Siblings of Those With and Without Mental Illness: Differences in Life Decisions and Depressive Symptoms

by

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Abstract

Young adulthood is a difficult period - individuals begin to separate from their families and transition into adulthood, focusing more on themselves and the future. This study aimed to better understand psychosocial and individual differences that contribute to different well-beings for young adults that have siblings without (*n*=156) and with (target sibling) (*n*=121) mental illness. Target siblings reported more depressive symptoms and less positive influence of siblings on life decisions. Closeness was related to well-being, but did not interact with sibling type to influence well-being. Both sibling types reported little support and unsupport, and did not differ in coping. Target siblings reported little sibling influence on life decisions at lower levels of perfectionism, but a strong impact at higher levels. This study: confirmed previous findings that sibling types differ in depression; extended findings to include differences in life decisions; and identified factors that did and did not influence well-being.

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I would like to thank everyone who has supported me throughout my master's thesis: those in the lab who generously gave their time to help me, my friends who have patiently waited for me to take breaks (especially Laura who generously offered a place to study...until ungodly hours at times!). A huge thanks to my boyfriend, Phil, who's had the pleasure of seeing most all my reactions to working through my master's (from brain-fried to having the seemingly uncontrollable giggles!) and knew when to take me away from the computer to recharge. I would like to give a very special thanks to my parents and my brother for "allowing" me to post an online story about being a sibling of someone with mental illness in order to attract this very difficult-to-reach population. After all, although it was from my perspective, it meant exposing parts of all of you as well, and I know that it was not easy to allow yourselves to be vulnerable in that way. And for that I am so very grateful because it made it that much easier to expose myself and to be invested in my research. Lastly, but certainly not forgotten, immense thanks to my supervisors, Drs. Kim Matheson and Hymie Anisman, for suggesting I take on studying those who, like myself, have a sibling with mental illness. Your understanding and unwavering support, kindness, and patience as I worked my way through, not only writing my thesis, but also my own emotions regarding being a sibling of someone with a mental illness has helped me academically and personally. My extended stay as a Carleton student has led some friends to believe that I would rather be a student forever (and perhaps yourselves too!). Despite the delays, the life advice you have given and your determination to help me graduate have opened my eyes to a future with more possibilities than I could have ever imagined for myself. I will be forever grateful.

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Siblings of Those With and Without Mental Illness:
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For many individuals, young adulthood is a difficult period to navigate as they begin to separate from their nuclear families (Riser, 1999) and transition into adulthood by focusing more on themselves, their identity development, and future possibilities (Arnett, 1998; review by Conger & Little, 2010; Tanner, 2005). Ordinarily, siblings report that when making life decisions during this transition, they de-identify from each other in order to develop their own identities (Dunn, Slomkowski, Beardsall, & Rende, 1994; Schacter & Stone 1987; Whiteman et al., 2009). To the extent that their relationship is maintained, they typically play a reciprocally supportive role (Myers, 2008; Schultheiss, Palma, Predragovich, & Glasscock, 2002; Weaver, Coleman, & Ganong, 2003; Whiteman, McHale, & Soli, 2011) and this support is related to positive well-being (Mc Ghee, 1985; Milevsky, 2005). Because young adult siblings are responsive to their brothers'/ sisters' needs it is expected that siblings would also have a positive influence on one another's life decisions. Such support can be especially important given that this is such a challenging period in life with an increased sensitivity to stressors and vulnerability to depression (Mackenzie et al., 2011).

In contrast, this already difficult period can be complicated by negative chronic family stressors (i.e., persistently difficult life circumstances or burdens that pose continuing hardship (Gottlieb, 1997)) that can change the sibling relationship and affect their well-being and life decisions (Balachandran, 2011; Czipri, 2004; Gerace, Camilleri, & Ayres, 1993; Lukens, Thorning, & Lohrer, 2002; Sin, Moone, & Harris, 2008; Marsh et al., 1993a; Wickarama, Conger, Lorenz, & Jung, 2008). One such chronic familial

stressor linked to the sibling relationship is when an individual has a brother/ sister that is diagnosed with a mental illness (from here on, this individual is referred to as the target sibling). Lazarus and Folkman's (1984) Transactional Coping framework provides insights into how individuals think and act in stressful situations to manage the problem and the associated distress. Using this theory, it is possible to examine how variables inherent in the sibship (such as siblings relationship quality) create a situation for young adult target siblings that is different from the situation for siblings of those without mental illness, as well as how different coping mechanisms and individual variables interact to either reduce or increase their well-being. Specifically, it was the aim of this research to determine whether target siblings and siblings of those without mental illness differed in psychosocial factors (i.e., sibling relationship quality, social supports) and individual factors (i.e., coping strategies, personality) and whether these factors contributed to differences in depressive symptoms in the target sibling and their life decisions.

Well-Being/ Life Decisions and Depression

In addition to dealing with stressors that are typically associated with being a young adult (e.g., starting in postsecondary education or a career, leaving the existing support network and creating new supportive peer and romantic relationships) (Anisman, 2014; Tanner, 2005), many target siblings prematurely experience increased and divided responsibilities within the family (Gerace et al., 1993; Lukens, Thorning, & Lohrer 2004). Although not all target siblings identify as caregivers they are often called on to provide support to their sibling with a mental illness (Sin, Moone, Harris, Scully, & Wellman, 2012). These individuals may worry about their siblings' future (Czipri, 2004),

and they also often report that the family dynamic created by their brother's/ sister's illness negatively affects achievement of their own goals and milestones (Marsh et al., 1993b). These milestones/ goals include life decisions about how to gain independence from the nuclear family (e.g., to live closer or further away from home) and deciding whether or not to have children (Lukens et al., 2004; Leith & Stein, 2012; Marsh et al., 1993a; Sin, Moone, & Harris, 2008; Seltzer et al., 1997). Thus, target siblings experience a dilemma between the need for caregiving (attachment) and the need for individualism (freedom) (Karp & Watts-Roy, 1999) that appears to negatively impact their well-being in terms of having trouble regarding life goals/ decisions (Marsh et al., 1993b).

Individuals that live with chronic stress are also more likely to experience depressive symptoms (Cwikel, Segal-Engelchin, & Mendlinger, 2010). Thus, it should not be surprising, during this time of heightened vulnerability, combined with persistent and difficult family pressures, that target siblings also report poorer well-being with high levels of depressive symptoms (Balachandran, 2011; Taylor, et al., 2008). Thus, compared to siblings of those without mental illness, it appears that having a brother/ sister diagnosed with a mental illness negatively influences the target siblings' well-being (i.e., difficulties with life decisions and more depressive symptoms). These differences in well-being might be partly explained by the nature of the sibling relationship (i.e. sibship).

Nature of The Sibling Relationship

As with other relationships, siblings may or may not choose to maintain their relationship over time (Whiteman et al., 2011) and its quality is often measured in terms of closeness/ warmth. Closeness is defined differently between studies, but usually

includes one or more positive aspects such as intimacy, affection, prosocial behaviours, companionship, similarity, admiration, acceptance, emotional support, and instrumental support (Furman & Buhrmester, 1985; Stocker, Lanthier, & Furman, 1997). Closeness has also been described as having a sense of interconnectedness that encompasses multiple dimensions (Aron, Aron, & Smollan, 1992). Given these positive aspects, it is evident that a close sibling relationship across the lifespan would be associated with positive well-being (Cicirelli, 1995; Milevsky, 2005; Riggio, 2000; Sherman, Lansford, & Volling, 2006) and can act as a protective factor in the face of negative family life events such as death of a grandparent, aunt, uncle, or cousin (Waite, Shanahan, Calkins, Keane, & O'Brien, 2011).

Closeness of sibship typically changes over time, being strongest in childhood and in older adulthood (Arnett, 2000; Rittenour, Myers, & Brann, 2007). During young adulthood closeness between siblings typically decreases because more efforts are devoted to pursuing life goals (e.g., marriage and parenthood). However, most siblings maintain contact and still report feelings of closeness to one another, even if they rarely see each other (Cicirelli, 1991; Cicirelli, 1995; Dew et al., 2004; White, 2001; White & Riedmann, 1992).

However, the normative cycle of closeness may not exist when a stressful event occurs within the family. For instance, when a brother/ sister is diagnosed with mental illness, the target sibling can experience shock as they witness a change in their sibling (Newman et al., 2011), profound loss of brotherly/ sisterly feelings as they grieve who their sibling once was (Lukens et al. 2004; Lukens & Thorning, 2011; Marsh, & Johnson, 1997; Reibschleger, 1991), and thus the quality of the sibship can change dramatically.

The relationship can become closer with stronger sibling bonds (Marsh et al., 1996; Sin et al., 2008) or become less close as the target siblings distance themselves in order to obtain personal space and lessen the impact of the illness on their own lives (Barak & Solomon, 2005; Gerace et al., 1993; Stalberg, Ekerwald, & Hultman, 2003). Evidence suggests that having a close sibship compels target siblings to be involved and provide care (Greenberg et al., 1999), but that caregiving also creates great distress (Gerace et al, 1993) as caregiving can cause difficulties in balancing home responsibilities and personal ones (Jewell & Stein, 1999). Conversely, while some target siblings choose to distance themselves in order to protect their well-being (Gerace et al, 1993; Karp & Watts-Roy, 1999; Stalberg et al., 2003; Stalberg, Ekerwald, & Hultman, 2004), the detachment itself can also negatively impact well-being. Indeed, online blogs (Tracy, 2010; Tracy, 2012) and research (Gerace et al, 1993) indicate that target siblings who have extremely distant sibships, or who are in the process of creating the distance, also experience great distress associated with separation issues. This pattern of negative well-being for detached siblings is similar to those with close sibships, although it arises for different reasons. Thus, compared to siblings of those without mental illness, target siblings appear to experience greater extremes in closeness, and in both directions, may have greater negative influences on both life decisions and depressive symptoms.

Social Support

Whether or not siblings are close, they are bound to encounter difficulties with one another (Furman & Buhrmester, 1992; Milevsky & Heerwagen, 2013). When difficulties occur, being able to turn to others for social support (e.g., receiving guidance, attachment, nurturance, information, instrumental help, positive feedback about a situation, or simply having someone listen to you) can be a helpful coping resource

(Anisman, 2014; Berta, 1997; Panzarella, Alloy, & Whitehouse, 2006). Indeed, receipt of social support has been found to reduce depressive symptoms and clinical depressive episodes in individuals of different ages and cultural backgrounds (Brummett, Barefoot, Siegler, & Steffens, 2000; Panzarella et al., 2006; Sangalang & Gee, 2012). Furthermore, received support is often a buffer against the negative impacts of stressful events on well-being (Coker, et al., 2004; Ownsworth, Henderson, & Chambers, 2010). Not surprisingly, a lack of support or encountering unsupportive interactions (e.g., dismissed, or made to feel invisible when support is expected) negatively impacts well-being (Anisman, 2014; Jorden, Matheson, & Anisman, 2009; McQuaid, Bombay, McInnis, Matheson, & Anisman, 2015). In this regard, unsupportive experiences are even more harmful than a lack of expected support in the first place (Ingram et al, 2001; Song & Ingram, 2002).

As for young adult siblings, they typically rely most on supports outside the family as part of the individuation process, but parents still remain important to their support network (Claes, 1998; Clark-Lempers, Lempers, & Ho, 1991; Furman & Buhrmester, 1992; Moilanen & Raffaelli, 2010). For example, at times, parents will step in to diffuse sibling conflicts (Milvesky & Heerwagen, 2013). Unfortunately, although target siblings have expressed a need for support and validation of their experiences (Lukens et al, 2004; Sin, Moone, & Harris, 2008), they can experience a lack of support from many individuals. In fact, for fear of adding to the stress of their parents, they typically do not seek their support, despite growing feelings of resentment, anger, guilt, sorrow, and other negative emotions related to their sibling's illness (Lukens et al, 2004; Lukens & Thorning, 2011; Sin, Moone, & Harris, 2008; Stalberg et al., 2004). As well, many refrain from talking about their experiences with their friends and other trusted

figures (such as teachers) in order to avoid stigma and social rejection (Jones, 2004; Sin, Moone, & Harris, 2008; van der Sanden, Bos, Stutterheim, Pryor, & Kok, 2015).

Unfortunately, when target siblings do seek support, they can experience unsupportive interactions instead. For instance, some young people attempt to cope with their sibling's illness by providing caregiving duties (Stalberg et al., 2004), but when they make inquiries about how to help their brother/ sister, as well as themselves, they are often brushed off or ignored by health professionals (Kinsella, et al., 1996; Reibschleger, 1991). It is possible that these unsupportive interactions occur because their role is perceived as ambiguous, in comparison to that of the parents who are expected to be the ones to provide the caregiving support (Lukens et al., 2002). Having been dismissed by health professionals, target siblings might turn to friends. Unfortunately, they have also been found to experience unsupport, such as rejection and abandonment from peers as early as adolescence (van der Sanden Bos, Stutterheim, Pryor, & Kok, 2015). Further, since much of the parents' caregiving resources are focused on the child with the illness (Lukens, et al., 2004; Marsh, 1999; Sanders & Szmanski, 2013) the target sibling worries about not getting enough attention (Czipri, 2004). Indeed, target siblings' needs are sometimes met with unsupportive reactions from them as well, with responses such as "I know you need [us], but your sister needs [us] more" (Lukens et al., 2004, p. 494). Consequently, target siblings often report feeling alone, forgotten, and ignored (Luken et al., 2002; Marsh, 1998; Sanders & Szmanski, 2013). To the extent that target siblings experience less support and more instances of unsupport than siblings of those without mental illness, this could be a predictor of more depressive symptoms among target siblings. In addition, a similar pattern is likely to appear between these types of siblings

in regards to life decisions, as they receive less support as they try to work out new directions through transitional phases.

Coping Strategies

According to Lazarus (1984; 1993), there are three fundamental coping strategies that individuals can employ in an effort to manage psychological stress (i.e., internal/ external demands that are appraised as stressful) to change the person-environment relationship or the meaning of the event: problem-focused, avoidant-focused, emotion-focused strategies. Problem-focused coping strategies are cognitive efforts to reduce stress that can include cognitive restructuring and problem solving. Avoidant-focused coping behaviours are employed to distance oneself from the situation (often manifested as isolation, distraction, and disengagement), while emotion-focused coping efforts aim to regulate distressing emotions (which include rumination and emotional containment). Problem-focused coping strategies are generally seen as effective in reducing stressors (Ansiman, 2014; Matheson, Skomorovsky, Fiocco, & Anisman, 2007; Pascoe & Richman, 2009) especially when the situation is perceived as controllable (Folkman & Lazarus, 1980). However, avoidant and emotion-focused coping strategies are often adopted in response to chronic stressors that are intermittent and unpredictable, and they are often found to be associated with poorer well-being (e.g., Anisman, 2014; Cohen, 2002; Moskowitz, Hult, Bussolari, & Acree, 2009; Ottenbreit & Domson, 2004; Penley, Tomaka, & Wiebe, 2002).

Target siblings and siblings of those without mental illness both tend to use problem-focused coping strategies (e.g., cognitive restructuring, problem solving) (Bank & Khan, 1997; Barak & Solomon, 2005; Czipri, 2004; Friedrich, Lively, & Rubenstein, 2008; Kinsella, et al. 1996). However, there is overwhelming evidence that target siblings

are more likely to rely heavily on avoidance and emotion-focused coping strategies (Grace, Camilleri, & Ayres, 1993; Kinsella, et al. 1996; Stalberg et al., 2003; Stalberg et al., 2004). While these strategies can potentially be effective for target siblings' immediate survival when they were children, they often result in unhealthy consequences for later functioning and well-being (e.g., Kinsella, et al. 1996; Czipri, 2004). Indeed, there is evidence that use of emotion-focused coping during target siblings' teenage and young adult years is related to current depressive symptoms (Czipri, 2004). Perhaps then, compared to target siblings, siblings of those without mental illness experience less depression as a result of adopting less avoidant and emotion-focused strategies to contend with stressors. It is also expected that a similar pattern will appear between sibling types for life decisions. In other words, as a result of using more avoidant and emotion-focused coping strategies to deal with stressors, the target sibling might not be as effective in managing and responding to the life decisions that are entailed in the transition from adolescence to adulthood.

Perfectionism

In addition to poor coping, a reduction in well-being may also be a function of trait-like characteristics (Carver & Connor-Smith, 2010). Perfectionism is a trait that is often described as setting excessively high personal standards, having concern over mistakes, and doubt over the quality of one's own work (e.g., Di Schiena, Luminet, Philippot, & Douilliez, 2012; Frost, 1990; Hewitt & Flett, 1993). While having high goals is not necessarily harmful and can reflect past success, feeling as though others require the individual to be perfect (i.e., socially prescribed perfectionism) is strongly associated with depressive symptoms (Enns & Cox, 1999; Hewitt & Flett, 1991; Hewitt & Flett,

1993). In addition, individuals who are highly self-critical are concerned about mistakes and doubt their own abilities. A prevailing finding in the literature is that individuals who possess these two features of self-critical perfectionism are also more likely to experience depressive symptoms (e.g., Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Enns & Cox, 1999; Frost, 1990; Powers, Zuroff, & Topciu, 2004; Rice, Leever, Noggle, & Lapsley, 2007; Stöber, 1998). Not surprisingly, previous research indicates that the main dimensions of perfectionism that promote depression are feeling that others required them to be perfect, being concerned over mistakes, and self-doubt in abilities (Enns, Cox, & Clara, 2005; Stöber, 1998).

