant indirect effect of sibling support provision on positive affect through perceived obligation for both males (b =-0.10, se = 0.06, LCI = 0.01, UCI = 0.24) and females (b = -0.04, se = 0.02, LCI = 0.002, UCI = 0.10). There was no significant mediation for either males or females for sibling support provision on positive affect through resentment.

Although there was no evidence of moderated mediation, there was a significant gender difference on resentment (b = -1.27, se = 0.61, t(167)= -2.10, p = .04), such that males reported greater resentment than females. There was also a marginal gender difference on obligation (b = 0.64, se = 0.34, t(167)= 1.89, p = .06), such that females reported slightly more obligation than males. These results provide support for my fourth and final hypothesis.

Post Hoc Analyses

After conducting the main set of analyses, I examined moderated mediation models with both perceived stress and sibling relationship quality as moderators of the direct and indirect pathways of sibling support provision on positive and negative affect.

Although the interactions with perceived stress were not significant, decomposition analyses revealed that sibling support provision is significantly related to negative affect at moderate (b = 0.22, se = 0.06, t(167)= 3.41, p = .001) and high levels (b = 0.29, se = 0.09, t(167)= 3.35, p = .001) of perceived stress (but not at low levels).

Similarly, the indirect effect of sibling support provision on negative affect through obligation is significant at moderate (b = -0.05, se = 0.02, LCI = -0.11, UCI = -0.01) and high levels (b = -0.06, se = 0.04, LCI = -0.16, UCI = -0.01) of perceived stress (but not at low levels).

For positive affect, again, although the interactions with perceived stress were not significant, decomposition analyses revealed that sibling support provision is significantly related to positive affect at moderate (b = 0.19, se = 0.08, $t(167)$= 2.42, p = .02) and high levels (b = 0.25, se = 0.11, $t(167)$= 2.29, p = .02) of perceived stress (but not at low levels). Similarly, the indirect effect of sibling support provision on positive affect through obligation is significant at moderate (b = 0.04, se = 0.02, LCI = 0.004, UCI = 0.10) and high levels (b = 0.05, se = 0.03, LCI = 0.004, UCI = 0.13) of perceived stress (but not at low levels).

Next, moderated mediation was examined on the direct and indirect pathways with sibling relationship quality. A significant interaction between sibling support provision and obligation was moderated by *negative* sibling relationship closeness (b = -0.23, se = 0.06, $t(167)$= -3.88, p < .001). Decomposition analyses revealed that sibling support provision is significantly related to *negative* affect at moderate (b = 0.18, se = 0.08, $t(167)$= 2.32, p = .02) and high levels (b = 0.28, se = 0.11, $t(167)$= 2.59, p = .01) of negative sibling relationships (but not at low levels). However, with the indirect effect through obligation, a significant indirect effect was found at low (b = -0.09, se = 0.05, LCI = -0.21, UCI = -0.01) and moderate levels (b = -0.04, se = 0.03, LCI = -0.11, UCI = -0.01) of negative sibling relationship (but not high levels). For *positive* affect,

24

decomposition analyses revealed that sibling support provision is significantly related to positive affect at low ($b = 0.27$, $se = 0.12$, $t(167)= 2.24$, $p = .02$) and moderate levels ($b = 0.21$, $se = 0.09$, $t(167)= 2.30$, $p = .03$) of negative sibling relationships (but not at high levels). However, with the indirect effect through obligation, a significant indirect effect was only found at moderate levels of negative sibling relationship ($b = 0.04$, $se = 0.02$, $LCI = 0.001$, $UCI = 0.09$).

