SOCIAL SUPPORT IN NON-CAREGIVER FACE-TO-FACE SUPPORT NETWORKS AND CAREGIVER FACEBOOK SUPPORT GROUPS FOR ROMANTIC PARTNERS OF SPINAL CORD INJURED (SCI) PARTNERS: THE ROLE OF RESILIENCE, COPING EFFICACY, AND SUPPORT QUALITY

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SCI CAREGIVER SUPPORT: SOCIAL SUPPORT

Social support, in non-caregiver face-to-face support networks and caregiver Facebook support groups, for romantic partners of spinal cord injured (SCI) partners: the role of resilience, coping efficacy, and support quality

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ABSTRACT

This study examined the effects of resilience and coping efficacy on perceived social support given to romantic partner caregivers of those with spinal cord injuries. This study also explored the influences of non-caregiver face-to-face and caregiver Facebook social supportiveness on caregiver well-being (stress, esteem, and health symptoms). First, this investigation explored differences in perceived support quality between via both support network types. Subsequently and relatedly, the investigation addressed the extent to which caregiver resilience and coping efficacy moderate the effect of support satisfaction on the well-being of the caregiver. In addition to clarifying the theoretical mechanism by which supportiveness may influence well-being, this research aims to offer practical guidance regarding how romantic partner caregivers of those with spinal cord injuries might most effectively receive supportive communication.

Keywords: computer-mediated communication, social support, supportive messaging, spinal cord injury, caregiver, non-caregiver, caregiver health, caregiver burnout, emotional support, face-to-face, Facebook, online support, support group, resilience, coping efficacy, (mis)matched support, enacted support.
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Social support, in non-caregiver face-to-face support networks and caregiver Facebook support groups, for romantic partners of spinal cord injured (SCI) partners: the role of resilience, coping efficacy, and support quality

Disability divides us into the ‘able-bodied’ and ‘disabled’. It also divides the people that comprise support networks into caregivers and non-caregivers. When an able-bodied and disabled person enter a romantic relationship, they face challenges other couples do not; for those partners dealing with a spinal cord injury, specifically paralysis, both partners are wholly influenced due to the interdependent relationship between the couple (Gill, 1999). Over 5.5 million people, or 1 in 50 Americans, experience some form of paralysis (Christopher and Dana Reeve Foundation, 2013). Of those, 29% (or 1,275,000 people) report being paralyzed due to a spinal cord injury (Christopher and Dana Reeve Foundation, 2013). Among those who do not reside in care facilities, 78% of adults requiring long-term, substantial care depend exclusively on family and friends for caregiving and support (Thompson, 2004). In the case of paraplegics, around 90% of caregivers are their relatives (Ehrlrich, et al., 1992; Corcoran, 1994).

A typical caregiver is the wife or daughter of the injured person, between 29-68 years old, and length of care spans months to decades (Blaines, Carmagnani & Ferreira, 2007). The more severe the paralysis, the more hands-on care the patient needs for activities of daily living: dressing, bathing, transferring, eating, cooking, and continence. Caregivers often assist paralyzed people constantly and consistently through the day and night with range of motion, pressure relief, reaching items on the floor or in cabinets, preparing and eating food, stretching, medication, running errands, body position while sitting or laying down, and exercising. These activities usually have to be performed on demand without regard to the disruption caused to the caregiver. In short, caregiving demands much of the cohabiting romantic partner, and thus leaves
the extent to which resilience and coping efficacy predict well-being and relational closeness with the injured romantic partner.