Individuals who are under chronic stress and who also possess self-critical perfectionism experience even more severe depression than individuals not living with chronic stress (Békés et al., 2015). Unfortunately, striving for unrealistic perfection also adds to existing stress and is related to ineffective use of problem-focused coping (Amaral et al., 2013; Dunkley, Zuroff, & Blankstein, 2003; Flett, Hewitt, Blankstein, Solnik, & Brunschot, 1996), and increased use of avoidant (Dunkely & Blankstein, 2000; Dunkley et al., 2003) and emotion-focused coping (i.e., rumination) (Di Schiena et al., 2012; Harris, Pepper, & Maack, 2008).

Unfortunately, striving for perfection appears frequently in the literature on target siblings as a mechanism to make up for their siblings' shortcomings by trying to spare their parents from more pain (referred to as replacement child syndrome) (Marsh, 1999)) (Lukens et al., 2004; Marsh, 1998; Marsh et al., 1993a; Marsh & Dickens, 1997). Although well-intentioned, it is possible that the presence of self-critical perfectionism exacerbates negative well-being for target siblings, and negatively impacts life decisions

when avoidant and emotion-focused coping is endorsed, as well as when they are not endorsed.

The Present Study

Most studies assessing target siblings have compared them to siblings of those with other disabilities (e.g., Blasko, 2008; Czipri, 2004; Greenberg, Seltzer, Orsmond, & Krauss, 1999; Seltzer et al., 1997) and only two, to date, included a comparison group of siblings of those without mental illness (Czipri, 2004; Taylor, Greenberg, Seltzer, & Floyd, 2008). Czipri's (2004) study assessed the experiences of siblings with mental illness combined with siblings of those with developmental disorders, physical disorders, and alcohol/ drug behaviours, while Taylor et al.'s (2008) study had three distinct groups (target siblings, siblings of those with mild intellectual disabilities, and a comparison group of siblings of those without mental illness and disabilities). Therefore, to the best of this researchers' knowledge, this leaves Taylor et al.s' (2008) study to be the only one that compared target siblings to siblings of those without mental illness. The current study aimed to replicate Taylor et al.'s finding that target siblings experience more depressive symptoms than siblings of those without mental illness and further considered factors that contribute to or alter this relation, including sibling closeness, self-critical perfectionism and coping strategies. The current study also expanded on the differences in well-being between these types of siblings by assessing life decisions (career choice, where to live, religious beliefs, feelings about self, choice of romantic relationships, relationship with spouse (if married), relationship with children (if a parent), plans for own future, political views, feelings about people with mental illness, and whether to have children).

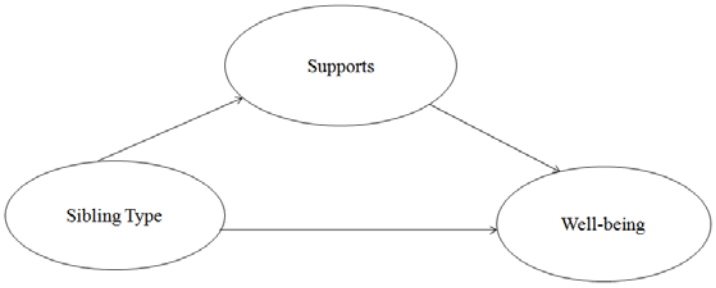
Most studies about target siblings are based on retrospective accounts derived from surveys and interviews of siblings well into adulthood (e.g., Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Horwitz, 1993; Horwitz, 1994; Horwitz & Reinhard, 1995; Jewell & Stein, 2002; Leith 2011; Leith & Stein, 2012; Lively, Friedrich, & Rubenstein, 2004; Lukens et al, 2002; Main, Gerace, & Camilleri, 1993; Sander & Szynanski, 2013). And while three studies (Blasko, 2008; Sander & Szynanski, 2013; Sin, Moone, & Harris, 2008) happen to have a mean participant age within the young adulthood phase, some participants were as young as 16 and others were 48 years of age. Therefore, to the best of the researchers' knowledge there is currently no study that assessed the impact this stressful context on the transition into young adulthood. Furthermore, the majority of these studies have examined siblings of those with some form of schizophrenia (e.g., Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Horwitz, 1993; Horwitz, 1994; Horwitz & Reinhard, 1995; Jewell & Stein, 2002; Leith 2011; Leith & Stein, 2012; Lively et al., 2004; Lukens et al, 2002; Main et al., 1993; Sander & Szynanski, 2013) rather than with a broad range of mental illnesses. Yet, siblings of those with different illnesses may respond with different coping strategies (Morris, 2002, as cited by Blasko, 2008). Furthermore, many of these studies recruited participants from support or educational groups (e.g., Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Leith & Stein, 2012; Lively et al., 2004; Main et al., 1993) despite the fact that low numbers of siblings actually attended these groups (Dixon, 1997). However, with the rise of social media, siblings are turning to the internet for information about mental illness and for social verification and support (Sin, Moone, & Harris, 2008). Thus, it should not be surprising that, although some studies yielded large

samples sizes (e.g. Friedrich et al., 2008; Lively et al., 2004), there is an over reliance on small sample sizes (hovering around 20 participants) with participants mostly recruited from support groups. Therefore, the present study aimed to add knowledge regarding this relatively neglected sub-population of young adults who have brothers/ sisters with various mental illnesses, including those that are not involved in support groups.

Although the previous studies allude to the fact that, compared to siblings of those without mental illness, target siblings experienced different well-being and that there are many variables that could differentially influence their well-being, the pathways by which this occurs is still not well understood. Therefore, the present study was guided by the Stress and Coping Theory (Lazarus & Folkman, 1984) in order to 1) determine whether differences in well-being would appear in terms of life decisions (such as career choice, decision about having children, romantic relationship choice, etc) and depressive symptoms. It also aimed to determine whether these siblings differed in terms of the psychosocial variables (i.e., sibship closeness, social support) and individual variables (i.e., coping strategies, perfectionism). Lastly, it was the intention of this research to assess whether differences in psychosocial and individual variables impacted well-being differently for siblings of those without mental illness compared to target siblings. It was hypothesized that:

(1) There would be a main effect of sibling type (i.e., having a sibling with versus without a mental illness) on many variables. Specifically, siblings of those without mental illness would report less severe depressive symptoms. In addition, the impact of their sibling on their own life decisions would be less severe and would be more positive in valence. With regards to support, siblings of those without mental illness would report

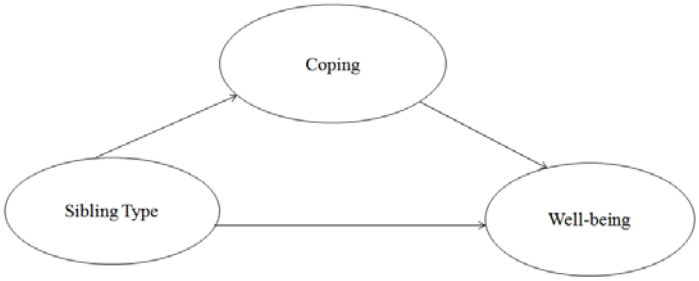
more social support and less unsupportive interactions, and less self-critical perfectionism. Lastly, with respect to coping strategies, siblings of those without mental illness would report less endorsement of emotion and avoidant-focused coping compared to target siblings and no difference between siblings would be reported for using problem-focused coping strategies.



(2)

Figure 1. mediating model linking sibling type, supports (support from others, peer and parental unsupport) and well-being (depressive symptoms and life decisions).

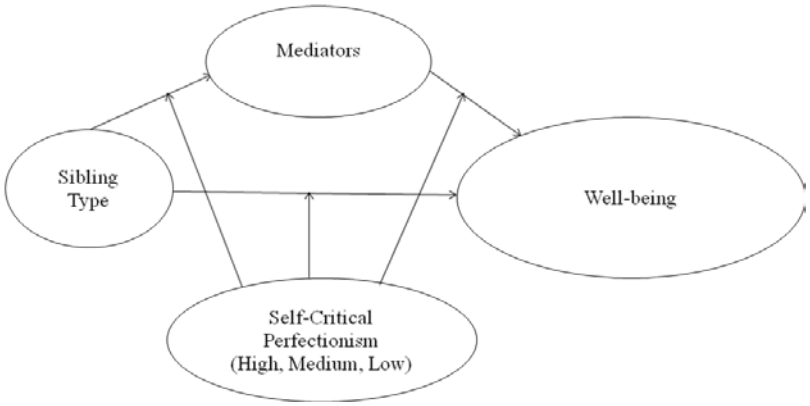
Social support and unsupportive interactions would mediate the relations between sibling type and depressive symptoms and with life decisions. Specifically, compared to being a target sibling, being a sibling of someone without mental illness would be associated with higher levels of received support and lower levels of unsupport which, in turn, would be more strongly and negatively related to depression and related to more positive impacts on life decisions.



(2)

Figure 2. Mediating model linking sibling type, coping (avoidant-focused, emotion-focused) and well-being (depressive symptoms and life decisions).

Emotion-focused and avoidant-focused coping strategies would mediate the relations between sibling type and well-being (depressive symptoms, impact on life decisions). Specifically, being a target sibling would be associated with greater endorsement of emotion-focused and avoidant-focused coping strategies which, in turn, would be positively related to depression and related to a more negative impact on life decisions.

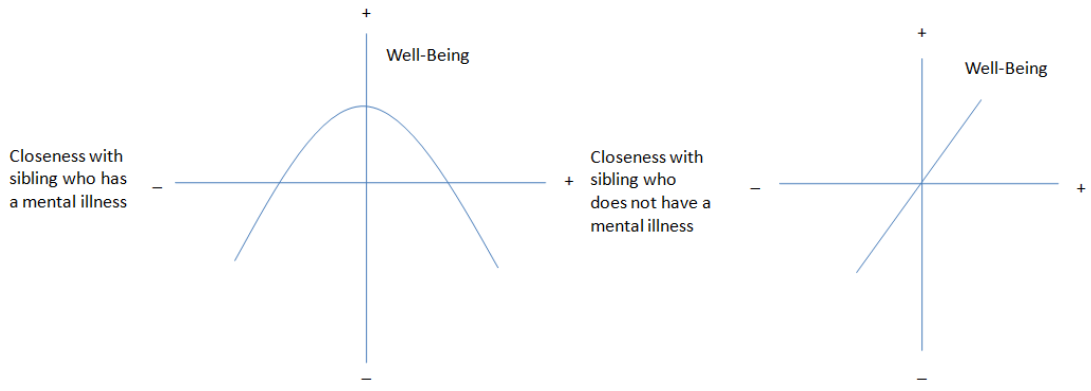


(4)

Figure 3. Moderated Mediation model linking sibling type, mediating variables (support and unsupport, emotion-focused and avoidant focused coping), and well-being (depressive symptoms, life decisions).

Self-critical perfectionism would moderate the mediated models linking sibling type and well-being. Specifically, the mediated relations would be exacerbated when individuals are higher in self-critical perfectionism.

(5) The distributions of sibling closeness would differ between siblings of those with and without mental illness. Specifically, target siblings would report more extremes in closeness with their sibling (i.e., extremely close or not close) compared to siblings of those without mental illness who would tend to have moderate levels of closeness.



(6)

Figure 4. Moderating effect of sibling type on the relations between closeness and well-being.

Having a sibling with or without mental illness would moderate the relation between closeness and well-being. There would be a linear relation between closeness and well-being for siblings of those without mental illness; those with closer sibships would report lower depressive symptoms and more positive impact of sibling on life decisions. In contrast, target siblings would show a non-linear (U-shaped) relation between closeness and life decisions and depression, in that those who reported being extremely close or distant from their sibling they would also report a greater negative impact on depression and would report less positive impacts on life decisions.

Method

Participants

A sample of individuals (N = 614) in young adulthood (i.e., between 18 and 30 years of age) who were siblings of those with mental illness/ (target siblings) and without mental illness were recruited to participate in an online survey. Participants were excluded from the analyses if they did not pass the screening questions (i.e., reported that they were not living in Canada, they were not between 18 -30 years of age, or that they did not have a sibling (see Appendix C)). Siblings of those with mental illness were also excluded if they indicated that their siblings did not have a diagnosed mental illness. For quality control, participants were also excluded based on the duration of time to complete the survey (i.e., less than 20 minutes), and if reverse scored questions were answered inappropriately. Finally, individuals that did not complete the dependent measures of the study were also excluded. Applying these criteria, 277 legitimate surveys were considered valid and analyzed.

The majority of participants were female (female 78.7%, n = 218; male 19.9%, n = 55; other/ unspecified 1.4%, n = 4) and, on average, participants were 23.0 years of age (SD = 3.85). As seen in Table 1, more participants had siblings without mental illness than there were who had siblings with a diagnosed mental illness. The majority of participants lived in Ottawa and the most prominent ethnic background was Euro-Caucasian. Most participants reported that they were employed part-time, and in terms of education most obtained some college/ university (1-3 years college/ university). The majority of participants also reported that they were older than their sibling and that they did not live with their sibling.

Table 1

Participants' Characteristics (Percentage, Frequency, Mean, Standard Deviation) (N=277)

	%	*n*
Siblings of those without mental illness	56.3	156
Siblings of those with mental illness	43.7	121
Residence		
British Columbia	0.7	2
Prairies	0.7	2
Ontario	71.5	198
Quebec	1.8	5
Atlantic Canada	7.2	20
Other/ Unspecified	18.1	50
Ethnic Background		
Euro-Caucasian	70.0	194
Asian	15.9	44
Arab	2.2	6
Black	4.3	12
Latin American	1.8	5
Aboriginal	0.4	1
Other/ Unspecified	5.4	15

Table 1 Continued

	%	n
Employment		
Part-time	36.8	102
Full-time	29.2	81
Unemployed	20.6	57
Other/ Unspecified	13.4	37
Education		
Some high school, but no diploma	2.5	7
High school diploma or equivalent	8.7	24
1-3 years of college/ university	43.3	120
Undergraduate degree	28.5	79
Postgraduate degree	15.2	42
Birth Order (in relation to their sibling)		
Older	51.3	142
Younger	46.2	128
Same age	2.2	6
Living Status		
Not living with sibling	72.2	200
Living with sibling	27.1	75

Differences in participant characteristics were observed as a function of sibling group. Specifically, a larger proportion of participants whose siblings had a mental illness

were currently diagnosed with a mental illness themselves (28.1%, $n = 34$) than siblings of those without mental illness (14.5%, $n = 22$); x^2 (1, $n = 273$) = 6.86, $p < .00$. It also appeared that participants whose sibling was without mental illness were slightly younger ($M = 23.0$, $SD = 3.95$) than those whose sibling had a mental illness, $M = 24.0$, $SD = 3.67$; t (272) = -2.12, $p = .04$. There were significantly fewer participants whose siblings were without mental illness residing in Quebec (0%, $n = 0$) compared to participants whose sibling had a mental illness (4.8%, $n = 5$), Fisher's Exact Test, $p < .05$. Participants also differed significantly in their ethnicity, in that those whose siblings were without mental illness were more likely to be Asian (88.6%, $n = 39$) compared to participants whose siblings had a mental illness (11.4%, $n = 5$); Fisher's Exact Test, $p < .00$. It should also be noted that for the participants that had a sibling with mental illness, the majority reported that they were not members of support groups (not members 86%, $n = 104$; members 5.8%, $n = 7$; unspecified 8.3%, $n = 10$). Participants did not differ in terms of gender, birth order, living status, education, employment, past psychological diagnosis, or treatment for a psychological illness.

Procedure

This study was approved by Carleton University's Research Ethics Board. Participants were recruited between February 9th, 2015 and July 16th, 2015 using a snowball sampling method through physical and online advertisements (i.e., posters and bookmarks (See Appendix A)) across Canada. For siblings of those with mental illness, the study was described as understanding the experiences and feelings about being a sibling of someone with a diagnosed mental illness. For siblings of those without mental illness, the study was simply described as understanding the experiences and feelings

about being a sibling. Siblings of those without mental illness were recruited through physical advertisements and on-line messages that were posted in areas open to the public. In an effort to have a more representative sample of target siblings, advertisements were sent to mental health organizations across Canada. Advertisements were also posted in relevant organizations (e.g., hospitals) and on social media sites available to the public. After obtaining informed consent (see Appendix B) participants were directed to three screening questions (see Appendix C). Participants that did not pass the screening questions were directed to the end of the survey thanking them for their time. Participants that passed the questions were asked to choose the sibling (with or without mental illness, respectively) that they are most involved with, and to answer all the sibling questions with that sibling in mind. Participants were then directed to the survey, which took between 35 and 50 minutes to complete. Following the questionnaires (see Appendix D, participants were asked if they would like to participate in any follow-up studies and, if so, to provide contact information (email address/ and or phone number) as well as an email address in order to receive a $10 gift card (either Tim Horoton's or Amazon.ca) to thank them for their time. Lastly, participants were given an automatically delivered debriefing. Depending on the participants' answers to the BDI, the standard debriefing about the study or the additional debriefing with information about depression, as well as resources were presented on screen (Appendix E).