For *positive* sibling relationship quality, the interaction with sibling support provision on *positive* affect was marginally significant ($b = 0.16$, $se = 0.09$, $t(165)= 1.84$, $p = .07$). Decomposition analyses revealed that sibling support provision is marginally related to *positive* affect at moderate ($b = 0.18$, $se = 0.09$, $t(165)= 1.90$, $p = .06$) and significantly at high levels ($b = 0.31$, $se = 0.11$, $t(165)= 2.75$, $p = .007$) of positive sibling relationship quality (but not at low levels). For negative affect, although the interactions were not significant, decomposition analyses revealed that sibling support provision is marginally related to *negative* affect at low ($b = 0.25$, $se = 0.11$, $t(165)= 2.24$, $p = .03$) and moderate levels ($b = 0.21$, $se = 0.08$, $t(165)= 2.51$, $p = .01$) of positive sibling relationship quality (but not at high levels). Finally, there were no significant indirect effects through obligation or resentment on positive affect or negative affect at any level of positive sibling relationship quality.

DISCUSSION

Research on support provision tends to focus on how the recipient benefits from the support. This study, the first to my knowledge, focuses on investigating how sibling support provision influences the *provider's* affect. Results found that students who

25

reported more sibling support provision also reported higher levels of both negative and positive affect. Greater provision of sibling support was also significantly related to both increased feelings of obligation and resentment. However, only obligation (not resentment) helped to partially explain the association between sibling support provision and affect, providing partial support for my third hypothesis. Finally, my fourth hypothesis was partially supported, such that females reported marginally more obligation than males and males reported more resentment than females; however, there was no evidence that the mediational pathways differed by gender. Below, I discuss the implications of the main study findings, study limitations, and possible future directions.

Sibling Support Provision and Affect

In my first hypothesis, I predicted that sibling support provision would be related to worse affect. A college student has many daily life stresses to deal with and adding the provision of support to their sibling can create an extra burden, which is likely to result in increased levels of negative affect and decreased levels of positive affect. The results of the study confirmed that the more sibling support a student provides, the higher their levels of negative affect. However, greater sibling support provision was also related to higher levels of positive affect. A possible explanation is that the student may feel increased levels of positive affect, because they know that they are providing help to a loved family member who is in need of support. In other words, support provision is a double-edged sword. We feel good about being there for someone important to us, but we also can feel negatively because of the burden put on us to be there for that person, especially if our own life is stressed at the moment. Social support research backs up this

26

idea showing that women who provide more support than men experience both negative and positive consequences (e.g., Shumaker & Hill, 1991); taken together with the current results, support provision carries with it risks and benefits to the provider.

Sibling Support Provision, Obligation, and Resentment

Given the dual affect outcome of sibling support provision, it makes sense that an individual would feel both obligation and resentment connected with providing support to their sibling. As predicted, sibling support provision was indeed related to greater feelings of obligation and resentment. Many older siblings are told by their parents at an early age that they are to care for and watch over their younger siblings. This sense of obligation is likely to carry over into early adulthood when the older siblings (who are attending college) still feel that they should provide care to their siblings. Along with a feeling of obligation, there may be concurrent feelings of resentment towards the parents or other guardian who is not providing adequate support. Feelings of resentment may be stronger for those who feel that the reason the parent/guardian is not providing parental support is because of internal reasons (e.g., drug and alcohol abuse) compared to those who blame external reasons (e.g., death of a spouse, working multiple jobs). Additionally, feelings of obligation may be greater in certain cultures where norms of familialism is stronger (e.g., Mexican; Updegraff, McHale, Whiteman, Thayer, & Delgado, 2005) or possibly in single parent households (e.g., Lansford, Ceballo, Abbey, & Stewart, 2001). Future research should examine how internal and external factors contributing to the parent figure's inability to provide care are related to feelings of obligation and resentment felt by the support provider substitute.

27

Mediational Role of Obligation and Resentment

My third hypothesis was that feelings of obligation and resentment may help explain the relationship between sibling support provision and affect. In other words, sibling support provision is related to greater obligation and resentment, which in turn impacts negative and positive affect. Someone who provides support may experience a sense of fulfillment knowing they are helping impact their sibling's life in a positive way, resulting in better affect for the provider. On the other hand, providing support can cause an emotional strain on a person because they are not only looking after their own needs, but must also help their sibling (who should be able to turn to their parent(s) for support). Results of the mediational analyses confirmed the former argument by showing that obligation (but not resentment) mediated the link between sibling support provision and positive and negative affect. These analyses are limited to affect which is a fluctuating measure of mental health. Depressive symptoms were also assessed but not found to have any significant results. Future research should systematically examine these mediational pathways with various mental health outcomes to determine whether they hold for more chronic outcomes, or just for acute ones.