**Theoretical Perspective**

**Social Support Needs among Caregivers**

*Social support* is a multifaceted construct and has evolved from the sociology, psychology, health, and communication disciplines (Lakey & Cohen, 2000). Overall, scholars across these disciplines agree that supportive communication bonds people and results in connectedness (i.e., equivalence, sense of belonging, and identifying with a group), perceived social support (i.e., validation and uncertainty reduction), and enacted social support (i.e., emotional, companionship, and instrumental aid) (Gottlieb, 1983; Barrera, 1986). According to Burleson and MacGeorge (2002), social support is a broader term referencing the feeling of being part of a supportive social network. They reserve the term *supportive communication* for the specific verbal and nonverbal behaviors produced with the intention of providing help to others. From this perspective, communication is the lifeblood of social support. In this project, I will use both terms interchangeably, although this project focuses centrally on the communicative aspects of social support, and specifically on the perceived quality of such messages.

Over the past four decades, several studies have documented the positive effect of social support on well-being and self-efficacy (Krause, Lang, Yatomi, 1989) when coping with stressors such as long-term caregiving (Cunningham & Barbee, 2000). The more involved or connected a person is to a support network and the more (high quality) support he or she receives (or perceives as available), the less likely that person is to experience poor mental and/or physical health (Uchino, 2006). As purported by the social constructionist or social-cognitive
However, research has discovered that supportive messages are not “magic bullets” that automatically produce salutary effects in the receiver; rather, sometimes poorly constructed messages work against health benefits (LaGaipa, 1990), and which social networks offer the maximum benefit depends on many factors (such network differences will be addressed later in this review). Accordingly, over the past thirty years, social scientists have devoted significant attention to understanding how people select which social network to turn to for social support (See Adelman, Parks, & Albrecht, 1987; Bolger, Zuckerman, & Kessler, 2000; Granovetter, 1973; Lockenhoff & Carstensen, 2004; Walther, 1997; Walther & Boyd, 2002; Walther, Van Der Heide, Hamel, & Shulman, 2009; Wellman & Gulia, 1999; Wright & Bell, 2003). Of particular interest to communication scholars, one of the most potent predictors of social support outcomes is the perceived quality of supportive messages. Such research has discovered that relational closeness does not necessarily predict support quality; rather, similarity and the ability to understand the caregiver’s experiences may be more potent in generating effective support (Adelman & Albrecht, 1987; Tomlinson & Aron, 2013). Indeed, messages from well-meaning close friends and family who try to be supportive may have detrimental effects instead (Albrecht et al., 1994; Rook & Pietromonaco, 1987).

This study focuses on two types of support networks that are particularly likely to aid romantic partners of SCI partners: (a) face-to-face support available or delivered from local friends and family, who are most likely non-caregivers to romantic partners for SCI, and (b) computer-mediated support, delivered from Facebook support groups, comprised of fellow caregiving romantic partners. Both types of support have merit and value for the caregiving partner, although one without the other may not be wholly sufficient in meeting the desired types of support sought for overall caregiver well-being. The next section will elaborate on resilience
improvise (Norlander, Von Schedvin, & Archer, 2005). Taken overall, research on resilience has produced the resiliency model, describing the process by which people experience a hardship and then (un)consciously choose to learn from the challenge in a way that produces personal growth (Richardson, 2002). According to the model, a person moves from assessing their adverse situation, to coping with the hardship, to restoring balance after the stressor, and then learning lessons from the experience such that subsequent trying circumstances are easier to navigate and overcome. Resiliently reintegrating after an adverse experience is just one possible outcome predicted by this model. Not all people recover from adversity in the same way, and relevant to this study, social support may be one factor that makes a difference in a person’s ability to cope.

Following Carr (2012), this study conceptualizes resilience as an interpersonal process through which people make sense of and respond to hardship through their communication with other people (Carr, 2012). For example, a resilient caregiving partner may reach out to their local familial social network for hands-on support with caring for their sick partner and/or they may reach out to another caregiver virtually through a FB support group to ‘vent’ about a night of cleaning up bodily fluids, thus seeking instrumental support, solidarity, or advice. These interpersonal acts are a response or attempt to regain balance, persevere, and make sense out of unfortunate circumstances so that going forward daily living becomes more manageable as they develop skills to manage difficult situations. For caregivers of SCI partners, experiences navigating stressors earlier in life may have instilled resilience in them, equipping them with the ability to effectively solicit and incorporate high quality support to survive and/or thrive in the midst of the challenges of caregiving.