Measures

Closeness. The degree of closeness in sibship was measured with the Inclusion of Other in the Self-Scale (IOSS; Aron, Aro, & Smollan, 1992). The pictorial measure of

closeness circles contains 7 choices (circles increasingly overlap to represent increasing closeness of relationship) (M = 3.7, SD = 1.70).

Social Support. Social support was measured with the Consumption and Generation of Social Support – Consumption of Social Support subscale (CGSS-CSS; Bertera, 1997). The CSS is a 12 item scale that measures the amount of social support received in the past few months on a 5-point scale ranging from 1 (*Not at all*) to 5 (*About every day*). This study asked participants how often they received social support with regards to a situation that involved the participants' sibling (either without or with mental illness) (*e.g., You received interest and concern from others in your well-being*). The total scale demonstrated acceptable internal consistency (Cronbach's α = .92, M = 2.0, SD = 0.75).

Unsupport. Unsupport was measured with the Unuspportive Social Interactions Inventory (USII; Ingram et al., 2001). The USII is a 24 item scale that originally measured the degree of unsupport participants perceive they have with others in regards to a bothersome situation. This was modified for the study to assess unsupport in regards to a situation that involved the participants' sibling (either without or with mental illness) that was bothersome such as frustrations or disappointments (e.g., *Would not seem to want to hear about it*). The scale, which ranged from 1 (*None*) to 5 (*A lot*), was used to assess such unsupport from parents as well as from friends. Average scores demonstrated acceptable internal consistencies (friends Cronbach's α =.96; parents Cronbach's α =.97; for both M = 1.98, SD = 0.76). These scales were highly correlated with one another (r = .56). Thus, they were combined into a total scale score for analyses (Cronbach's α = .97, M = 1.98, SD = 0.76).

Coping Strategies. Coping strategies were assessed with the short version of the Survey of Coping Profile Endorsement (SCOPE; Matheson & Anisman, 2003). This 27 item short version of the scale measures how individuals deal with problems/ stresses in their lives using 3 coping strategies (i.e., problem-focused, emotion-focused, avoidant-focused). Participants indicated the extent to which they would use these activities in response to experiences encountered due to having a sibling (either with or without mental illness) (e.g., *avoid thinking about this situation*) on a 5-point scale ranging from 0 (*Never*) to 4 (*Almost always*).

A principal component analysis with varimax rotation was run and based on a scree test three factors emerged. The first rotated factor comprised 10 items assessing emotion-focused coping strategies, whereas the second reflected problem-focused coping strategies with 8 items. Factor 3 included 8 items, and appeared to represent avoidance-focused coping. The reliabilities of the coping subscales were acceptable: Emotion-Focused (Cronbach's $\alpha = .85$, $M = 1.9$, $SD = 0.76$), Problem-Focused coping (Cronbach's $\alpha = .83$, $M = 1.8$, $SD = 0.72$), and Avoidance-Focused (Cronbach's $\alpha = .71$, $M = 1.9$, $SD = 0.62$).

Self-Critical Perfectionism. Self-Critical Perfectionism (SCP) was measured using 2 subscales from the Perfectionism Inventory (PI; Hill, 2004); Concern Over Mistakes (8 items) and Need for Approval (8 items). Participants were asked to rate the degree to which they agreed with each statement (e.g., *If I make a serious mistake, I feel like I'm less of a person*) on a 5-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). The subscales were highly correlated ($r = .76$). Thus, the total scale score was used (Cronbach's $\alpha = .92$, $M = 3.25$, $SD = 0.80$)

Resentment. The 14-item Resentment Scale (RS) was created for this study to measure resentment feelings towards one's sibling for those that have a sibling with mental illness (e.g., *I resent that I am left to deal with my sibling*). On a 5-point scale, ranging from 0 (*Strongly disagree*) to 4 (*Strongly agree*), participants rated the extent to which they agreed or disagreed with each statement in relation to how they feel about their efforts in relation to being with their sibling. Most items were taken from qualitative studies, and one quantitative study, on siblings of those with mental illness (Buss & Perry, 1992, Gerace et al., 1993; Horwitz & Reinhard, 1995; Lukens et al., 2004; Seltzer et al., 1997; Sin et al., 2008; Stalberg et al., 2004). The total scale demonstrated very good internal consistency (Cronbach's $\alpha = .92$). [1]

Life Decisions. The Life Domain Scale (LD; Seltzer et al, 1997) was originally used to assess the degree and direction in which individuals have been affected by a sibling with disability. For this study it was modified to assess the effects of siblings with or without mental illness. Participants rated the severity to which the brother or sister with mental illness had an effect on 10 domains of their life on a 5-point scale ranging from 0 (*Not at all affected/ Not applicable*) to 4 (*Strongly affected*). *Not applicable* was originally coded as 5, but was later recoded as 0. *I don't know* was added to the scale and later recoded from 2 into 1. Therefore the final scale is a 4-point scale ranging from 0 (*Not at all affected/ Not applicable*) to 3 (*Strongly affected*). The 10 domains were: *career choice, where to live, whether to have children, religious beliefs, feelings about self, choice of romantic relationships, relationship with spouse (if married), relationship*

[1] Resentment was considered as a possible mediator for siblings of those with mental illness, but the variable showed a floor effect (*M* = 1.56, *SD* = 0.99, range = 3.43) and so it was not considered further. It was highly correlated with unsupport ($r = .55$, $p < .01$), closeness ($r = -.31$, $p < .01$), and emotion-focused coping ($r = .49$, $p < .01$).

with children (if a parent), plans for own future, and political views. The severity scale yielded good internal consistency (Cronbach's α = .81, *M* = 0.96, *SD* = 0.60). In addition, participants were asked to report the valence of the impact ranging from -1 to 1 (i.e., -1 = *Mostly negative*, 0 = *Neither mostly negative or mostly positive*, 1 = *Mostly positive*) (*M* = 0.64, *SD* = 0.63). For each participant, there is a total impact score (irrespective of valence), as well as a valence score.

Depressive symptoms. Typical depressive symptomatology was assessed with the Beck Depression Inventory (BDI; Beck, Mendelson, Mock, & Erbaugh, 1961). This 21-item self-report rating inventory was used to measure the depressive symptoms and attitudes. Higher scores indicate higher levels of depression. The internal consistency for the BDI was considered to be good (Cronbach's α = .93, *M* = 10.30, *SD* = 9.56).

Results

Demographics and sibling characteristics

Sibling characteristics. As seen in Table 2, the siblings with mental illness were most commonly reported to have a diagnosis of depression.

Table 2.

Participants' Sibling' Mental Illness Type (Percentage, Frequency) (N=121)

	%	*n*
One illness	56.20	68
Anxiety		17
Depression		24
Schizophrenia		10
Bipolar disorder		8
Personality disorder		5
Eating disorder		3
Obsessive compulsive disorder		1
Comorbid illnesses	19.01	23
Unspecified	24.79	30

Participants' siblings were mostly female (siblings that did not have a mental illness, 53.2%, *n* = 83; siblings with mental illness, 56.2%, *n* = 68) rather than male (siblings that did not have a mental illness, 46.2%, *n* = 72; siblings with mental illness, 43.8%, *n* =53). The average of age siblings was in the low twenties (siblings that did not

have a mental illness, $M = 22.67$, $SD = 5.59$; siblings with mental illness, $M = 23.82$, $SD = 5.49$).

Differences in participants' sibling' characteristics were observed as a function of their mental health status. As seen in Table 3, participants were less likely to report that their sibling without mental illness had a high school diploma (or equivalent) and significantly more likely to report that they had a post graduate degree compared to the siblings with mental illness. The siblings without a mental illness were also more likely to be employed full-time compared to siblings with a mental illness. As seen in Table 4, participants that had a sibling without mental illness also reported that their sibling was less dependent and in better health than did those whose sibling had a mental illness. There were no differences between participants' sibling's in terms of gender and age.

Table 3

Participants' Sibling' employment and education characteristics (Percentage, Frequency)and chi-square and Fisher's Exact Tests as a function of mental illness status

	Without mental illness (n = 156)		With mental illness (n = 121)		
	%	*n*	*%*	*n*	x^2/ *FET*
Employment					x^2
Part-time	21.2	33	32.1	28	
Full-time	42.9	67	20.7	25	17.37***
Unemployed	32.1	50	47.1	57	
Other/ Unspecified	3.8	6	9.1	11	
Education					*FET*
8 years or less of elementary	4.5	7	3.3	4	
Some high school, but no diploma	12.2	19	18.2	22	
High school diploma or equivalent	9.6	15	26.4	32	***
1-3 years of college/ university	31.4	49	30.6	37	
Undergraduate degree	30.1	47	17.4	21	
Postgraduate degree	11.5	18	3.30	4	***

FET stands for Fisher's Exact Test, $^{***}p < .001$

Table 4

Participants' Sibling' dependency, and characteristics (Mean, Standard Deviation) as a function of mental illness status

	Without mental illness (n = 156)		With mental illness (n = 121)		
	M	*SD*	*M*	*SD*	*t*
Dependency	1.9	1.03	2.7	1.17	4.98**
Health	3.8	0.84	2.6	0.99	11.39**

*p<.05; **p < .01

Preliminary Analyses

To determine whether participants that started but did not complete the survey (n = 60) were different from those who completed the study (n = 277)) Chi-Square tests for independence (with Yates Continuity Correction or Fisher's Exact Tests when violation of the cell frequency counts assumption) assessed differences in categorical variables, and t-test were performed for continuous demographic variables. No differences were found between completers and non-completers on their sibling's characteristics including gender, age, mental illness status (i.e., has or does not have mental illness), education level, dependency level, or health status.

Descriptive Analyses

Correlations between mediating and moderating variables. As seen in Table 5, zero order correlations suggested that, among both sibling types perceptions of social support that had been received was positively related to unsupportive interactions, problem-focused, and emotion-focused coping, but was only related to avoidant-focused coping and sibship closeness among siblings of those without mental illness. In addition, received support was also only related, and negatively so, to self-critical perfectionism among siblings of those with mental illness. Unsupportive interactions were positively associated with all coping strategies, as well as self-critical perfectionism among both groups. For both sibling groups, self-critical perfectionism was positively related to emotion-focused coping, but was further related to avoidant focused coping among siblings of those with mental illness. Among all participants, sibship closeness was negatively related to avoidant-focused coping.

Table 5.

Pearson Correlations among predictors: closeness, supports, coping strategies, and self-critical perfectionism (Siblings of those without mental illness above the Diagonal vs. Siblings of those with mental illness below the Diagonal)

Variable	1	2	3	4	5	6	7
Supports							
1. Closeness	---	.18*	-.03	.01	-.18*	-.11	-.18*
2. Received Social Support	.01	---	.47**	.30**	.29**	.26**	.10
3. Unsupportive Interactions	-.15	.27**	---	.24**	.51**	.37**	.29**
Coping Strategies							
4. Problem Focused	.03	.36**	.21*	---	.48**	.48**	.13
5. Emotion Focused	-.12	.27**	.49**	.35**	---	.55**	.41**
6. Avoidant Focused	-.22*	.04	.36**	.31**	.28**	---	.14
7. *Self-Critical Perfectionism*	-.09	-.19*	.25**	.04	.38**	.03	---

*p<.05; **p < .01

Correlations between mediators and outcomes.

Table 6.

Pearson Correlations among mediators; supports, coping strategies, and outcome variables: depressive symptoms, life decisions valence, life decisions severity. (Siblings of those without mental illness above the Diagonal vs. Siblings of those with mental illness below the Diagonal)

Variable	1	2	3	4	5	6	7
1. Life Decisions Severity	---	.07	-.05	.23**	.19*	.08	.22**
2. Life Decisions Valence	-.14	---	-.32**	-.17*	.00	-.29**	-.21**
3. Depressive Symptoms	.22*	-.17	---	.28**	.11	.36**	.12
4. Unsupportive Interactions	.47**	.23*	.30**	---			
5. Received Social Support	.23*	-.04	.06		---		
6. Emotion Focused Coping	.38*	-.16	.30**			---	
7. Avoidant Focused Coping	.11	-.22	.03				---

*p<.05; **p < .01

As seen in Table 6, among both sibling types, unsupportive interactions and received social support were positively related to the extent to which siblings were perceived to impact important life decisions. Avoidance-focused coping was related to greater perceived impacts on life decisions among siblings of those without mental illness, whereas emotion-focused coping was related to such perceptions among siblings of those with mental illness. Unsupportive interactions and emotion-focused coping were related to perceiving such impacts on life decisions to be negative among siblings of those without mental illness (as was avoidance coping), but positive for siblings of those with mental illness. Finally, for both sibling types, unsupportive interactions and emotion-focused coping were related to more severe depressive symptoms.

Main Analyses

The role of sibling type. Prior to conducting the analyses to evaluate the hypotheses, the potential moderating effects of gender were considered. A two-way multivariate analysis of variance (MANOVA) was conducted to assess the differences between sibling types and gender on support variables (support and unsupport). None of sibling type, Pillai's = .02, $F(3, 266) = 2.17$, $p = .09$, gender , Pillai's = .02, $F(3, 266) = 1.63$, $p = .18$, nor their interaction was significant, Pillai's = .01, $F(3, 266) = 0.46$, $p = .71$.

A two-way MANOVA was conducted to determine whether differences in coping strategies (i.e., emotion-focused, avoidant-focused, and problem-focused coping) between sibling type and gender were present. None of sibling type, Pillai's = .00, $F(3, 267) = 0.06$, $p = .99$, gender, Pillai's = .03, $F(3, 267) = 2.26$, $p = .08$, nor their interaction was significant, Pillai's = .01, $F(3, 267) = 0.81$, $p = .49$

It was originally hypothesized that siblings of those with mental illness would report greater levels of self-critical perfectionism compared to those in the siblings of those without mental illness condition. Contrary to expected, 2 (gender) x 2 (sibling type) analysis of variance (ANOVA) revealed that the main effect of sibling type on self-critical perfectionism was not significant, F (1,269) = 1.42, p = .24. However, a main effect of gender on self-critical perfectionism scores was found, F (1,269) = 11.58, p < .05, η^2 = .041, which revealed that females reported greater levels of perfectionism (M = 3.33, SD = 0.79) compared to males (M = 2.93, SD = 0.76). The interaction between gender and sibling type on self-critical perfectionism was not significant, F (1,269) = 0.41, p = .52.

Lastly, a MANOVA examined the differences between sibling types and gender on well-being variables (depressive symptoms, as well as dimensions of life decisions: severity and valence). As expected there was a main effect of sibling type on the well-being variables, Pillai's = .09, F(3, 265) = 8.99, p < .001, η^2 = .09. There was no main effect for gender, Pillai's = .01, F(3, 265) = .55, p = .65, nor a significant interaction, Pillai's = .01, F(3, 265) = .1.27, p = .29. Univariate ANOVAs revealed that, contrary to our hypothesis, there was no effect of sibling type on the severity of the sibling's influence on life decisions, F (1,276) = .18, p = .68. However, there was a main effect of sibling type on valence, F (1,276) = 21.59, p < .001, η^2 = .06, in that, as expected, siblings of those with mental illness reported a more negative influence of their sibling on their life decisions (M = 0.41, SD = 0.73) compared to siblings of those without mental illness (M = 0.81, SD = 0.47). Also in line with the hypothesis, siblings of those with mental illness reported greater depressive symptoms (M = 12.27, SD = 10.32) compared to

participants whose siblings were without mental illness (M = 8.91, SD = 8.69), F (1,276) = 11.19, $p < .001$, $\eta^2 = .04$.

The mediated relations between sibling type and well-being. It was hypothesized that the support dimensions (support, unsupport) would mediate the relation between sibling type and depressive symptoms and between sibling type and dimensions of life decisions. However, as the MANOVAs revealed that there was no association between the sibling type and any of the mediators, it was inappropriate to conduct mediation analyses with these variables.

The moderating role of self-critical perfectionism on the mediated models. It was hypothesized that self-critical perfectionism would moderate the mediated models linking sibling type and well-being. The moderated mediated models were assessed using bootstrapping set at 5000 resamples and 95% confidence intervals.

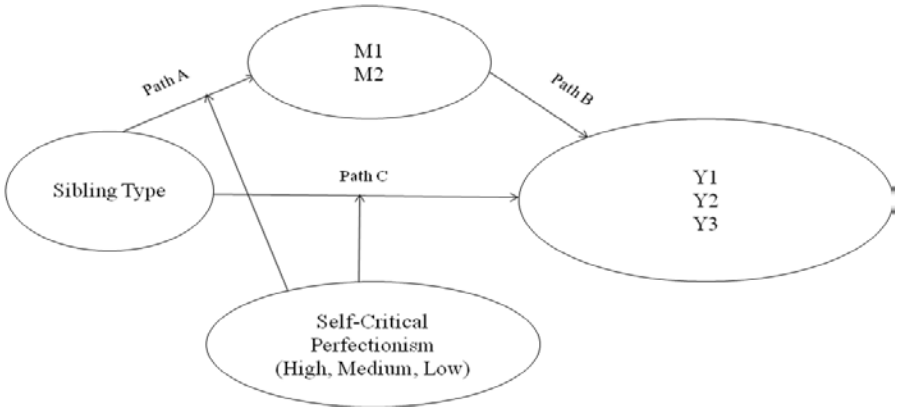


Figure 5. Conceptual conditional indirect model (on path a) and conditional direct model (on path c) linking sibling type, coping strategies, and outcomes, with self-critical perfectionism as a moderator (high, medium, low).