Gender Differences

Females are generally perceived as caregivers and tend to provide more support than males (Voorpostel et al., 2007), which is why I predicted that obligation would be the stronger mediational pathway for female students and resentment would be the stronger mediational pathway for male students. There was no evidence to support the moderated mediation prediction. However, female students did report a marginally

greater sense of obligation to provide support to their siblings and male students reported

greater resentment. Taking into consideration that the sample consisted of college

students, it would be worthwhile to examine these gender differences in other age groups

where feelings of obligation and resentment may be more or less differentiated by gender

depending on life stage or context.

Perceived Stress and Relationship Quality

After examining the data and failing to find a moderated mediation by gender, I

wondered whether perceived stress and/or sibling relationship quality might be better

moderators of the mediational results. Although there were no significant interactions for

perceived stress, I did find in the decomposition analyses some preliminary evidence that

the direct and indirect association between sibling support provision and affect was

significant only at moderate and high levels of perceived stress. In other words, the more

stressed a student, the association between sibling support provision and negative affect

is exacerbated. Surprisingly, sibling support provision was also significantly related to

higher levels of positive affect only at moderate and high levels of perceived stress.

Again, these preliminary results suggest that students have an ambivalent relationship

with sibling support provision. Not surprising, given that most individuals say they have

a "love-hate" relationship with their siblings! Adding stress to the equation only makes

this ambivalence stronger. However, caution should be used in interpreting these results

as the interaction was not significant. Future research needs to try to replicate and

expand on these results.

I also investigated the effects of having a negative or positive sibling relationship on the relation between sibling support provision and affect. Taken together, these post hoc analyses showed that having a highly negative (and low positive) relationship with one's sibling tends to exacerbate the link between sibling support provision and *negative* affect. On the other hand, having a highly positive (and low negative) relationship with one's sibling tends to exacerbate the link between sibling support provision and *positive* affect. These results suggest that being close and having a good relationship with one's sibling allows one to experience the benefits of sibling support provision on affect, whereas having a bad relationship with one's sibling makes the support provision an added negative about the relationship and makes the individual feel worse (possibly more angry). Future research should examine how differences in age, gender, and amount of contact may impact the level of relationship quality with a sibling and willingness to provide support.

Limitations

There are several limitations to this study that should be considered. First, the composition and size of the sample is not ideal. The initial idea was to recruit only freshmen students in order to analyze the transitional period into college, as this is an especially stressful and life-changing moment in a person's life. The thought was that if students were being called upon to provide support to their sibling during this transitional, stressful time then the link between provision and mental health would be especially salient. However, after data was collected, only a very small percentage of the students who completed the questionnaire were freshmen. Due to the small sample of

freshmen, I decided all undergraduates who completed the survey would be analyzed. The post hoc analyses with perceived stress tried to capture the initial idea of using only freshmen. The preliminary evidence for perceived stress playing a role in the association between sibling support provision and affect should encourage future researchers to examine these links in a sample going through a particular stress.

Secondly, the sample would ideally consist of equal parts males and females; unfortunately, in my sample this was not the case as almost three times as many females than males participated in the study. This disparity in gender representation may have limited my ability to find the predicted gender moderation. Moreover, the sample was also fairly homogenous considering participants were in their early twenties and primarily White. As stated above, examining sibling support provision in other race/ethnic and age groups may reveal different associations.

Another limitation that is important to note is that the gender composition of the sibling relationships was not taken into consideration (although I collected data on this, I did not have enough power to test it). According to the literature, sister-sister pairings provide the most support and overall sisters provide more support than brothers (Eriksen and Gerstel, 2002). Having a larger sample with sufficient variability in gender composition of the sibling groups would allow for a better understanding of this potentially important factor.