Relatedly, coping efficacy refers to the self-reported appraisal individuals give in regard to their emotional and social resources to control the outcomes of stressful or adverse situations
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(Carr, 2012). Hardy and efficacious people are better able to manage the harmful health and relational effects commonly associated with stressors, like those associated with caregiving. Particularly germane to this study, people with higher resilience and coping efficacy may receive higher quality support, perhaps because the resilient and efficacious solicitor can better match actual support to desired support. Therefore, a resilient and efficacious caregiver would know to approach their local support network for hands-on support and turn to the FB support network for empathy or informational support from those who can understand their unique role as romantic partner to an SCI partner. Mismatched support affects stress, closeness, and esteem (High, 2013); for example, mismatched support leads to increased health symptoms in dialysis patients (Thong, Kpatein, Krediet, Boeschoten, Dekker, 2007). It is likely that resilient and coping efficacious caregivers know the negative effects of mismatched support and, therefore, expand their network from which to seek support to prevent the mismatch and protect themselves from the harmful effects of it.

Furthermore, the theory of social provisions (Weiss, 1974) explains that social support directly impacts well-being. Provisions include psychological factors such as attachment, reassurance of worth, reliable alliance, guidance, social integration and opportunity for nurturance. The theory states that in order to have adequate provisions, a person should have multiple connections with other people to meet their needs. On the contrary, if needs go unmet, the person may experience decreased well-being. Therefore, resilient and efficacious caregivers may expand their networks to avail themselves of these provisions.

Overall, then, this investigation posits that people with resilience and coping efficacy may be more likely to believe they can muster needed support, and thus have a tendency to perceive support messages as higher quality than those who lack resilience and coping efficacy.
range from hundreds of thousands of dollars for less severe injury (degrees of paraplegia) to multiple millions of dollars (degrees of quadriplegia), and this does not account for loss of wages, productivity, or fringe benefits of the disabled partner of about $70,000 per year on average (National Spinal Cord Injury Statistical Center, 2012). It is not uncommon that the SCI partner is unable to work due to their injury, because they may not be well enough to do so. In turn, the caregiving partner may have to work less or not at all (to care for their partner), or take less demanding, lower paying jobs so that they are more available for acting in the capacity of caregiver to their partner. When employed, caregiving demands may lead them to miss time from work. Overall, then, the couple experiences diminished income, as well as the higher expenses incurred for treatment and management of the SCI, including expenses for additional hands-on support for the physical and medical aspects of caregiving. Local friends and family may be particularly important in mitigating these financial costs, both through direct financial assistance and provision of service (e.g., cooking meals, helping with home maintenance, sitting with the SCI partner during times of illness, etc.).

Beyond tangible assistance, face-to-face support networks may, in some respects, offer emotional support transcending that available through mediated communication. Without diminishing the significant and consequential relational communication that occurs through mediated channels (Walther, 1996), no mediated channels can fully replicate the full range of interactional opportunities available when face-to-face. Even the act of physically visiting someone may communicate emotional care, and acts such as affirmation or prayer may possess more meaningfulness, in some cases, when communicated face-to-face. A typed hug is unlikely to elicit the same affectionate bond conveyed through an actual physical hug. For example, some
some research has found that as much as 62%-80% of received support is incongruent with what the support seeker desires (Davidowitz & Myrick, 1984; Lehman, Ellard, & Wortman, 1986). Such mismatched and insufficient assistance may generate interpersonal problems that adversely influence the relationship between the caregiving partner and the non-caregiver friends and family who comprise the local social support network. For instance, when the caregiving partner expects low quality (or absent) support from local friends and family, they may not seek it at all and, therefore, their support needs may remain unmet. To alleviate problems of mismatched support, when the caregiving partner desires another form of support than what is accessible to them from their local resources, they may seek out alternative sources providing support that more closely matches their needs. Received support is experienced differently (by the recipient) contingent upon who is providing it (Wan, Jaccard, & Ramey, 1996). This means that the caregiver understands that the emotional support available to them from FtF friends and family will differ from emotional support available to them from FB support networks comprised of other caregivers. Furthermore, efficacious individuals understand the value, to their overall well-being, of receiving support related to caregiver burnout, for example. Friends and family who are not caregivers to their partners cannot empathize about caregiver burnout. Therefore, an efficacious caregiver will seek support from a fellow caregiver through a FB support network rather than from a close family relative who may pass judgment or cause hurt feelings.