Conditional direct effects.

When depressive symptoms (Y1) was considered as the outcome, there was a nonsignificant interaction between sibling type and self-critical perfectionism (b = 0.556, 95% CI{-1.942; 3.054} SE = 1.269). Similarly, when the perceived positive or negative impact a sibling has on life decisions (Y2) was considered as the outcome, the interaction between sibling type and self-critical perfectionism was nonsignificant (b = 0.806, 95% CI{-0.09; 0.266} SE = 0.091). However, the relation between sibling type and the extent to which a sibling was perceived to have an impact on life decisions (Y3) was moderated by self-critical perfectionism (b = 0.294, 95% CI{0.124; 0.464} SE = 0.086). As shown in Table 7, simple slope analyses indicated that at lower levels of self-critical perfectionism, individuals that had a sibling with mental illness were less likely to report that their sibling had a strong influence on their life decisions compared to individuals that had a sibling without mental illness, whereas this difference was in the reverse at higher levels of self-critical perfectionism.

Table 7.

The relation between sibling type and life decisions severity, as moderated by self-critical perfectionism (t statistics and significance values).

Self-Critical Perfectionism Level	*t*	*p*
Low	-2.89	<.001
Medium	-.76	.44
High	1.89	.05

Conditional indirect effects.

Supports and self-critical perfectionism. With respect to figure 5, when social supports was considered as the mediators (M1) there was a moderating effect of self-critical perfectionism on the differences in received social support as a function of sibling type (b = -0.253, 95% CI{-0.479; -0.028} SE = 0.115). However, the mediated effect remained nonsignificant for all well-being variables (for depressive symptoms (Y1) 95% CI{-1.942; 3.054}; for the direction of impact (i.e., valence) a sibling has on life decisions (Y2) 95% CI{-0.093; 0.266 }; and for the extent of impact a sibling has on life decisions (Y3) 95% CI{-0.1287; 0.1297}).Compared to those that had a sibling without mental illness, those that had a sibling with mental illness received less support when they were also highly self-critical perfectionists. However, the amount of received support did not, in turn, influence the extent to which their sibling impacted life decisions. There was no moderated effect of self-critical perfectionism on the relation between sibling type and unsupportive interactions (b = -0.037, 95% CI {-0.259; 0.185} SE = 0.113).

Coping and self-critical perfectionism. When coping strategies were considered as the mediators (M2) (figure 5), sibling type and self-critical perfectionism did not interact to influence either the emotion-focused (b = -0.073, 95% CI{-.2858, 0.139} SE = 0.1079), or avoidant-focused coping (b = -0.099, 95% CI{-0.289; 0.089} SE = 0.096), or problem-focused coping (b = -0.116, 95% CI{-0.333; 0.101} SE = 0.110).

The role of sibling type on closeness. It was hypothesized that siblings of those with mental illness would experience greater extremes in sibship closeness compared to siblings of those without mental illness. A variance ratio test (i.e., Levene's Test) was

conducted to assess the presence of heterogeneity of variances between target siblings versus siblings of those without mental illness in terms of closeness. Although there was greater variance in closeness for siblings of those with mental illness ($p < .01$), rather than greater distribution of scores at the extremes, the distribution was skewed toward reporting lower levels of closeness (Mean difference = -0.47, 95% CI {-0.891; -0.063} *SE* = 0.21, Siblings of those without mental illness *M* = 3.91, *SD* = 1.58; target siblings *M* = 3.43, *SD* = 1.84), as seen in Figures 6 and 7.

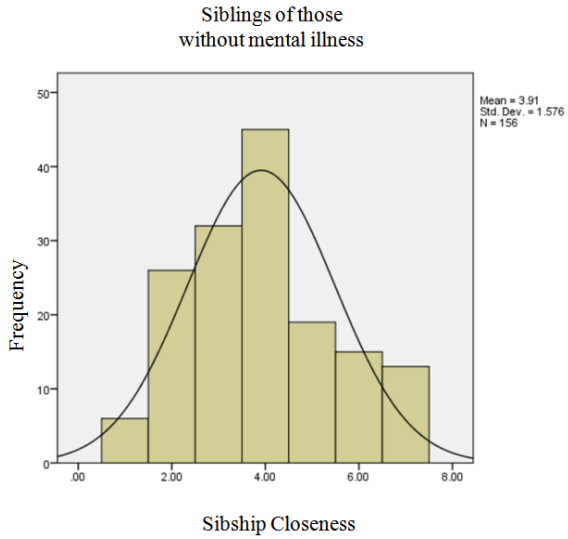


Figure 6. Variability in closeness among siblings of those without mental illness.

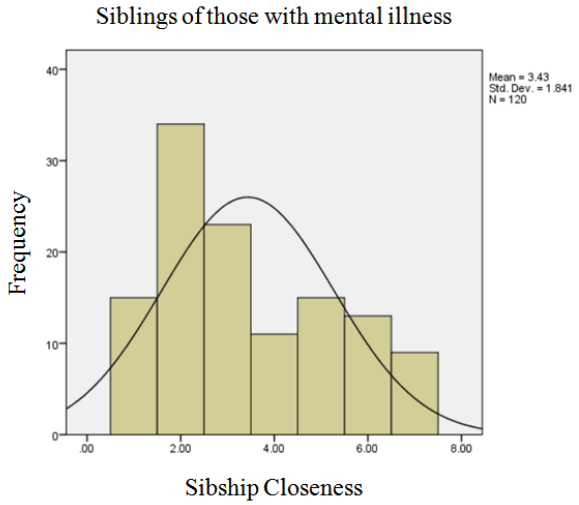


Figure 7. Variability in closeness among siblings of those with mental illness.

The role of closeness on well-being. Hierarchical polynomial regressions were conducted to determine whether target siblings showed a non-linear relation between closeness and depression and dimensions of life decisions, and whether this relation was moderated by sibling type. Unstandardized scores for the outcome variable and independent variables, specifically, sibling type (coded 0 and 1 for siblings without mental illness and siblings with mental illness, respectively) and closeness were entered on the first step. The interaction term between closeness and sibling type was entered on the second step. On the third step, the quadratic for closeness was entered, followed by the interaction between sibling type and the quadratic effect of closeness on the fourth step. This analysis was performed for each of the three outcome variables. As noted earlier, siblings of those with mental illness reported higher levels of depression than siblings of those without mental illness (b = 2.632, 95% CI{0.392; 4.873} SE = 1.139), and closeness was negatively associated with depressive symptoms (b = -1.173, 95% CI{-1.824; -0.523} SE = 0.33), such that the less closeness individuals felt with their siblings, the more symptoms they experienced. The interaction term between sibling type and closeness was nonsignificant (b = -0.719, 95% CI{-2.021; 0.582} SE = 0.661). The curvilinear relation between closeness and depressive symptoms was marginally significant (t = 1.81, p = .07). As shown in figure 8, this relation was u-shaped indicating greater depressive symptoms at lower or particularly high levels of closeness with the sibling. The relation did not differ between siblings of those with versus without mental illness (b = -0.258, 95% CI{-1.012; 0.497} SE = 0.383).

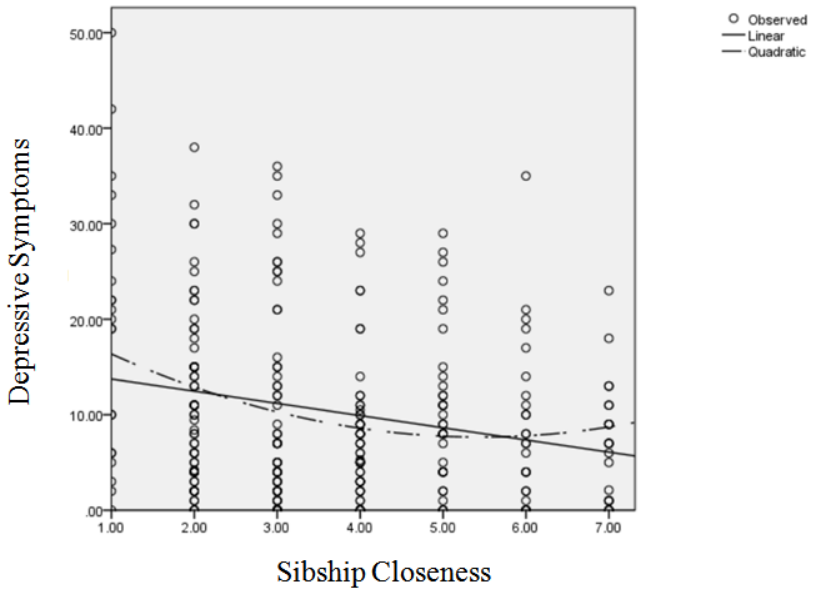


Figure 8. A curvilinear relationship between sibship closeness and depressive symptoms as indicated by the quadratic (perforated line). The observed variability within each level of sibship closeness as indicated by the o.

Sibling type and closeness were also significantly associated with life decisions valence. Siblings of those with mental illness reported a more negative influence from their siblings on life decisions (b = -0.332, 95% CI{-0.462; -0.203 } SE = 0.066), and individuals with close sibships experienced more positive impacts on life decisions (b = 0.164, 95% CI{0.127; 0.202} SE = 0.019). The interaction term between sibling type and closeness was not significant (b = -0.068, 95% CI{-0.007; 0.143} SE = 0.038). However, there was a significant curvilinear trend (b = -0.048, 95% CI{-0.069; -0.027} SE = 0.011). As shown in figure 9, at low or increasingly high levels of closeness in the sibship, individuals experienced less positive impacts on life decisions. This curvilinear trend did not vary as a function of sibling type (b = 0.018, 95% CI{-0.024; 0.06} SE = 0.021).

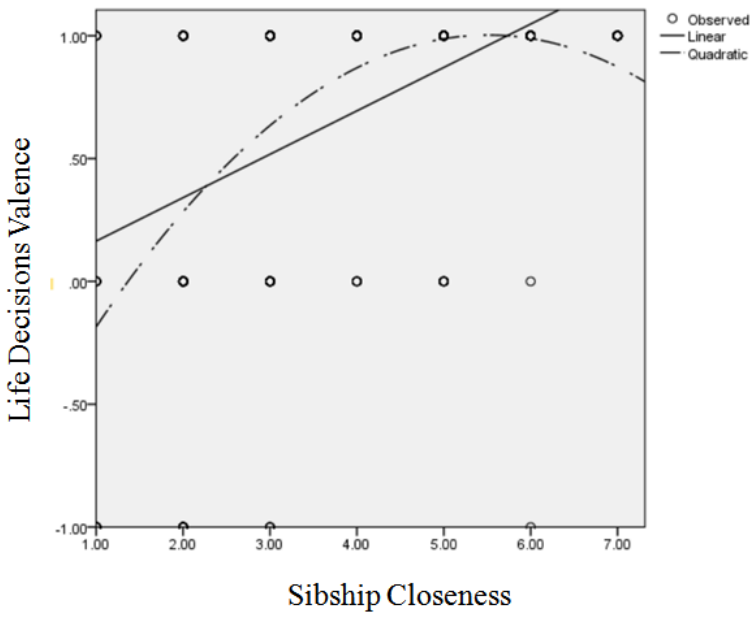


Figure 9. A curvilinear relationship between sibship closeness and life decisions valence as indicated by the quadratic (perforated line). The observed variability within each level of sibship closeness as indicated by the o.

There was no significant relationship between sibling type (b = -0.012, 95% CI{-0.158; 0.134} SE = 0.074) and severity of sibling's influence on life decisions, nor was there a significant relation between closeness and severity (b = 0.022, 95% CI{-0.02; 0.064} SE = 0.022), nor interaction term (b = -0.071, 95% CI{-0.156; 0.014} SE = 0.043). The curvilinear relation between closeness and severity of life decisions was also nonsignificant (b = 0.01, 95% CI{-0.015; 0.034} SE = 0.012), and did not change as a function of sibling type (b = 0.003, 95% CI{-0.047; 0.052} SE = 0.025).

Discussion

Young adulthood is a particularly stressful time as individuals separate from their support systems (family and friends) and focus on making future decisions about their own lives (Riser, 1999; Whiteman et al., 2009). As part of this process, siblings typically de-identify from one another and become less close (Arnett, 2000; review by Conger & Little, 2010; Tanner, 2005), while at the same time, continue to offer some support to each other, and such support is related to positive well-being (Mc Ghee, 1985; Milevsky, 2005). But, there is little known about how these sibling interactions influence the well-being of young adults that have a sibling with mental illness.

It was hypothesized that in comparison to individuals that had a sibling without mental illness, those that had a sibling with mental illness (target siblings) were expected to experience poorer well-being with regards to depressive symptoms and their life decisions. In line with expectations, we found that target siblings experienced more negative well-being with respect to depressive symptoms and perceived a more negative influence of their sibling on life decisions. This supports previous research findings conducted on older target siblings who retrospectively recalled how having a sibling with mental illness added complications to an already difficult life stage (e.g., Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Lively et al., 2004; Lukens et al, 2002; Main et al., 1993; Sander & Szynanski, 2013).

However contrary to expected, compared to those that had a sibling without mental illness, target siblings did not report that their sibling had a more extensive impact on their life decisions and, indeed, while both sibling types acknowledged that their sibling had some impact on life decisions, it was to a very small degree. It is possible that

the extent of the perceived impact was diminished due to a self-serving attribution bias; an act of self-deception. In a effort to become independent from their nuclear family (including de-identifying from their sibling), and in the context of living in an individualistic society that places importance on personal control over one's choices and basing one's identity on personal achievements (Oyserman, Coon, & Kemmelmeier, 2002), perhaps participants attributed their choices of adulthood goals (future or attained) to being within their own control.

Given that it is typical for siblings to distance themselves during young adulthood while focusing on themselves, but remain responsive to their each other's needs when called upon (review by Conger & Little, 2010), it was expected that moderate levels of closeness would be typical for those who had a sibling without mental illness and would be associated with positive well-being. However, it was expected that extremely close or extremely distant sibships would be more typical for target siblings, due to having seen dramatic changes in their sibling when diagnosed and throughout their young adult development (Gerace et al, 1993, Greenberg et al., 1999), Indeed, as expected, individuals whose sibling did not have mental illness experienced, on average, moderate levels of closeness. Target siblings reported being less close to their sibling, but there was also greater variability in their sibship closeness. However, the distribution was highly concentrated (skewed) around the low levels of sibship closeness, as opposed to showing the expected bimodal (very distant and very close) distribution. The greater variability may reflect what qualitative researchers (Gerace et al, 1993) have described as different types of detachment and involvement regarding managing their sibling's illness that could be imagined to fall on a continuum instead of on extremes. These include detached

approach (where involvement is indirect as an attempt to distance themselves as much as possible from their sibling), crisis-oriented (where involvement is sporadic as they take charge only when emergency situations arise because of a lack of parental oversight), and a collaborative approach (where individuals are very involved with family and health professionals to treat their sibling). In support of this line of thinking, Jewell & Stein (1999) found that target siblings can feel ambivalent about how to balance their needs versus their sibling's and so are torn between caring for themselves versus their sibling. This struggle suggests that those that feel this way may oscillate in their feelings of closeness. Thus, it is also possible that in the current study the different levels of closeness reflected torn feelings of individuals, but this was also reflected in the positive skew in their reports of closeness.

Although close sibships are predictive of well-being, being too close or too distant could negatively effect well-being. Indeed, in the current study, irrespective of sibling type, siblings who had extremes in sibship closeness (i.e., very distant or very close) also tended to experience more depressive symptoms and perceived a less positive influence of their sibling on life decisions. Work by Shortt & Gottman (1997) found that close young adult siblings are more likely to see the perspective of their sibling and are also more empathetic. Therefore, although it was not measured, it is possible that the individuals with close sibships were more empathetic towards their sibling, and could suggest a problem with the deidentification process. For example, being overly empathetic they may be aware that they ride the wave of emotions that their sibling feels. Thus, although they could be aware that they feel good when their sibling feels good, they would also experience negative emotions when their sibling is struggling. This

particular sample was close in age with their sibling. So while the participants were experiencing stress related to navigating young adulthood, they could have been aware that their sibling was experiencing this as well. In this regard, being too close might be damaging in terms of the higher depressive scores and a more negative impact on life decisions that were found in this study. Conversely, individuals that had a very distant sibship and more negative well-being might have experienced a lack of empathy and less support from their sibling than they would have liked. Therefore, future researchers should consider the role of empathy as a factor that contributes to the relation between closeness and well-being.