CONCLUSION

There is an abundant amount of research that has been done to investigate the impact of support provision on recipients, but it is also crucial to investigate how support

providers are impacted. This study is one of the few to look at how support provision is related to affect, specifically college students who provide support to their siblings. The results of the study demonstrate that sibling support provision is related to 1) increased levels of negative and positive affect in college students, 2) heightened feelings obligation and resentment, 3) higher levels of negative and positive affect due to feelings of obligation (but not resentment), and 4) greater feelings of obligation for females and greater feelings of resentment for males. Post hoc analyses conducted in this study found preliminary evidence to suggest that the link between sibling support provision and mental health may be exacerbated by perceived stress and a negative sibling relationship, but attenuated by a positive sibling relationship. Providing support to someone in need can be rewarding, but we must also be aware of how our own lives are impacted. We should all strive to learn how to balance taking care of ourselves in addition to caring for those we love, so that we may all live both happier and healthier lives.

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33

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APPENDIX A

CONSENT FORM

Project Title: Project U.P. (Under Pressure): Dealing with pressure during college

Investigators: Litzia Cortez and Jonathan Covarrubias

INTRODUCTION: We invite you to take part in a research study that will examine how a variety of experiences and daily struggles that college freshmen endure impact their lives. We want to learn how college students deal with various issues and how loved ones such as family and friends are involved. We expect at least at least 150 college students, 18 years of age and older, to participate in this research study.

YOUR PARTICIPATION: If you decide to take part in this experiment, you will be asked to complete a one-time online questionnaire through the SONA system that should take around 45 minutes to complete. Upon completion of the questionnaire you will be granted 2 research course credits.

VOLUNTARY PARTICIPATION: You are free to decide whether you wish to participate in this study. Instead of being in this research study, your choices may include reading and completing quizzes on research articles. You can leave the research at any time and it will not be held against you.

BENEFITS: We cannot promise any benefits to you or others from your taking part in this research. Your participation in this study may enable us to help future individuals dealing with particular issues commonly experienced by college students.

RISKS: Overall, there are no anticipated risks beyond those encountered in everyday life. However, a few of the questions we ask may require you to remember stressful events, and this may lead to increases in distress. If any part of the study causes you to become distressed (symptoms of distress and/or depression include sleep disruption, concentration problems, changes in appetite, and similar disruptions in normal functioning), please call Dr. Kristin Mickelson at (602)543-1632 for an appropriate referral.

QUESTIONS: If you have any questions now, during or following your participation regarding this study, please contact Kristin D. Mickelson at (602)543-1632. This research has been reviewed and approved by the Social Behavioral IRB. You may talk to them at (480) 965-6788 or by email at research.integrity@asu.edu if:
- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

CONFIDENTIALITY: Efforts will be made to limit the use and disclosure of your personal information, including research study records, to people who have a need to review this information. We cannot promise complete secrecy. Organizations that may inspect and copy your information include the University board that reviews research (and Federal Agencies) who want to make sure the researchers are doing their jobs correctly and protecting your information and rights.

CONSENT: If you agree to participate, please complete and submit the survey. By reading this form you acknowledge that you understand it and have had any questions regarding the risks and benefits of this study satisfactorily answered, and that you are voluntarily consenting to participate in this study.

APPENDIX B

QUESTIONNAIRE

Sociodemographics

What is your age?

What is your date of birth? (mm/dd/yyyy)

Are you a biological female or male?

Do you identify as female, male, trans, or other?

What is your class status?

What is your parents' marital status?

What is your current relationship status?

What is your race?

Please list the ages of ALL your siblings. If you have more than six siblings, then please list the six youngest.

Please indicate the sex of your siblings listed above.

Please indicate if your siblings live at home.

Do you currently live with any of your siblings?

How many siblings are you currently living with?

What are their ages? If you have more than six siblings living with you, then please list the six youngest.