In other words, even though a local person emotionally close to the caregiver can try to be supportive, they have no experience as a romantic partner caregiver or with spinal cord injury, so their assistance may be perceived as disingenuous, forced, awkward, strained, or even inappropriate (LaGaipa, 1990). For example, when a care recipient is chronically sleep deprived
Facebook Social Support from Other Caregivers

Weiss’ (1974) provisions theory indicates that the more available resources for support, the better. Certain types of support are desired and received from certain sources more than others (High, 2013). And a resilient person, during times of stress, will seek support from various support sources to buffer against it (High, 2013; Coty & Wallston, 2010; Jones, Ferreday, & Hodgson, 2007). While FtF support from friends and family may offer instrumental support, there often is a discrepancy in the desired support a caregiving partner seeks for emotional and helpful support and what is available to them via friends and family. Emotional support is the most desirous type of support sought from close relational partners (Burleson, 2003) and when this need goes unmet in FtF relationships, people will look for alternative sources of it. One avenue for doing so is through CMC. Similar to research on FtF support, both emotional and informational social support are the most received via CMC (Braithwaite, Waldron, & Finn, 1999). Although FB support groups are, in one sense, merely a subset of the larger corpus of online support groups (e.g., Walther & Boyd, 2002), they receive specific attention in this study because they serve as a popular venue for support today.

Romantic partner caregivers of SCI partners often do not have geographically-proximate access to others in their situation. Online support allows the caregiving romantic partner to circumvent frustrations that may occur frequently in FtF supportive communication with non-caregivers (Wright, 2000). When a caregiver has an FtF interaction with a non-caregiver who offers social support, the caregiver often feels that they should be cheery to lessen the discomfort or awkwardness of the non-caregiver (Elliot & Frank, 1990; Wright, 1983). Consequently, the caregiver may not experience the social support they truly need, and may actually feel added burden because the non-caregiver cannot adequately empathize. Researchers have concluded that
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H6: Face-to-face supportive message quality positively predicts well-being.

RQ1: Does Facebook supportive message quality positively predict well-being?

RQ2: Does face-to-face supportive message quality positively predict relational closeness?

H7: Facebook supportive message quality positively predicts relational closeness.

Figure 1 demonstrates the hypothesized relationships among the constructs so far. This theoretical model positions supports quality as a mediator of the relationship between resilience/coping efficacy on well-being/relational closeness with the romantic partner.

Specifically, following the matching hypothesis (Davidowitz & Myrick, 1984; Hagerdoon, et al., 2000; High, 2013; Xu & Burleson, 2011), I contend that those who possess resilience and coping efficacy are better able to marshal support resources (and, perhaps, perceive received support more positively than those lacking resilience and coping efficacy), and therefore quality of support accounts, at least in part, for the association between resilience/coping efficacy and beneficial outcomes. Therefore, I evaluate the extent to which support quality serves as a mediator:

H8: Face-to-face and Facebook supportive message quality mediate the association between resilience and coping efficacy on well-being and relational closeness.
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Methods