It had been hypothesized that differences in well-being for sibling types would be due to differences in supports and coping strategies when dealing with a sibling conflict. Previous research has suggested that during young adulthood, siblings tend to rely on their networks outside their nuclear families (e.g., friends) (Moilanen & Raffaelli, 2010), but parents may also help resolve sibling conflicts (Milvesky & Heerwagen, 2013).Target siblings report experiencing additional stressors (such as negative emotions regarding their sibling's illness), but do not often seek support from for fear of burdening parents or being rejected by friends; and when they do, they frequently encounter unsupport (e.g., Lukens et al, 2004; Saden et al., 2015; Sin et al, 2008).Thus, it was expected that individuals that had a sibling without mental illness would have experienced more support and less unsupport compared target siblings. However, the results revealed that both sibling types reported little support and little unsupport from their friends and family. Although it was not analyzed in this study, perhaps, when problems arose with a sibling during young adulthood, individuals relied very little on their parents and friends

and were more likely to discuss the issue with a significant other. Indeed, during this life period, support from a significant other is more prevalent than support from friends (Meeus, Branje, van der Valk, & de Wied, 2007). Or individuals may have kept their troubles to themselves or believed they have gained the skills at this time to work the problems out directly with the sibling.

With respect to coping strategies, the results from this study were consistent with previous work (Barak & Solomon, 2005; Czipri, 2004; Friedrich, Lively, & Rubenstein, 2008; Kinsella, et al. 1996) in that both types of siblings used problem-focused coping to the same extent when dealing with a difficult sibling situation (albeit to a low extent). However, contrary to previous qualitative findings, target siblings did not endorse avoidant-focused and emotion-focused coping to a larger extent. Indeed, the results suggested that both types of siblings endorse these coping strategies to a similarly low extent. Perhaps differences would be detected if specific strategies from within the categories and/ or combinations were assessed rather than the general categories of coping strategies, as other researchers have noted siblings of those with mental illness tend to cope by emotionally and physically isolating themselves and escaping through activities (part of avoidant-focused coping) as well as, blocking/ internalizing emotions (part of emotion-focused coping) (Grace et al., 1993; Kinsella, et al. 1996; Stalberg et al, 2004).

Lastly, qualitative research conducted on target siblings has suggested that they frequently become unhealthy perfectionists (self-critical perfectionists) in order to make up for their sibling's perceived deficits and to reduce the stress on their parents. The results from this study suggested that self-critical perfectionism was equally prevalent in

both types of siblings and did not negatively influence depressive symptoms or the extent to which a sibling was perceived to have had a positive impact on life decisions. This said, the implications of self-critical perfectionism differed for sibling types. Specifically, at lower levels of self-critical perfectionism, individuals that had a sibling with mental illness were less likely to report that their sibling had an influence on their life decisions compared to individuals whose sibling was without mental illness. However, at higher levels of self-critical perfectionism, a sibling with mental illness was perceived to have a strong impact on life decisions. It appears that these factors, in combination, underlie the pervasive effect of having a sibling with mental illness on the lives of young people as they attempt to make decisions about their life course.

An Alternative Model: A Socio-biological perspective

The sociobiolgical evolutionary view (Dawkins, 2006; Trivers, 2011) takes the perspective that genes are selfish – they provide patterns of behaviours to its gene machine (i.e., human body) to use in order to ensure its reproduction. The genes result in behaviours that maximize potential for success (i.e., creates the environment with highest chance that the gene will be replicated). Perhaps self-deception regarding one's own life decisions, rather than admitting the extent to which a sibling impacted them, is one such benefitting behaviour during young adulthood. Self-deception is what Wilson and Gilbert (2005) call the psychological immune system because it is a psychological defence mechanism that helps to maintain happiness with oneself by looking for the best view on things. Individuals suppress thoughts purposefully to induce a biased mental state; exemplified by the ability to have an increased opinion of oneself (Gur & Sackeim, 1979 as cited by Trivers, 2011). Furthermore, some level of self-deception about our image

allows individuals to better attract mates, thus it contributes to our own survival. Had self-deception and efforts to impress/ attract a potential mate been measured in the current study, it might have offered a different explanation for the low impact of a sibling on life decisions.

Because successful reproduction behaviours are a means to pass genes on, behaviours that contribute to looking after a gene machine's own interest (such as with self-deception) supports this goal. However, if the same gene exists in family members, individuals may also care for that family member, say a sibling, to ensure genetic survival through them. Full siblings have a 50% chance (same as parent-offspring relations) of sharing the same genes (known as having a relatedness of ½). And so individuals (at the genetic level) estimate that they should care for their sibling's half as much as they care for themselves. However, under certain conditions it can be more beneficial to care for a sibling more (to help them reproduce) than it would be to focus on reproduction from its own gene machine. For instance, genes are even more successful if they have a double-effect on the body; that is to say that while a gene selfishly strives to replicate itself through the individual having children of its own, it can also be coded to behave altruistically towards others (so siblings) that likely have the same gene. Caring for a sibling with this gene increases the chances that both individuals reproduce the same gene. Other reasons could be that, again at the genetic level, individuals calculate themselves as having a lower probability of reproduction compared to their sibling who may be stronger in health or younger in age (so their chances of reproduction are much greater).

Although this is speculation, had relatedness been measured it might have shown that most individuals that had a sibling without mental illness were full siblings and it would have supported the moderate levels of closeness seen among this group, on average. In addition, if we analyzed the presence or absence of a dominant altruistic allele, it might have explained why some siblings are very close and others are very distant. Therefore, for this reason it might be of interest for researchers to measure self-deception about ones successes in future studies, as well as sibling relatedness, presence of an altruistic allele, and the relations these variables have to feelings of sibling closeness.

Limitations and Future Research Directions

Because these data are correlational in nature, the results regarding sibship closeness and well-being should be interpreted with caution. For example, it was suggested that having a very close sibship predicted poorer well-being, but it could be that individuals that had poor well-being (for other reasons) and, in eliciting support from their sibling regarding these issues they became very close. In the same vein, as noted previously separation from the nuclear family is stressful and thus, being very distant from ones sibling could have induced poorer well-being. However, it is possible that having poorer well-being influenced one to become distant from ones sibling. Indeed those who experience depression tend to isolate themselves from others, which incidentally could add to their poorer levels of well-being. In a similar vein, the higher levels of depressive symptoms that were found in participants that had a sibling with mental illness should be interpreted with caution. This difference might very well reflect that having a sibling with mental illness imposes a more stressful situation that

undermines well-being. However, because it is unknown which came first for these individuals, the stressful situation or their own mental illness, the extent to which having a sibling with a mental illness contributed to their depressive symptoms is unknown.

The differences between sibling types may not be generalizable, due to the fact that participants were recruited though snowball sampling, which is considered a form of convenience sampling and thus, unknown biases cannot be ruled out. Further, many participants were recruited though online advertisements and posters in universities, thereby creating a self-selection bias, including a sample that was highly educated and had access to technology.

Most studies that examined siblings of those with mental illness actively recruited participants from support groups (Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Leith & Stein, 2012; Lively et al., 2004; Main et al., 1993), whereas this study obtained a majority of participants that were not involved with support groups. This may account for the different findings compared to previous research. Mental illness support groups are known to decrease stigma and isolation, as well as point out constructive ways of coping through the informal support that is offered by those in similar situations (Saudners, 2003). Therefore, without the benefits of support groups for the participants in this study, it's possible that they had lower levels of support due to unchecked stigma and self-induced isolation and did not learn as effective coping strategies compared to those that may be involved in support groups. Thus, with respect to individuals that have siblings with mental illness, it would be interesting for further research to explore whether those that are involved in support groups have very different experiences versus those who are not involved in support groups. In addition, siblings of

those with different illnesses may employ different coping strategies (Morris, 2002, as cited by Blasko, 2008) and participants in this study had siblings with a broad range of mental illnesses (albeit, depression was the most prevalent), compared to previous studies which focused on participants that had a sibling with schizophrenia (Friedrich et al., 2008; Gerace et al., 1993; Hatfield & Lefley, 2005; Horwitz, 1993; Horwitz, 1994; Horwitz & Reinhard, 1995; Jewell & Stein, 2002; Leith 2011; Leith & Stein, 2012; Lively et al., 2004; Lukens et al, 2002; Main et al., 1993; Sander & Szynanski, 2013).Therefore, it might be fruitful for future studies to examine whether coping differences among target siblings exists as a function of their sibling's diagnosis.

Lastly, a short story about the researcher's experience with having a sibling with mental illness was used heavily to attract this subpopulation of siblings. While steps were taken to reduce demand characteristics, females may have identified more strongly with the story than males given the researcher is female, and this might explain why the majority of participants were female. Although this bias towards female participants is not uncommon, it should still be mentioned that the results may not be genearlizable to both genders, especially given that females tend to experience higher levels of depression (Piccinelli & Wilkinson, 2000).

In conclusion, this study complemented previous retrospective studies that showed, compared to those that had a sibling without mental illness, target siblings experienced poorer levels of well-being (i.e., depression). In addition, the current study extended these findings by identifying some of the factors that did or did not mediate or moderate the relation between having a sibling with mental illness in young adulthood, on depressive symptoms and life decisions. The most important variables for target

siblings seem to be self-critical perfectionism and sibship closeness. Specifically, a higher level of self-critical perfectionism was related to a more negative impact of a sibling on life decisions. And although coping strategies and supports did not mediate the relations between sibling type and well-being, like siblings of those without mental illness, moderate levels of closeness were ideal for target siblings well-being; with less depressive symptoms and a more positive impact of a sibling on life decisions. These factors might be the basis for consideration in supporting young people who have siblings with mental illness.

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Appendix A

Advertisements

Siblings Without Mental Illness Advertisements

A.) Website Advertisement

Do you have a sibling?

Study: Siblings – A Life-Course Perspective

Do you have a sibling? Are you willing to share with us what this has meant to you?

The purpose of this study is to better understand the experiences and feelings about being a sibling. We will be asking questions about your relationship with your sibling, your other social relationships, coping strategies, your emotional feelings, well-being and the decisions you make about your life.

The study will take approximately 25 minutes to complete.
You will receive a $10.00 card of your choice for either Tim Horton's or Amazon.ca for your participation in the study. **Please note that it can take a couple of weeks before your response is processed and we send you your gift certificate.**

This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference # 14-169)

Eligibility: You must have a sibling. You must be18-30 years of age and live in Canada.

To take the survey, please go to **http://tinyurl.com/SiblingStudy-CU** or

Contacts
The following people are involved in this research project and may be contacted at any time if you have further questions about this project, what it means, or concerns about how it was conducted:

Lisa Emberley, Graduate Researcher, Department of Neuroscience
Phone: 613 520-2600 ext. 7513, lisaemberley@cmail.carleton.ca

Dr. Kim Matheson, Faculty Member, Department of Health Sciences
Phone: 613 520-3570, Kim.Matheson@carleton.ca

Dr. Hymie Anisman, Faculty Member, Department of Neuroscience
Phone: 613 520-2699, Hymie.Anisman@carleton.ca

Ethical concerns: Should you have any ethical concerns about this research, please contact Dr. Shelley Brown, at: Shelley Brown@carleton.ca (613-520-2600 ext. 1505).
Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca

B.) Other Social Media Advertisement (e.g. Twitter and Facebook)

Twitter and Facebook

To take this survey please go to http://tinyurl.com/SiblingStudyCU

Do you have a sibling?

Carleton UNIVERSITY

Study: Siblings – A Life-Course Perspective

Do you have a sibling? Are you willing to share with us what this has meant to you?

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Lisa Emberley, Graduate Researcher, Department of Neuroscience
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Dr. Kim Matheson, Faculty Member, Department of Health Sciences
Phone: 613 520-3570, Kim.Matheson@carleton.ca

Dr. Hymie Anisman, Faculty Member, Department of Neuroscience
Phone: 613 520-2699, Hymie.Anisman@carleton.ca

Ethical concerns: Should you have any ethical concerns about this research, please contact Dr. Shelley Brown, at: Shelley_Brown@carleton.ca (613-520-2600 ext. 1505).
Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca

C.) Physical Advertisement (Poster)

Carleton UNIVERSITY

Do you have a sibling?

Study: Siblings – A Life-Course Perspective

Do you have a sibling? Are you willing to share with us what this has meant to you?

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You will receive a $10.00 card of your choice for either Tim Horton's or Amazon.ca for your participation in the study. **Please note that it can take a couple of weeks before your response is processed and we send you your gift certificate.**

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Lisa Emberley, Graduate Researcher, Department of Neuroscience
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Dr. Kim Matheson, Faculty Member, Department of Health Sciences
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Phone: 613 520-2699, Hymie.Anisman@carleton.ca

Ethical concerns: Should you have any ethical concerns about this research, please contact Dr. Shelley Brown, at: Shelley Brown@carleton.ca (613-520-2600 ext. 1505).
Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca

OR TAKE A TAB

Have a sibling? **Take this survey** http://tinyurl.com/SiblingStudyCU

Siblings With Mental Illness Advertisements

A.) Future Funder Website Advertisement

Understanding Young Siblings of People With a Mental Illness

The Rundown

We say “blood is thicker than water” when only a family member would persist in a bad situation. My brother & I were very close – we were best friends before we could speak. When I was 2 & he was 4, he was in the hospital for surgery. On a visit, when we saw each other we ran towards one another as fast as our little legs could take us with arms outstretched, me yelling “fuuur!” & he “saaww!” because we couldn’t say our names yet. I’m running an online national survey at **http://tinyurl.com/SiblingStudy-CU** (~35 min) for siblings of those with mental illness. To participate in this study you should have a sibling with a diagnosed mental illness, and you should be18-30 years of age, and live in Canada. All donations to the project will go towards research initiatives including participant recruitment.

I remember, shortly after I turned 18, when the world changed for my family, but stayed the same for everyone else. My brother gave me a look that was both blank & fearful, & said, “Who are you? You look familiar, but I don’t know you”. To the psychiatric hospital we went for the first of many times. Now when I visited, neither of us ran towards the other, no arms were outstretched. All I could do was awkwardly try to be the

same sister I always was & wonder what my now mute brother was thinking, what the drugs were doing to him, & whether he would recognize me again.

After my family navigated the mental health system, I realized that we weren't the same. I was 18, struggling with my own feelings, completing high school, listening to jokes about mental illness in the hallways, & uncertain what the future would bring.

This experience inspired my Master's thesis in Neuroscience. I'm interested in the experiences of young people (18-30 yrs) who have siblings with or without mental illness. Siblings of those diagnosed with a mental illness can experience a range of social/emotional issues, from feeling protective & responsible, to feeling left out as attention is focused on their sibling. Parents & friends are often lost as to how to help. I will explore how the emotions, supports, & coping strategies of those who have a sibling with a mental illness enable them to make positive life choices.

The Background

Young adulthood (18-30 years) is a critical period for making decisions that lead to long-term well-being. Siblings of those with a mental illness can experience a life trajectory that is altered. Some siblings fail to acquire trust & security, & prematurely experience increased family responsibilities. Many report that the whole family focuses on the sibling with illness. Some deal with this by separating from their families. Others report focusing on their sibling, neglecting their own needs.

Many studies show that adulthood markers (full time employment, living independently, marriage, parenthood) are impacted for these siblings. But there is also evidence that many are resilient, demonstrating positive well-being in the face of stressful situations.

Sibling closeness is predictive of caregiving; looping back to the issue of balancing family & self needs.

Little is known about the experience of young adults who are siblings of those with mental illness. Most siblings in past studies were over the age of 30 and, thus, had likely already achieved most adulthood markers. Also, the majority of siblings in those studies were recruited from support groups, and may be different from those who have not sought the help of a support group. Thus, research has in large measure ignored the young adult sibling experience & findings are likely non-representative of the population. My research will focus on the experience of young adults who have a sibling with mental illness. Specifically, what influences these siblings to develop healthy relationships & make positive life decisions. The knowledge gained will help identify the unique challenges that this population faces & the protective factors that could benefit them & their families. As the community becomes aware of these factors, we will be able to improve supports for them – increasing their own & their families' ability to care for the sibling while ensuring their own mental health.

The Rollout

Expected Time Line of Events:

• From February 2015 participants will be recruited by through:

- Online video
- Postings at various organizations, websites, and through social media.
- Word of mouth – if you know someone who might be interested in participating, let them know about the study.

• 6 months later, I hope to have enough respondents to begin analyzing the data.

• March, 2016 the results will be submitted as my Master's thesis.

• April, 2016 I will post a summary of the results on the Carleton website, and will distribute to relevant mental health and family services organizations to post.

The Benefits

• 100% of the donations to the project will go towards research initiatives including participant recruitment.

• We are aiming to recruit a nationally representative sample of 400 participants.

• Having a representative sample of participants means that the findings are more likely to be a meaningful reflection of the experience of siblings of those diagnosed with a mental illness.

B.) In-Survey Advertisement

Do you know another sibling of someone with mental illness?

Please tell them about our study by

- **Sending them this link http://tinyurl.com/SiblingStudyCU**

OR

- **Printing this advertisement for them.**

Print this advertisement

C.) Other Website/ Media Advertisements

To take this survey please go to **http://tinyurl.com/SiblingStudy-CU**

Carleton UNIVERSITY

Have a sibling with a mental illness?