What are their genders (i.e. female, male)? If you have more than six siblings living with you, then please list the six youngest.

Where are you living now?

If you do not currently live at home, how often do you visit?

Are you currently working at a paid job?

How many paid hours per week do you work in total? (Hours)

How many paid hours per week do you work in total? (Hours)

At your primary job, what is your hourly pay? ($/hour)

Do the hours you work per week change or stay the same?

What is your household income (i.e. including your parent's income, your income, and any other sources of income)?

At this time, how often do you feel stressed about your life?

Positive and Negative Affect Scale (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer using the available scale. Indicate to what extent each feeling and emotion describes you at this IMMEDIATE MOMENT IN TIME.

0-Very Slightly or Not at All	1-A Little	2-Moderately	3-Quite a Bit	4-Extremely

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud

11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid

Inventory of Socially Supportive Behaviors (ISSB) <u>REVISED</u>

We are interested in learning about some of the ways that you feel you have helped or tried to make life more pleasant for your sibling over the PAST MONTH. Below you will find a list of activities that you might have done for your sibling, to your sibling, or with your sibling in recent weeks. Please read each item carefully and indicate how often you engaged in these activities during the PAST MONTH.

0-Not at All	1-Once or Twice	2-About Once a Week	3-Several Times a Week	4-About Every Day

1. Looked after your sibling(s) while your parents were away.
2. Was right there with your sibling (physically) in a stressful situation
3. Provided your sibling(s) with a place where they could get away for awhile
4. Watched after your sibling(s) possessions when they were away (pets, plants, home, apartment, etc.)
5. Told your sibling(s) what you did in a situation that was similar to theirs
6. Did some activity with your sibling(s)to help him/her get his/her mind off of things
7. Talked with your sibling(s) about some interests of his/hers
8. Let your sibling(s) know that he/she did something well
9. Went with your sibling(s) to someone who could take action
10. Told your sibling(s) that he/she is OK just the way he/she is
11. Told your sibling(s) that you would keep the things that you talk about private--just between the two of you
12. Assisted your sibling(s) in setting a goal for his/her self
13. Made it clear what was expected of your sibling(s)
14. Expressed esteem or respect for a competency or personal quality of your sibling(s)
15. Gave your sibling(s) some information on how to do something
16. Suggested some action that your sibling(s) should take
17. Gave your sibling(s) over $25
18. Comforted your sibling(s) by showing you some physical affection
19. Gave your sibling(s) some information to help him/her understand a situation he/she was in
20. Provided your sibling(s) with some transportation
21. Checked back with your sibling(s) to see if he/she followed the advice he/she was given
22. Gave your sibling(s) under $25
23. Helped your sibling(s) understand why he/she didn't do something well
24. Listened to your sibling(s) talk about his/her private feelings
25. Loaned or gave your sibling(s) something (a physical object other than money) that he/she needed
26. Agreed that what he/she wanted to do was right
27. Said things that made your sibling(s)' situation clearer and easier to understand

28. Told your sibling(s) how you felt in a situation that was similar to his/hers
29. Let your sibling(s) know that you will always be around if he/she needs assistance
30. Expressed interest and concern in your well-being
31. Told your sibling(s) that you feel very close to him/her
32. Told your sibling(s) who he/she should see for assistance
33. Told your sibling(s) what to expect in a situation that was about to happen
34. Loaned your sibling(s) over $25
35. Taught your sibling(s) how to do something
36. Gave your sibling(s) feedback on how he/she was doing without saying it was good or bad
37. Joked and kidded to try to cheer your sibling(s) up
38. Provided your sibling(s) with a place to stay
39. Pitched in to help your silbing(s) do something that needed toget done
39. Loaned you sibling(s) under $25

Obligation

Please rate the extent of your personal agreement with each of the following statements.