Participants

After obtaining approval from the Institutional Review Board, I solicited participation from informal Facebook support group contributors (administrators, moderators, members, subscribers, and respondents) from FB groups for caregivers of SCI partners, such as Love Like This Life and Over the Back Fence. I also reached out to SCI-oriented and/or caregiving-oriented organizations with a FB presence, such as the Christopher & Dana Reeves Foundation, Pushrims, Rick Hansen, Paraquad, Well Spouse Association, Spinalpedia, Facing Disability. I also contacted all SCI ‘model system’-designated hospitals nationally (e.g., South Florida Spinal Cord Injury Model System, The Rocky Mountain Regional Spinal Cord Injury System, and Spaulding-Harvard Spinal Cord Injury System) and inquired if they had peer-to-peer support groups on FB (e.g., the FB group for the Spinal Cord Networking and Mentoring Group at the University of Pittsburgh Medical Center at Mercy Hospital called SCI Peer Group @ UPMC/Mercy). I also made similar inquiries at SCI rehabilitation centers (e.g., Baylor Institute for Rehabilitation, Shepherd Center: Spinal Cord Injury, Brain Injury Rehabilitation, and The Center for Spinal Cord Injury Rehabilitation – Kessler Institute for Rehabilitation). The search for groups was limited to those in English and active in the three months before data collection.

Overall, 596 people visited the link to the survey; however, many did not meet the requirements for full participation. Prior to analysis, those who (a) did not have a SCI romantic partner and/or (b) did not participate in an FB support group were removed from the data set. The final effective sample size was much smaller, containing 103 respondents, 11 male (10.7%) and 92 female (89.3%). The majority of the participants identified themselves as Caucasian (n=87; 84.5%), with others identifying themselves as Hispanic American (n=6; 5.8%), African
Measures

**Stress.** Perceived stress was measured using Cohen, Kamarck, & Mermelstein’s, (1983) Perceived Stress Scale (PSS, see Appendix). The PSS is a frequently used tool measuring self-reported stress in continual conditions and circumstances often not listed on other life event scales (Cohen & Williamson, 1988). Because a shorter questionnaire is more appropriate for studies with multiple measures and a purely volunteer sample, I choose the PSS-4 (rather than the PSS-10 or PSS-14). This measure contains four Likert-type items (e.g., “In the last month, how often have you felt that you were unable to control the important things in your life?”) assessed on a scale ranging from (1) **never** to (5) **very often**. In previous studies, reliability for perceived stress was reported as .67 to .69. (Lueng, Lam, Chan, 2010; Androu, 2011). The items obtained a slightly higher reliability estimate in this study, $\alpha = .79$, $p < .01$.

**Self-esteem.** Rosenberg’s (1965) self-esteem instrument (See Appendix) assessed the caregiver's perception of self relating to worth, respect, success, value, and overall goodness. The measure contains 10 items (e.g., “I feel that I have a number of good qualities” and “I certainly feel useless at times”) assessed on a Likert-type scale ranging from (1) **strongly disagree** to (7) **strongly agree**. In previous research, internal consistency has ranged from .77 to .88, indicating acceptable internal reliability (Blascovich & Tomaka, 1991). In this study, Cronbach’s alpha was $\alpha = .85$.

**Mental health.** Dornbusch, Mont-Reynaud, Ritter, Chen, and Steinburg’s (1991; see Appendix A) physical and mental health symptom instrument is a 14-item scale that asked the caregiver to identify various feelings from the past two weeks: fatigue, nervousness, irritability, loneliness, physical illness, and so forth. Responses were recorded using a 4-point frequency scale ranging from (0) **never** to (3) **three or more times**. Higher scores represent more frequent
quality of supportiveness messages. The measure is a semantic-differential scale with 4 pairs of antonyms. In this study, participants completed the measure of perception of supportive message quality twice: once in reference to the quality of supportive messages received through the Facebook support group they use most frequently, and once in reference to the quality of face-to-face supportive messages from local friends and family. Previous research has demonstrated acceptable internal reliability for the supportiveness measure ($\alpha = .92$). Likewise, the measure achieved acceptable reliability for both face-to-face social support ($\alpha = .84$) and Facebook social support ($\alpha = .81$) in this study.