Share your experience and contribute to sibling research by participating in a study on
Siblings of Those With and Without Mental Illness – A Life-Course Perspective

Listen to Lisa's experience & complete the survey at
http://bit.ly/1BeJgp4

or

The purpose of this study is to better understand the experiences and feelings about being a sibling of someone with a diagnosed mental illness. We will be asking questions about your relationship with your sibling who has a mental illness, your other social relationships, coping strategies, your emotional feelings, well-being, and the decisions you make about your life.

The study will take approximately 35 minutes to complete.
You will receive a $10.00 card of your choice for either Tim Horton's or Amazon.ca for your participation in the study. **Please note that it can take a couple of weeks before your response is processed and we send you your gift certificate.**

This study has received clearance by the Carleton University Psychology Research Ethics Board (Reference # 14-169)

Eligibility: You must have a sibling with a diagnosed mental illness.
You must be18-30 years of age and live in Canada.

Contacts
The following people are involved in this research project and may be contacted at any time if you have further questions about this project, what it means, or concerns about how it was conducted:

Lisa Emberley, Graduate Researcher, Department of Neuroscience
Phone: 613 520-2600 ext. 7513, lisaemberley@cmail.carleton.ca

Dr. Kim Matheson, Faculty Member, Department of Health Sciences
Phone: 613 520-3570, Kim.Matheson@carleton.ca

Dr. Hymie Anisman, Faculty Member, Department of Neuroscience
Phone: 613 520-2699, Hymie.Anisman@carleton.ca

Ethical concerns: Should you have any ethical concerns about this research, please contact Dr. Shelley Brown, at: Shelley_Brown@carleton.ca (613-520-2600 ext. 1505).
Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca

D.) Physcial Advertisements (Poster and Bookmark)

Poster

Carleton UNIVERSITY

Have a sibling with a mental illness?

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The purpose of this study is to better understand the experiences and feelings about being a sibling of someone with a diagnosed mental illness. We will be asking questions about your relationship with your sibling who has a mental illness, your other social relationships, coping strategies, your emotional feelings, well-being, and the decisions you make about your life.

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Have a sibling with a mental illness?
Lisa's Experience & take the Survey
http://bit.ly/1BeJgp4

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Bookmark

Carleton UNIVERSITY

Have a sibling with a mental illness?

Share your experience and contribute to sibling research by participating in a study on *Siblings of Those With and Without Mental Illness – A Life-Course Perspective*

Listen to Lisa's experience & complete the survey at http://bit.ly/1BeJgp4

or

Purpose of this study: To better understand the experiences and feelings about being a sibling of someone with a diagnosed mental illness. We will be asking questions about your relationship with your sibling who has a mental illness, your other social relationships, coping strategies, your emotional feelings, well-being, and the decisions you make about your life

The study will take approximately 35 minutes.
You will receive a $10.00 card of your choice for either Tim Horton's or Amazon.ca. ***Please note that it can take a couple of weeks before your response is processed and we send you your gift certificate.***

Eligibility:

- *You must have a sibling with a diagnosed mental illness.*
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Appendix B

Informed Consent

The purpose of an informed consent is to insure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information such that you have the opportunity to determine whether you wish to participate in the study.

Study title: Siblings of Those With and Without Mental Illness – A Life-Course Perspective

Contacts

The following people are involved in this research project and may be contacted at any time if you have further questions about this project, what it means, or concerns about how it was conducted:

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Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca

Purpose:

The purpose of the study is to examine the psychosocial factors that contribute to the well being of siblings of people with or without a diagnosed mental disorder. Some of the psychosocial factors of interest to assess are individuals' emotions and ways of coping in reaction to having a sibling with (or without) a mental illness. Other psychosocial factors that will be examined include the quality of sibling relationship, prioritization of sibling and own needs, and sense of identity. By understanding the psychosocial factors that predict well-being and decisions concerning life course, we can better understand the experience of having a sibling with a mental illness. Ultimately, this research may aid professionals to improve the lives of individuals within the family by identifying well siblings' needs and approaches to treatment.

What are we asking you to do?

In this online study we will be asking you to fill out a number of questionnaires regarding information related to yours and your sibling's background (e.g., family and medical history, psychological well-being), as well as, your coping abilities (e.g., perfectionism), mood (e.g., depression), and the quality of your relationship with your sibling who has mental illness (e.g., closeness). In addition, we will be asking about your decisions

related to life. This study should take approximately between 25 and 35 minutes to complete. Your estimated time is dependent upon the advertisement you received. After you have completed the study, depending on the initial advertisement you received, you will receive another advertisement asking you to tell others about the study.

What will I receive for my participation?

Monetary compensation will **NOT** be provided for participation in this study. Participating in this confidential study will provided you with a safe environment in which to express your thoughts, beliefs, and emotions related to being a sibling of someone with mental illness that you may not otherwise feel comfortable talking about. We also hope that this study format and results will allow you to feel your experience is validated and will be helpful to other well siblings, and their families, in the future.

Potential risks or causes of discomfort for participants

There are no physical risks in this study. There may be some discomfort or anxiety experienced when responding to some questions of a sensitive nature in this study. We will be asking you to fill out questionnaires related to your emotions, as well as, yours and your sibling's mental health (e.g., depressive symptoms, medications, etc.). Some of the questionnaires will ask about stigma, depression, and negative emotions and thinking. If this is the case, the Debriefing form at the end of the study contains contact information for people who are available to help. For some individuals, answering these questions may produce some discomfort. Please note, you can skip questions and you can also choose to withdraw from the study at any point.

Anonymity and Confidentiality

Security of data collection

The data collected in this study are strictly confidential. All data are coded such that your name is not associated with the responses you provide. Any identifying information associated with your code will be confined to a date file that will be separated from your questionnaire and informed consent, and kept in a separate, secured file by the research investigators, who will keep this information confidential.

Within the questionnaire based study you are not asked for any identifying information (i.e. Name, email address, phone number, and personal identification code). However, at the end of the study you will be asked to create a personal identification code that contains the first three letters of your mother's maiden name and last three numbers of your social insurance number. All questionnaire responses collected from you for this study will be identified with a code number, as opposed to any personal identifiers such as your name or address. We will maintain a separate record that matches your personal identification details with this code number.

At the end of the study you will be asked to provide your name, email address, and phone number in order to contact you in the future about a follow up study. This is necessary in order for us to re-contact you in the future (with your express permission to do so). However, should you wish not participate or be contacted in the future for a follow up study you have the option for not providing your contact information. If you do provide

your contact information this record that allows your identity to be linked to your information will kept in a separate and secured location from the study questionnaire responses and informed consent form, in order to maintain confidentiality of your information.

After contacting participants for the future study this contact information will be destroyed. All personal identifying information will be destroyed within 3 years of collection. All information is stored on the Qualtrics server and will be password protected. Information will only be accessible by this research lab (i.e. faculty and students working in the **Social Diversity Lab**) and US authorities.

If you have any additional questions or concerns, please ask the researcher today or contact any of the principal investigators at a later date.

Qualtrics – Online Survey System

We will be collecting data using the software Qualtrics, which uses servers with multiple layers of security to protect the privacy of the data (e.g., encrypted websites and password protected storage). Please note that Qualtrics is hosted by a server located in the USA. The United States Patriot Act permits U.S. law enforcement officials, for the purpose of an anti-terrorism investigation, to seek a court order that allows access to the personal records of any person without that person's knowledge. In view of this we cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study you acknowledge this.

Security of data storage on Qualtrics

The data collected will remain on the Qualtrics account until the end of the study (***up to 6 months***) and will then be deleted. No backups will be kept on the Qualtrics server after the deletion has been processed. In addition, the data will be downloaded upon completion of the study and stored on password protected lab computers. (APA guidelines ***8.14).***

Please note that to re-contact you for future research participation we will be asking you for your name, phone number, and email address at the end of the study. To do this we will download two separate data files. One file contains your questionnaire responses and consent form identifiable only by a code that you will generate; the other contains your name, phone number, and email. This information will be kept separately and destroyed within the three year limit.

Right to withdraw from this study

Participation in this study is entirely voluntary. At any point during the study you have the right to not complete certain questions or to withdraw with no penalty whatsoever.

I have read the above form and understand the conditions of my participation. My participation in this study is voluntary, and I understand that if at any time I wish to leave the experiment, I may do so without having to give an explanation and with no penalty whatsoever. Furthermore, I am also aware that the data gathered in this study are confidential and that my responses and informed consent are kept in a separate file from any identifying information that I provide. The data collected will be used in research

publications and/or for teaching purposes. My selection of "Accept" indicates that I agree to participate in the study, and this in no way constitutes a waiver of my rights.

By clicking the "ACCEPT"" button, you state that you have read the above information and have granted consent to participate in this study.

ACCEPT **DECLINE**

Appendix C

Screening Questions

1. Do you live in Canada?

   □ Yes

   □ No

2. What is your age?

   □ 17 or younger

   □ 18 – 30 years

   □ 31 – 45 years

   □ 46 or older

3. Are you a sibling of someone with or without mental illness?

   □ With

   □ Without

   □ Neither (I do not have a sibling)

Appendix D

Questionnaires

Demographic Questionnaire For Siblings of Those Without Mental Illness (Part 1)

Background Information About Your Sibling

1. How many siblings do you have? _____

If you have more than one sibling please answer questions with one sibling in mind.

2. What is your current living arrangement with your sibling?

   □ Living with my brother/ sister

   □ Not living with my brother/ sister

3. If you live with your brother/ sister please specify:

   □ Living with parent(s) and brother/ sister

   □ Living with my brother/ sister who only

   □ Other (please specify) _____

4. Please further specify your living arrangements:

   □ Living alone

   □ Living with friends

   □ Living with roommates

   □ Living with parent(s) only

   □ Living with spouse/significant other

   □ Living with spouse/significant other and young children (13 years and younger)

   □ Living with spouse/significant other and older children (13 years and older)

□ Other (please specify) _____

5. How far do you live from your sibling?

□ Within a 1 hour drive (about 0-50 miles)

□ Within a 1 to 2 hour drive (51-100 miles)

□ Within a ½ a day's drive (101-300 miles)

□ Within 1 day's drive (301-1000 miles)

□ Cannot be easily reached by car (over 1000 miles)

6. What is your birth order in relation to your sibling?

□ Older

□ Younger

□ Same age

Please answer the following questions about your sibling

7. Sex: □ Female □ Male

8. Age: _____

9. What is his/her current living arrangement? *Please select the one that best applies to you.*

□ Lives independently in house or apartment with no formal supervision

□ Lives with a family member

□ Homeless

□ Lives in a correctional facility (i.e. jail or prison)

□ Other (please specify): _____

9. Has or does your brother/sister currently have any health related (i.e., medical) illnesses or physical conditions? *Please select the one that best applies.*

□ No, s/he does not

□ Yes, s/he did but no longer does

□ Yes, s/he does

If YES, please specify illness/condition s/he had/has _____

If YES, please specify any current treatment s/he is receiving _____

10. Has your brother/sister ever in the past had a psychological disorder/condition (e.g. depression, anxiety, etc.) that is in remission?

□ No, s/he has not

□ Yes, s/he has

If Yes, please specify the disorder/condition s/he had_____

11. Does your brother/ sister currently have a psychological disorder/condition (e.g. depression, anxiety, etc.)?

□ No, s/he does not

□ Yes, s/he does

If Yes, please specify disorder/condition _____

If Yes, is s/he currently being treated for this disorder/condition?

□ No, s/he is not

□ Yes, s/he is

If Yes, please specify treatment type (e.g. medications, therapy). _____

If Yes, how long has your sibling been diagnosed?

□ S/he has never been to a doctor to receive a diagnosis

□ Less than 1 year

□ 1-2 years

□ 3-5 years

□ 5-10 years

□ 10-20 years

□ More than 20 years

12. What would you say is the severity of your sibling's psychological disorder/ condition?

□ Not serious at all

□ A little serious

□ Somewhat serious

□ Very serious

13. How many times has your sibling been hospitalized?

□ Not at all

□ 1 to 2 times

□ 3 to 5 times

□ 6 to 10 times

□ More than 10 times

14. In your opinion, how would you describe your brother's/ sister's health?

□ Poor

□ Fair

□ Good

□ Very good

□ Excellent

15. How dependent would you say your sibling is?

□ Very independent: does not need much help at all

□ Independent: needs some help now and then

□ Somewhat independent: it varies/depends on the problem

□ Dependent: needs a lot of help

□ Very dependent: needs constant help

16. What is your sibling's current relationship status? *Please select the one that best applies.*

□ Single, and not seeing anyone

□ Going out with someone

□ In a serious dating relationship

□ Have recently broken up ……. Please specify how many weeks ago the breakup Occurred _____

□ Living with an intimate other

□ Engaged

□ Married

□ Separated/Divorced ……. Please specify how many months ago s/he separated

_____

□ Widowed

17. What level of education has your sibling completed?

□ 8 years or less of elementary school

□ some high school but no diploma

□ a high school diploma or equivalent

□ 1 to 3 years of college/university (including study at a technical college or CEGEP)

□ an undergraduate university degree

□ a master's degree

□ a doctoral degree

□ a professional degree [medicine (M.D.), dentistry (D.D.S.), law, or other similar

degrees]

18. What is your sibling's employment status?

□ Employed Part-time

□ Employed Full-time

□ Unemployed

□ Retired

□ Other :_____

Demographic Questionnaire For Siblings of Those With Mental Illness (Part 1)

The purpose of the following set of questions is to collect demographic information about various aspects of your life in relation to your sibling. Although some of the questions may seem unrelated to the present study (e.g., how far you live from your sibling, etc…) these factors may be important determinants of your health and well-being.

Background Information About Your Sibling With Mental Illness

1. How many siblings do you have? _____
2. How many siblings do you have diagnosed with mental illness? ___

If you have more than one sibling with a diagnosed mental illness please answer all questions in the survey with one sibling in mind.

3. What is your current living arrangement with your sibling?

   □ Living with my brother/ sister who has a mental illness

   □ Not living with my brother/ sister who has a mental illness

4. If you live with your brother/ sister please specify:

   □ Living with parent(s) and brother/ sister who has a mental illness

   □ Living with my brother/ sister who has a mental illness only

   □ Other (please specify) _____

5. Please further specify your living arrangements:

   □ Living alone

   □ Living with friends

   □ Living with roommates

   □ Living with parent(s) only

   □ Living with spouse/significant other

   □ Living with spouse/significant other and young children (13 years and younger)

   □ Living with spouse/significant other and older children (13 years and older)

   □ Other (please specify) _____

6. How far do you live from your sibling?

   □ Within a 1 hour drive (about 0-50 miles)

   □ Within a 1 to 2 hour drive (51-100 miles)

□ Within a ½ a day's drive (101-300 miles)

□ Within 1 day's drive (301-1000 miles)

□ Cannot be easily reached by car (over 1000 miles)

7. What is your birth order in relation to your sibling with mental illness?

□ Older

□ Younger

□ Same age

Please answer the following questions about your sibling with a mental illness

8. Sex: □ Female □ Male

9. Age: _____

10. What is his/her current living arrangement? *Please select the one that best applies to you.*

□ Lives independently in house or apartment with no formal supervision

□ Lives with a family member

□ Lives in house or apartment with formal supervision

□ Lives in a group home/ community residential care facility

□ Lives in a psychiatric facility

□ Homeless

□ Lives in a correctional facility (i.e. jail or prison)

□ Other (please specify): _____

11. Has or does your brother/sister currently have any health related (i.e., medical) illnesses or physical conditions? *Please select the one that best applies.*

□ No, s/he does not

□ Yes, s/he did but no longer does

□ Yes, s/he does

If YES, please specify illness/condition s/he had/has _____

If YES, please specify any current treatment s/he is receiving

_____

12. Has your brother/sister ever in the past had a psychological disorder/condition (e.g. depression, anxiety, etc.) that is in remission?

□ No, s/he has not

□ Yes, s/he has

If Yes, please specify the disorder/condition s/he had_____

13. Does your brother/ sister currently have a psychological disorder/condition (e.g. depression, anxiety, etc.)?

□ No, s/he does not

□ Yes, s/he does

If Yes, please specify disorder/condition _____

If Yes, is s/he currently being treated for this disorder/condition?

□ No, s/he is not

□ Yes, s/he is

If Yes, please specify treatment type (e.g. medications, therapy). _____

_

If Yes, how long has your sibling been diagnosed?