0-Strongly Disagree	1-Disagree	2-Neutral	3-Agree	4-Strongly Agree

1. When my sibling(s) has a problem, they can count on me for help
2. It is important for me to be there for my sibling(s) in times of need
3. I know I always have the best interests of my sibling(s) in mind
4. A person should always be able to rely on his or her sibling(s) if they are in need, even if it a big sacrifice.
5. A person should always support their sibling(s) of they are in need, even if it is a big sacrifice.

Resentment

To what extent do you agree with the following statement?

"I resent that I have to help my sibling(s), when my parent(s) or other family members could or should be helping them."

○ 0-Strongly Disagree
○ 1-Disagree
○ 2-Neutral
○ 3-Agree
○ 4-Strongly Agree

Perceived Stress Scale (PSS)

The questions in this scale ask you about your feelings and thoughts during the PAST MONTH. In each case, you will be asked to indicate how often you felt or thought a certain way. Although some of the questions are similar, there are differences between them, and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

0-Never	1-Almost Never	2-Sometimes	3-Fairly Often	4-Very Often

1. How often have you been upset because of something that happened unexpectedly?
2. In the last month, how often have you felt that you were unable to control the important things in your life?
3. How often have you felt nervous and "stressed"?
4. How often have you dealt successfully with irritating life hassles?
5. How often have you felt that you were effectively coping with important changes that were occurring in your life?
6. In the last month, how often have you felt confident about your ability to handle your personal problems?
7. In the last month, how often have you felt that things were going your way?
8. In the last month, how often have you found that you could not cope with all the things that you had to do?
9. In the last month, how often have you been able to control irritation in your life?
10. In the last month, how often have you felt that you were on top of things?
11. In the last month how often have you been angered because of things that happened that were outside of your control?
12. In the last month, how often have you found yourself things about things that you have to accomplish?
13. In the last month, how often have you been able to control the way you spend your time?
14. In the last month, how often have you felt difficulties were piling ups so high that you could not overcome them?

Sibling Relationship Questionnaire (SRQ)

In this section, where it says "your sibling" think of the brother or sister who you feel you provide the most care for.

0-Hardly at All	1-Not Too Much	2-Somewhat	3-Very Much	4-Extremely Much

1. Some siblings do nice things for each other a lot, while other siblings do nice things for each other a little. How much do you and your sibling do nice things for each other?
2. Some siblings care about each other a lot while other siblings don't care about each other that much. How much do you and this sibling care about each other?
3. How much do you and this sibling go places and do things together?
4. How much do you and this sibling insult and call each other names?
5. How much do you and this sibling like the same things?
6. How much do you and this sibling tell each other everything?
7. Some siblings try to out-do, or beat each other at things a lot, while other siblings try to out-do each other a little. How much do you and this sibling try to out-do each other at things?
8. How much do you admire and respect this sibling?
9. How much does this sibling admire and respect you?
10. How much do you and this sibling disagree and quarrel with each other?
11. Some siblings cooperate a lot, while other siblings cooperate a little. How much do you and this sibling cooperate with other?
12. How much do you and this sibling love each other?
13. Some siblings play around and have fun with each other a lot, while other siblings play around and have fun with each other a little. How much do you and this sibling play around and have fun with each other?
14. How much are you and this sibling mean to each other?
15. How much do you and this sibling have in common?
16. How much do you and this sibling share secrets and private feelings?
17. How much do you and this sibling compete with each other?
18. How much do you look up to and feel proud of this sibling?
19. How much does this sibling look up to and feel proud of you?
20. How much do you and this sibling get mad at and get in arguments with each other?
21. How much do both you and your sibling share with each other?
22. How much is there a strong feeling of affection (love) between you and this sibling?
23. Some kids spend lots of time with their siblings, while others don't spend so much. How much free time do you and this sibling spend together?
24. How much do you and this sibling bug and pick on each other in mean ways?
25. How much are you and this sibling alike?
26. How much do you and this sibling tell each other things you don't want other people to know?
27. How much do you and this sibling try to do things better than each other?

28. How much do you think highly of this sibling?
29. How much does this sibling think highly of you?
30. How much do you and this sibling argue with each other?