Closeness. Vangelisti and Caughlin’s (1997) seven-item measure assessed relational closeness with the SCI partner (e.g., “How satisfied are you with your relationship with your romantic partner?”). Responses were solicited using a seven-point Likert-type scale ranging from (1) not at all to (7) very much. In prior studies, the scale produced strong internal reliability ($\alpha = .93$) (Ledbetter, Kuznekoff, 2012), and the measure exhibited similarly strong reliability ($\alpha = .91$) in this study.

Data analysis

The first study hypothesis (H1) was examined using a paired samples $t$-test. The remaining hypotheses and both research questions were evaluated using a series of six hierarchical linear regressions. All regressions controlled for time of the injury (prior to or after the inception of the romantic relationship) and length of romantic relationship, in the first step. For the first two regressions, face-to-face support quality and Facebook support quality (respectively) served as dependent variables, with resilience and coping efficacy entered in the second step. The final set of four regressions predicted overall caregiver health (stress, esteem,
The third hypothesis (H3) posited positive associations for resilience and coping efficacy as predictors of quality of Facebook supportiveness. The first step of the regression model with Facebook supportiveness as the criterion variable did not produce a significant correlation coefficient, $R = .02, F(2, 100) = .01, p > .05$. The second step also did not produce a significant increase in variance explained, $R = .14, \Delta F(2, 98) = 1.01, p > .05$. Examination of the regression coefficients confirmed that neither resilience nor coping efficacy were significant predictors (see Table 2). These results did not support H3.
<table>
<thead>
<tr>
<th>Variables</th>
<th>M (SD)</th>
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<tbody>
<tr>
<td>1. Rel. Length</td>
<td>13.70 (1.03)</td>
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<td>3. Resilience</td>
<td>3.93 (0.97)</td>
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<td>4. Coping efficacy</td>
<td>3.10 (1.36)</td>
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<td>5. Face-to-face</td>
<td>5.04 (1.4)</td>
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<td>6. Supportiveness</td>
<td>5.95 (0.69)</td>
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<td>7. Facebook</td>
<td>2.38 (0.0)</td>
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<td>8. Self-esteem</td>
<td>1.10 (0.0)</td>
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<td>9. Poor health</td>
<td>2.32 (0.05)</td>
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<td>10. Relationship</td>
<td>6.26 (0.89)</td>
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Table 1: Descriptive Statistics and Correlations Among Manifest Variables
The fourth and sixth hypotheses, as well as RQ1, addressed the extent to which resilience, coping efficacy, and face-to-face and FB supportiveness predict caregiver well-being. These were tested using a series of four hierarchical regression analyses with one of the three dimensions of caregiver health (i.e., stress, esteem, and health symptoms) or relational closeness serving as the criterion variable in a model. In all four analyses, step one entered control variables (i.e., partner relationship length and whether the SCI partner was injured before or after the inception of the romantic relationship). Step two entered resilience and coping efficacy as predictors. Step three added Facebook supportiveness and face-to-face supportiveness. Table 2 summarizes the regression coefficients obtained for each analysis. Results for each dependent variable will be discussed in turn.

**Stress**

Table 3 summarizes the regression coefficients obtained for each analysis. Results for each dependent variable will be discussed in turn. The first step of the regression model with caregiver stress as the predicted variable produced a significant correlation coefficient, $R = .30$, $F(2, 100) = 5.03, p < .05$, with only time of injury serving as a significant predictor. Specifically, caregivers whose partners experienced the SCI after the inception of the relationship experienced greater stress than those whose partner experienced the injury beforehand. This step explained 9.1% of the variance in stress. The second step produced a significant increase in variance explained, $R = .58$, $\Delta F(2, 98) = 18.34, p < .01$, with this step accounting for an additional 24.8% of the variance in stress. In this step, time of injury remained a significant predictor, with resilience and coping efficacy both serving as significant inverse predictors. The final step produced a significant increase in variance explained, $R = .64$, $\Delta F(2, 96) = 6.15, p < .01$, with this step explaining an additional 7.5% of the variance in stress. Examination of the regression
Table 2