□ S/he has never been to a doctor to receive a diagnosis

□ Less than 1 year

□ 1-2 years

□ 3-5 years

□ 5-10 years

□ 10-20 years

□ More than 20 years

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□ Somewhat serious

□ Very serious

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□ 6 to 10 times

□ More than 10 times

16. In your opinion, how would you describe your brother's/ sister's health?

□ Poor

□ Fair

□ Good

□ Very good

□ Excellent

17. How dependent would you say your sibling is?

□ Very independent: does not need much help at all

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18. What is your sibling's current relationship status? *Please select the one that best applies.*

□ Single, and not seeing anyone

□ Going out with someone

□ In a serious dating relationship

□ Have recently broken up ……. Please specify how many weeks ago the breakup Occurred _____

□ Living with an intimate other

□ Engaged

□ Married

□ Separated/Divorced ……. Please specify how many months ago s/he separated

_____

□ Widowed

19. What level of education has your sibling completed?

□ 8 years or less of elementary school

□ some high school but no diploma

□ a high school diploma or equivalent

□ 1 to 3 years of college/university (including study at a technical college or CEGEP)

□ an undergraduate university degree

□ a master's degree

□ a doctoral degree

□ a professional degree [medicine (M.D.), dentistry (D.D.S.), law, or other similar

degrees]

20. What is your sibling's employment status?

□ Employed Part-time

□ Employed Full-time

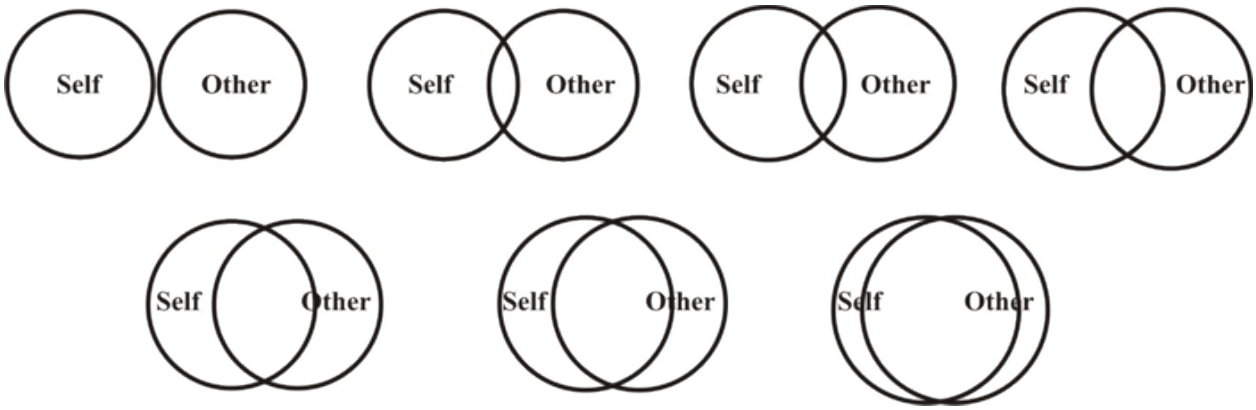
□ Unemployed

□ Retired

□ Other :_____

Inclusion of Other in the Self-Scale (I-O-SS)

Instructions: Please indicate the picture that best describes your current relationship with your sibling (the words "***who has a mental illness***" were included in the instructions for siblings of those with mental illness).



Consumption of Social Support (CSS)

In the past few months, how often have you been the recipient of these activities from other people? (the words "***with regards to a situation that involved your sibling with mental illness"*** were included in the instructions for siblings of those with mental illness). Please read each statement carefully and choose the answer that best describes your experience on the scale below.

1. You received some information from others which helped you understand a situation

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

2. You were checked back from people who had helped you to see if you had followed their advice

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

3. You received information from others on how to do something

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

4. You received feedback from others on how you were doing without saying it was good or bad

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

5. You were told from others that you are O.K. just the way you are

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

6. You received interest and concern from others in your well-being

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

7. You had someone who listened to you talking about your private feelings

Not at all	**Once or twice**	**About once a week**	**Several times a week**	**About every day**

8. You had someone who joked and kidded to try cheering you up

Not at all	Once or twice	About once a week	Several times a week	About every day

9. You were provided with transportation from others

Not at all	Once or twice	About once a week	Several times a week	About every day

10. You were helped by others to do something that needed to be done

Not at all	Once or twice	About once a week	Several times a week	About every day

11. You were provided by others with a place where you could get away for a while

Not at all	Once or twice	About once a week	Several times a week	About every day

12. You were loaned or given something by others (a physical object other than money) that you needed

Not at all	Once or twice	About once a week	Several times a week	About every day

Unsupportive Social Interactions Inventory (Friends)

Please think about times you've turned to **your friends** for support in regards to a situation ***that involved your sibling*** that was bothering you (i.e. frustrations or disappointments)

(the words ***"that involved your sibling with mental illness that was bothering you"*** were included in the instructions for siblings of those with mental illness.).

For each of the statements below, please select the number that indicates how frequently your friends responded in this way when you went to them for support.

	None				**A lot**
1. Would not seem to want to hear about it.	0	1	2	3	4
2. Would refuse to take me seriously.	0	1	2	3	4
3. Would change the subject before I wanted to.	0	1	2	3	4
4. Would refuse to provide the type of help or support I was asking for.	0	1	2	3	4
5. When I was talking about it, the person wouldn't give me enough time, or would make me feel like I should hurry.	0	1	2	3	4
6. Would discourage me from expressing feelings such as anger, hurt or sadness.	0	1	2	3	4
7. Would not seem to know what to say, or would seem afraid of saying or doing the "wrong" thing.	0	1	2	3	4
8. Would seem to be telling me what he or she thought	0	1	2	3	4

I wanted to hear.

	None				A lot
9. From voice tone, expression, or body language, I would get the feeling he or she was uncomfortable talking about it.	0	1	2	3	4
10. Would try to cheer me up when I was not ready to.	0	1	2	3	4
11. Would respond with uninvited physical touching (e.g., hugging).	0	1	2	3	4
12. Would do things for me that I would want to do and could do myself.	0	1	2	3	4
13. Would feel that I should stop worrying about the event and just forget about it.	0	1	2	3	4
14. Would tell me to be strong, to keep my chin up, or that I should not let it bother me.	0	1	2	3	4
15. Would feel that I should focus on the present or the future and that I should forget about what has happened and get on with my life.	0	1	2	3	4
16. Would feel that it could have been worse or was not as bad as I thought.	0	1	2	3	4
17. Would say that I should look on the bright side.	0	1	2	3	4
18. Would feel that I was overreacting.	0	1	2	3	4
19. Would ask “why” questions about my role in the event.	0	1	2	3	4

	None				A lot
20. Would make "Should or shouldn't have" comments about my role in the event.	0	1	2	3	4
21. Would tell me that I had gotten myself into the situation in the first place, and now must deal with the consequences.	0	1	2	3	4
22. Would blame me, or try to make me feel responsible for the event.	0	1	2	3	4
23. Would make "I told you so" or similar comments.	0	1	2	3	4
24. Would seem to be disappointed in me.	0	1	2	3	4

Unsupportive Social Interactions Inventory (Parents)

Please think about times you've turned to **your parents** for support in regards to a situation ***that involved your sibling*** that was bothering you (i.e. frustrations or disappointments) (the words ***"that involved your sibling with mental illness that was bothering you"*** were included in the instructions for siblings of those with mental illness.).

For each of the statements below, please choose the number that indicates how frequently your parents responded in this way when you went to them for support.

	None				A lot
1. Would not seem to want to hear about it.	0	1	2	3	4

2. Would refuse to take me seriously.	0	1	2	3	4
3. Would change the subject before I wanted to.	0	1	2	3	4

	None				**A lot**
4. Would refuse to provide the type of help or support I was asking for.	0	1	2	3	4
5. When I was talking about it, the person wouldn't give me enough time, or would make me feel like I should hurry.	0	1	2	3	4
6. Would discourage me from expressing feelings such as anger, hurt or sadness.	0	1	2	3	4
7. Would not seem to know what to say, or would seem afraid of saying or doing the "wrong" thing.	0	1	2	3	4
8. Would seem to be telling me what he or she thought I wanted to hear.	0	1	2	3	4
9. From voice tone, expression, or body language, I would get the feeling he or she was uncomfortable talking about it.	0	1	2	3	4
10. Would try to cheer me up when I was not ready to.	0	1	2	3	4
11. Would respond with uninvited physical touching (e.g., hugging).	0	1	2	3	4
12. Would do things for me that I would want to do and could do myself.	0	1	2	3	4

13. Would feel that I should stop worrying about the event and just forget about it.	0	1	2	3	4
14. Would tell me to be strong, to keep my chin up, or that I should not let it bother me.	0	1	2	3	4
	None				**A lot**
15. Would feel that I should focus on the present or the future and that I should forget about what has happened and get on with my life.	0	1	2	3	4
16. Would feel that it could have been worse or was not as bad as I thought.	0	1	2	3	4
17. Would say that I should look on the bright side.	0	1	2	3	4
18. Would feel that I was overreacting.	0	1	2	3	4
19 Would ask "why" questions about my role in the event.	0	1	2	3	4
20. Would make "Should or shouldn't have" comments about my role in the event.	0	1	2	3	4
21. Would tell me that I had gotten myself into the situation in the first place, and now must deal with the consequences.	0	1	2	3	4
22. Would blame me, or try to make me feel responsible for the event.	0	1	2	3	4
23. Would make "I told you so" or similar comments.	0	1	2	3	4
24. Would seem to be disappointed in me.	0	1	2	3	4

Survey of Coping Profile Endorsement (SCOPE) Short Version

The following are activities that you might do *in response to events or experiences you might encounter because of having a sibling*. Please indicate the extent to which you would use these activities as a way of dealing with experiences associated with having a sibling (the words **"*with mental illness*"** were included for siblings of those with mental illness).

In response to experiences I encounter due to having a sibling (the words "with mental illness" were included for siblings of those with mental illness) I:

	Never	*Seldom*	*Sometimes*	*Often*	*Almost always*
1. accept that there is nothing I could do to change the situation?	0	1	2	3	4
2. (if this situation is problematic for me), blame myself?	0	1	2	3	4
3. tell others when I am really upset about this situation?	0	1	2	3	4
4. ask others for help or advice?	0	1	2	3	4
5. spend a lot of time thinking about this situation?	0	1	2	3	4
6. take time for recreation or pleasure activities despite this situation.	0	1	2	3	4

	Never	*Seldom*	*Sometimes*	*Often*	*Almost always*
7. make plans to overcome my concerns regarding this situation?	0	1	2	3	4
8. avoid thinking about this situation?	0	1	2	3	4
9. tell jokes about this situation?	0	1	2	3	4
10. think a lot about who was responsible for this situation (besides me)?	0	1	2	3	4
11. worry about this situation a lot?	0	1	2	3	4
12. make humorous comments or stories about this situation?	0	1	2	3	4
13. wish the situation would just go away or be over with?	0	1	2	3	4
14. think a lot about how I brought this situation on myself?	0	1	2	3	4
15. decide to wait and see how things turn out?	0	1	2	3	4
16. try to keep my mind off things about this situation that are upsetting me?	0	1	2	3	4
17. seek reassurance and emotional support from others following things that happen because of this situation?	0	1	2	3	4
18. think about how this situation was caused by other people?	0	1	2	3	4
19. cry, even if someone else was around?	0	1	2	3	4

	Never	*Seldom*	*Sometimes*	*Often*	*Almost always*
20. look for how I could grow and learn from things that happen because of this situation?	0	1	2	3	4
21. tell myself that other people experience situations like this?	0	1	2	3	4
22. do things to keep busy or active following things that happen because of this situation (e.g. exercise, go out)?	0	1	2	3	4
23. hold in my feelings about this situation?	0	1	2	3	4
24. daydream about how the situation could turn out?	0	1	2	3	4
25. try to act as if I wasn't feeling bad following things that happen because of this situation?	0	1	2	3	4
26. take steps to overcome this situation?	0	1	2	3	4
27. turn to God or my faith following things that	0	1	2	3	4

happen because of this situation?

Resentment (RS) (only for siblings of those with mental illness)

Please answer the following in relation to how you feel about your efforts in relation to being with your sibling.

When answering the below questions, please remember there are no right or wrong answers.

Please rate the degree to which you agree or disagree with each of the items below on a scale of 0 (*strongly disagree*) to 4 (*strongly agree*).

	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
1. At times I feel I have gotten a raw deal out of life.	0	1	2	3	4
2. I am sometimes eaten up with jealousy.	0	1	2	3	4
3. I resent that I lost my privacy.	0	1	2	3	4
4. I resent that other family members don't really deal with my sibling.	0	1	2	3	4

	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
5. I resent that I am left to deal with my sibling.	0	1	2	3	4
6. I resent that my sibling takes up so much of my parents' time.	0	1	2	3	4
7. At times I resent my sibling because s/he makes too many demands on me.	0	1	2	3	4
8. I feel bitter towards my sibling because there is no longer a brotherly/ sisterly feeling.	0	1	2	3	4
9. I feel bitter towards my sibling because I have fruitlessly tried to help.	0	1	2	3	4
10. I feel anger towards my sibling for causing our parents harm.	0	1	2	3	4

	Strongly Disagree	Moderately Disagree	Neutral	Moderately Agree	Strongly Agree
11. It angers me to have to aid with my sibling because it is inconvenient.	0	1	2	3	4
12. It angers me that other family members do not equally share the burden of care.	0	1	0	3	4
13. At times I feel resentful because I am unsure whether my sibling's behaviours are intentionally manipulative or if they are due to the nature of the illness.	0	1	0	3	4
14. I wonder why sometimes I feel so bitter about things.	0	1	0	3	4

Concern Over Mistakes (CM) and Need for Approval (NA) subscales

of the Perfectionism Inventory (PI)

Please use the following options to rate how much you generally agree with each statement.

Strongly Disagree	*Disagree Somewhat*	*Neither Agree nor Disagree*	*Agree Somewhat*	*Strongly Agree*
1	2	3	4	5

2. ___ I am over-sensitive to the comments of others.

4. ___ If I make mistakes, people might think less of me.

6. ___ I compare my work to others and often feel inadequate.

8. ___ I am particularly embarrassed by failure.

10. ___ I am sensitive to how others respond to my work.

12. ___ I over-react to making mistakes.

14. ___ I'm concerned with whether or not other people approve of my actions. (na4)

16. ___ If someone points out a mistake I've made, I feel like I've lost that person's respect in some way.

18. ___ I often don't say anything, because I'm scared I might say the wrong thing.

20. ___ If I mess up on one thing, people might start questioning everything I do.

22. ___ I am self-conscious about what others think of me.

24. ___ To me, a mistake equals failure.

25. ___ I am often concerned that people will take what I say the wrong way.

Strongly Disagree	*Disagree Somewhat*	*Neither Agree nor Disagree*	*Agree Somewhat*	*Strongly Agree*
1	2	3	4	5

27. ___ Making mistakes is a sign of stupidity.

28. ___ If I make a serious mistake, I feel like I'm less of a person.

29 ___ I spend a great deal of time worrying about other people's opinion of me.

Life Domain Scale

Please rate the extent to which your brother or sister has had an effect on the following areas of your life.

		Not at all Affected	*Not Very Affected*	*I Don't Know*	*Somewhat Affected*	*Strongly Affected*	*Not Applicable*
		0	1	2	3	4	5
1.	Career choice	0	1	2	3	4	5
2.	Where to live	0	1	2	3	4	5
3.	Whether to have children	0	1	2	3	4	5
4.	Religious beliefs	0	1	2	3	4	5
5.	Feelings about self	0	1	2	3	4	5
6.	Choice of romantic relationships	0	1	2	3	4	5
7.	Relationship with spouse (if married)	0	1	2	3	4	5
8.	Relationship with children (if parent)	0	1	2	3	4	5
9.	Plans for own future	0	1	2	3	4	5
10.	Political views	0	1	2	3	4	5

Please rate your overall experience with your sibling below.

Mostly Positive **Neither mostly positive or mostly negative** **Mostly Negative**

Beck Depression Inventory (BDI)- 21 item scale

On this questionnaire are groups of statements. Please read the entire group of statements in each category. Then pick out ONE statement in that group which best describes the way you feel. Select the number beside the statement you have chosen.

1. ___ 0 =I do not feel sad

   ___ 1 = I feel sad or blue

   ___ 2a = I am blue or sad all of the time and I can't snap out of it

   ___ 2b = I am so sad or unhappy that it is very painful

   ___ 3 = I am so sad or unhappy that I can't stand it

2. ___ 0 = I am not particularly pessimistic or discouraged about the future

   ___ 1 = I feel discouraged about the future

   ___ 2a = I feel I have nothing to look forward to

   ___ 2b = I feel I won't ever get over my troubles

   ___ 3 = I feel that the future is hopeless and things cannot improve

3. ___ 0 = I do not feel like a failure

   ___ 1 = I feel I have failed more than the average person

   ___ 2a = I feel I have accomplished very little that is worthwhile or that means anything

   ___ 2b = As I look back on my life, all I can see is a lot of failures

   ___ 3 = I feel I am a complete failure as a person

4. ___ 0 = I am not particularly dissatisfied

___ 1a = I feel bored most of the time

___ 1b = I don't enjoy things the way I used to

___ 2 = I don't get satisfaction out of anything anymore

___ 3 = I am dissatisfied with everything

5. ___ 0 = I don't feel particularly guilty

___ 1 = I feel bad or unworthy a good part of the time

___ 2a = I feel quite guilty

___ 2b = I feel bad or unworthy practically all of the time now

___ 3 = I feel as though I am very bad or worthless

6. ___ 0 = I don't feel I am being punished

___ 1 = I have a feeling that something bad may happen to me

___ 2 = I feel I am being punished or will be punished

___ 3a = I feel I deserve to be punished

___ 3b = I want to be punished

7. ___ 0 = I don't feel disappointed in myself

___ 1a = I am disappointed in myself

___ 1b = I don't like myself

___ 2 = I am disgusted with myself

___ 3 = I hate myself

8. ___ 0 = I do not feel I am any worse than anybody else

___ 1 = I am very critical of myself for my weaknesses or mistakes

___ 2a = I blame myself for everything that goes wrong

___ 2b = I feel I have many bad faults

9 ___ 0 = I don't have thoughts of harming myself

___ 1 = I have thoughts of harming myself but I would not carry them out

___ 2a = I feel I would be better off dead

___ 2b = I have definite plans about committing suicide

___ 2c = I feel my family would be better off if I were dead

___ 3 = I would kill myself if I could

10. ___ 0 = I don't cry anymore than usual

___ 1 = I cry more now than I used to

___ 2 = I cry all the time now. I can't stop it

___ 3 = I used to be able to cry but now I can't cry at all even though I want to

11. ___ 0 = I am no more irritable than usual

___ 1 = I am more irritable than usual

___ 2 = I am much more irritable than usual

___ 3 = I am irritable all the time

12. ___ 0 = I have not lost interest in other people

___ 1 = I am less interested in other people than I used to be

___ 2 = I have lost most of my interest in other people and I have little feeling for them

___ 3 = I have lost all my interest in other people and don't care about them at all

13. ___ 0 = I make decisions about as well as ever

___ 1 = I am less sure of myself now and try to put off making decisions

___ 2 = I can't make decisions anymore without help

___ 3 = I can't make decisions at all anymore

14. ___ 0 = I don't feel I look any worse than I used to

___ 1 = I am worried that I am looking old or unattractive

___ 2 = I feel that there are permanent changes in my appearance and they make me look unattractive

___ 3 = I feel that I am ugly or repulsive looking

15. ___ 0 = I can work about as well as before

___ 1a = It takes extra effort to get started at doing something

___ 1b = I don't work as well as I used to

___ 2 = I have to push myself very hard to do anything

___ 3 = I can't do any work at all

16. ___ 0 = I can sleep as well as usual

___ 1 = I wake up more tired in the morning than I used to

___ 2 = I wake up 1-2 hours earlier than usual and find it hard to get back to sleep

___ 3 = I wake up early every day and can't get more than 5 hours sleep

17. ___ 0 = I don't get anymore tired than usual

___ 1 = I get tired more easily than I used to

___ 2 = I get tired from doing anything

___ 3 = I get too tired to do anything

18. ___ 0 = My appetite is no worse than usual

___ 1 = My appetite is not as good as it used to be

___ 2 = My appetite is much worse now

___ 3 = I have no appetite at all any more

19. ___ 0 = I haven't lost much weight, if any, lately

___ 1 = I have lost more than 5 pounds

___ 2 = I have lost more than 10 pounds

___ 3 = I have lost more than 15 pounds

20. ___ 0 = I am no more concerned about my health than usual

___ 1 = I am concerned about aches and pains or upset stomach or constipation or other unpleasant feelings in my body

___ 2 = I am so concerned with how I feel or what I feel that it's hard to think of much else

___ 3 = I am completely absorbed in what I feel

21. ___ 0 = I have not noticed any recent change in my interest in sex

___ 1 = I am less interested in sex than I used to be

___ 2 = I am much less interested in sex now

___ 3 = I have lost interest in sex completely

Demographic Questionnaire (Part 2)

Note: In addition to the questions in the siblings without mental illness, all questions with * indicate that they were included in the siblings with mental illness survey.

The purpose of the following set of questions is to collect demographic information about various aspects of your life. Although some of the questions may seem unrelated to the present study (e.g., religion, etc…) these factors may be important determinants of your health and well-being.

1. What is your sex: ☐ Female ☐ Male (please select one)

2. What is your age: _____

3. What is your citizenship status?

   ☐ Canadian citizen

   ☐ Landed immigrant. Since what year?_____ Country of origin _____

   ☐ Student visa Since what year?_____ Country of origin _____

   ☐ Temporary visa Since what year?_____ Country of origin _____

   ☐ Refugee Since what year?_____ Country of origin _____

4. What is your first language? _____

   If your first language is not English, how long have you been **fluent** in reading, writing and comprehension of the English language? _____

5. What is your ethnic/racial background? *Please select the one that best applies to you.*

☐Asian (e.g., Chinese, Japanese, Korean)

☐South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)

☐South East Asian (e.g., Cambodian, Indonesian, Laotian)

☐Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)

☐Black (e.g., African, Haitian, Jamaican, Somali)

☐Latin American/Hispanic

☐Aboriginal

☐White/Euro-Caucasian

☐Other (please specify): _____

6. What is your religious affiliation? *Please select the one that best applies to you.*

☐None—Atheist (e.g., belief that there is NO God)

☐None—Agnostic (e.g., belief that the existence of God cannot be known)

☐Protestant (e.g., United, Anglican, Baptist, Presbyterian, Lutheran, Pentecostal, Mennonite,"Christian")

☐Catholic (e.g., Roman Catholic, Ukrainian Catholic)

☐Jewish

☐Muslim

☐Buddhist

☐Hindu

☐Sikh

☐Bahá'í

☐Other (please specify):_____

9. What is your current relationship status? *Please select the one that best applies to you.*

☐Single, and not seeing anyone

☐Going out with someone

☐In a serious dating relationship

☐Have recently broken up ……. Please specify how many weeks ago you broke up

☐Living with an intimate other

☐ Engaged

☐ Married

☐Separated/Divorced ……. Please specify how many months ago you separated

☐ Widowed

10. What level of education have you completed?

☐ 8 years or less of elementary school

☐ some high school but no diploma

☐ a high school diploma or equivalent

☐ 1 to 3 years of college/university (including study at a technical college or CEGEP)

☐ an undergraduate university degree

☐ a master's degree

☐ a doctoral degree

☐ a professional degree [medicine (M.D.), dentistry (D.D.S.), law, or other similar

degrees]

11. Have you had or do you currently have any health related (i.e., medical) illnesses or physical conditions? *Please select the one that best applies to you.*

- ☐ No, I don't
- ☐ Yes, I did but I no longer do
- ☐ Yes, I do

If YES, please specify illness/condition you had/have

_____

If YES, please specify any current treatment you are receiving

_____

11. Do you currently have a psychological disorder/condition (e.g. depression, anxiety, etc.)?

- ☐ No, I don't
- ☐ Yes, I do

If Yes, please specify disorder/condition _____

If Yes, are you currently being treated for this disorder/condition?

- ☐ No, I'm not
- ☐ Yes I am

If Yes, please specify treatment type (e.g. medications, therapy) _____

10. Have you ever in the past had a psychological disorder/condition (e.g. depression, anxiety, etc.) but no longer do?

□ No, I haven't

□ Yes, I have

If Yes, please specify the disorder/condition you had_____

11. In your opinion, how would you describe your health?

□ Poor

□ Fair

□Good

□Very good

□ Excellent

12. Are you on any of the following medications (please select all that apply)?

□Anti-inflammatories (please specify) _____

□Anti-depressants (please specify) _____

□ Anti-anxieties (please specify) _____

□ Allergy medication (please specify) _____

□ Other prescription drugs (please specify) _____

13. What is your estimate of your family's gross income per year? *Please select the one that best applies to you.*

□ under $15,000 □ $60,000 - $74,999

□ $15,000 - $29,999 □ $75,000 - $89,999

□ $30,000 - $44,999 □ $90,000 - $104,999

□ $45,000 - $59,999 □ $105,000 or more

14. What is your employment status?

□ Employed Part-time

□ Employed Full-time

□ Unemployed

□ Retired

□ Other :_____

15. * Are you currently a (please select all that apply)

□ Member of the National Alliance on Mental Illness (NAMI)

□ Member of a support group. Please specify:_____

Appendix E

Debriefings

A.) Written Debriefing

What are we trying to learn in this research?

- Moving from adolescence and young adulthood (18-30 years) to adulthood is a critical period for health and well-being.

- Most research on well siblings of individuals with mental illness involves adults 30 years or older who have most likely already individuated from their nuclear family. Therefore, the psychological processes that influence the well-being and decisions about life course for these young individuals have not yet been addressed.

- Some research has found that older adult well siblings recall a lack of a normal development during their youth and changes to their planned life course (e.g., whether to have children, career and schooling decisions). On the other hand, many also indicate that they develop very strong bonds with their sibling.

- We adopted a life course perspective to assess the affect of having a sibling with mental illness compared to having a sibling without mental illness on these individuals‘ current well-being and life course decisions in order to better understand the unique experience of having a sibling with mental illness.

Why is this important to scientists or the general public?

- At times well siblings of those with mental illness report feeling that having a sibling with mental illness may be challenging and may experience intense emotions such as survivor guilt and resentment. These individuals may also be at risk of experiencing negative well being (i.e. less resilient).

- However, recent research has found that siblings also experience positive well-being (i.e. resiliency) and use positive coping strategies such as involvement in groups outside the home. Others report striving for perfectionism, which for some has enabled them to obtain goals in life that they may not otherwise have achieved.

- It is possible that these intense emotions and coping strategies may have important consequences for one‘s well-being and decisions about one‘s life course.

- We aim to elucidate the prevalence of and affect that these emotions have on the well-being and life course of well siblings of individuals with mental illness. We also aim to determine the differences in coping strategies between these siblings and sibling of those without mental illness.

- By understanding the variables that predict poor health and well-being, as well as, the protective and buffering variables we can begin to better understand the

experience of having a sibling with a mental illness. Ultimately, we hope that the findings of this research will aid professionals in identification of well siblings needs and treatment.

What are our hypotheses and predictions?

In this study, we expect that:

- Well siblings of individuals with mental illness who feel survivor guilt will be more likely to strive for perfectionism and join multiple social groups.

- We are also predicting that these coping strategies may influence whether guilt and perfectionism predict positive outcomes (e.g., if a person seeks social support) whereas such positive outcomes may be less evident among those with less constructive coping strategies (e.g., rumination, withdrawal).

- When individuals have a sibling with a mental illness, they may demonstrate poorer well-being, but might also have better coping strategies than individuals who do not have a sibling with a mental illness.

Want to know more about well siblings?

- Listen to an online radio documentary by following the link below:
  - http://karenbrownreports.org/wp-content/uploads/2008/10/aburdentobewell.mp3
- Read the following studies by going to these links below.

- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2610343/?tool=pubmed
- http://schizophreniabulletin.oxfordjournals.org/content/19/3/637.full.pdf
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2396577/
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2610343/
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2396553/?report=classic

Is there anything that I can do if I found this experiment to be emotionally draining?

Thank you very much for your participation in this study. If you feel any distress at the moment, from related to answering some of the personal questions during this study, you should be aware that these are legitimate feelings and it is understandable that thinking about past stressful experiences can induce feelings of distress. If you are experiencing any distress from completing these measures, please consult your family physician. Individuals can be referred to counseling though a general practitioner.

Counselling Services

The primary responsibility of counseling is to alleviate distress and promote healthy functioning by providing counselling services. Some examples of the issues individuals may discuss with a counsellor include: coping with stress/homesickness, increasing sadness, handling a crisis, improving communication, learning to be assertive, increasing self-esteem, gender identity, understanding one‘s sexuality and dealing with alcohol and drug concerns.

If you do not have a family physician or feel that you would rather contact another agency, you might consider the following resources below:

Mental Health Crisis Line: within Ottawa (613) 722-6914, outside Ottawa 1-866-996-0991, Website: http://www.crisisline.ca/

Ottawa Distress Centre: (613) 238 1089, Web Site: www.dcottawa.on.ca

Distress Centre of Toronto: (416) 408 HELP

Distress Centre of Hamilton: (905) 525-8611

Hospital Directories:

Alberta:

http://www.health.alberta.ca/

http://www.fsnhospitals.com/Canada-Hospitals/Alberta-Hospitals/

British Colombia:

http://www.health.gov.bc.ca/socsec/pdf/hospitallist.pdf

http://www.fsnhospitals.com/Canada-Hospitals/British-Columbia-Hospitals/

Saskatchewan:

http://www.fsnhospitals.com/Canada-Hospitals/Saskatchewan-Hospitals/Saskatoon-Hospitals/

Manitoba:

http://www.hospital-directory.info/hospitals-manitoba

http://www.fsnhospitals.com/Canada-Hospitals/Manitoba-Hospitals/

Ontario:

http://www.health.gov.on.ca/english/public/contact/hosp/hosploc_mn.html

http://www.fsnhospitals.com/Canada-Hospitals/Ontario-Hospitals/**Quebec:**

http://www.fsnhospitals.com/Canada-Hospitals/Quebec-Hospitals/Quebec-Hospitals/

New Brunswick:

http://nb.finditincanada.ca/app/search/cat-12014

http://www.fsnhospitals.com/Canada-Hospitals/New-Brunswick-Hospitals/

Nova Scotia:

http://www.fsnhospitals.com/Canada-Hospitals/Nova-Scotia-Hospitals/

Prince Edward Island:

http://www.fsnhospitals.com/Canada-Hospitals/Prince-Edward-Island-Hospitals/

Newfoundland:

http://www.fsnhospitals.com/Canada-Hospitals/Newfoundland-Hospitals/

Yukon :

http ://www.fsnhospitals.com/Canada-Hospitals/Yukon-Territory-Hospitals/

Nunavut :

www.yellowpages.ca

Northwest Territories:

http://www.fsnhospitals.com/Canada-Hospitals/Northwest-Territory-Hospitals/

Print option for online participants

What if I have questions later?

Please contact

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Any other concerns: For any other concerns, please contact Dr. Joanna Pozzulo (Chair, Department of Psychology, 613-520-2600, ext. 1412, psychchair@carleton.ca).

Thank you for participating in this research!

B.) Additional Debriefing

***Participants who respond with a 2a or higher on item 9(suicidal ideation), or who score 30 or above, on the Beck Depression Inventory were provided information below regarding depression and encouraged to seek counseling at local health services**

Depression is a condition that can occur for many reasons, including workplace, school, or relationship stressors, traumatic life events, discrimination, as well as physical/biological imbalances. Approximately 10-15% of people will suffer some degree of depression during their lifetime. With advances in modern medicine, most people can readily be treated for this illness, which if unattended can be long lasting and affect many aspects of one‘s life. The symptoms of depression comprise:

- Poor or depressed mood, or a reduction in the pleasure gained from otherwise positive experiences
- Sleep disturbances
- Eating disturbances (loss of appetite, or overeating despite not being hungry), which may be linked to weight changes
- Lack of sexual interest
- Fatigue and lethargy (you don‘t feel like doing anything)
- An inability to focus (e.g., you have a hard time reading)
- Reduced interactions with family and friends
- Thoughts of suicide

Someone who is depressed may experience several (3-4), but not necessarily all of the above symptoms. It is likewise the case that 60% of individuals will encounter a severe traumatic event in their lives and of these people, a fair number will develop symptoms that cause severe anxiety. Illnesses of this nature, including posttraumatic stress disorder (PTSD) can be treated. Once again, if unattended, the repercussions can be severe. Symptoms include:

- Hyperarousal (e.g., feelings of anxiety and reactivity even to minor situations)
- Intrusive thoughts (memories of the event come into your head frequently)
- Avoiding thoughts or stimuli related to the event

These symptoms can persist for more than a month following the event, and influence your day-to-day functioning.

Your responses to this survey suggest that you may be experiencing one of the above. If you are not already receiving attention for this problem, it is suggested that you contact your family physician. It is not a good idea to allow problems to fester, as ruminating over these problems will typically not make them go away. Individuals can be referred to counselling though a general practitioner.

Counselling Services

The primary responsibility of counseling is to alleviate distress and promote healthy functioning by providing counselling services. Some examples of the issues individuals may discuss with a counsellor include: coping with stress/homesickness, increasing

sadness, handling a crisis, improving communication, learning to be assertive, increasing self-esteem, gender identity, understanding one‘s sexuality and dealing with alcohol and drug concerns.

If you do not have a family physician or feel that you would rather contact another agency, you might consider the following:

Mental Health Crisis Line: within Ottawa (613) 722-6914, outside Ottawa 1-866-996-0991, Website: http://www.crisisline.ca/

Ottawa Distress Centre: (613) 238 1089, Web Site: www.dcottawa.on.ca

Distress Centre of Toronto: (416) 408 HELP

Distress Centre of Hamilton: (905) 525-8611

Hospital Directories:

Alberta:

http://www.health.alberta.ca/

http://www.fsnhospitals.com/Canada-Hospitals/Alberta-Hospitals/

British Colombia:

http://www.health.gov.bc.ca/socsec/pdf/hospitallist.pdf

http://www.fsnhospitals.com/Canada-Hospitals/British-Columbia-Hospitals/

Saskatchewan:

http://www.fsnhospitals.com/Canada-Hospitals/Saskatchewan-Hospitals/Saskatoon-Hospitals/

Manitoba:

http://www.hospital-directory.info/hospitals-manitoba

http://www.fsnhospitals.com/Canada-Hospitals/Manitoba-Hospitals/

Ontario:

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Yukon :

http ://www.fsnhospitals.com/Canada-Hospitals/Yukon-Territory-Hospitals/

Nunavut :

www.yellowpages.ca

Northwest Territories:

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