Summary of Hierarchical Regression Analyses for Variables Predicting Caregiver Perception of Quality of Supportiveness

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Facebook Supportiveness $B(\beta)$</th>
<th>Face-to-Face Supportiveness $B(\beta)$</th>
</tr>
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<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>$\Delta R^2 &lt; .01$</td>
<td>$\Delta R^2 = .02$</td>
</tr>
<tr>
<td>Rel. Length</td>
<td>$&lt; 0.01(.01)$</td>
<td>$-0.02(-.15)$</td>
</tr>
<tr>
<td>When Injured</td>
<td>$-0.03(-.02)$</td>
<td>$0.22(.08)$</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>$\Delta R^2 = .02$</td>
<td>$\Delta R^2 = .08^*$</td>
</tr>
<tr>
<td>Rel. Length</td>
<td>$&lt; -0.01(&lt; -.01)$</td>
<td>$-0.02(-.13)$</td>
</tr>
<tr>
<td>When Injured</td>
<td>$-0.07(-.04)$</td>
<td>$0.22(.08)$</td>
</tr>
<tr>
<td>Resilience</td>
<td>$0.15(.13)$</td>
<td>$0.40(.25)**$</td>
</tr>
<tr>
<td>Coping Efficacy</td>
<td>$-0.08(-.11)$</td>
<td>$0.08(.07)$</td>
</tr>
</tbody>
</table>

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

*aFor when SCI partner injured (both regardless of cohabiting status at time of injury), before inception of romantic relationship = 1, after = 2.*
Health Symptoms

For health symptoms, the first step of this hierarchical regression model produced a nonsignificant correlation coefficient, $R = .19$, $F(2, 100) = 1.93$, $p > .05$. The second step significantly increased variance explained, $R = .42$, $\Delta F(2, 98) = 8.08$, $p < .01$, with both resilience and coping efficacy inversely related to the presence of health symptoms. This step accounted for 13.6% of the variance in health symptoms. The final step produced a significant increase in variance explained, $R = .50$, $\Delta F(2, 96) = 5.21$, $p < .01$, with this step explaining an additional 8.1% of the variance in health symptoms. In this step, caregivers who received high quality face-to-face support reported fewer symptoms of poor health. However, Facebook supportiveness did not emerge as a significant predictor.

Taken overall, the results for the three health outcomes provided support for H4 (i.e., that resilience and coping efficacy positively predict well-being). Likewise, FtF supportive message quality also positively predicted well-being, supporting H6, although Facebook supportive message quality was not a significant predictor, answering RQ1 negatively.

Closeness

Hypothesis five (H5) predicted that resilience and coping efficacy would contribute to relational closeness with the injured partner. Likewise, research question two (RQ2) and hypothesis seven (H7) addressed the extent to which face-to-face and Facebook supportiveness, respectively, predict closeness. These were tested via a hierarchical regression with an identical structure as to the foregoing regressions predicting caregiver well-being. The hierarchical regression model with closeness as the criterion variable produced significant correlation coefficients at all steps, accounting for 48.0% of the variance in relational closeness between the
supportiveness, RQ2 was answered negatively, although the significantly positive association of Facebook supportiveness supported H7.

The final hypothesis (H8) addressed the extent to which support quality mediates the association between resilience/coping efficacy and the health/relational well-being outcomes. These associations were evaluated using the PROCESS bootstrapping macro developed by Hayes (2013). Table 4 presents the results of these analyses. Significant indirect effects were found only for face-to-face support as a mediator of the association between resilience and the three health outcomes (stress, esteem, and health symptoms). Thus, H8 received limited support.
Discussion

The principal goal of this research was to evaluate the extent to which the quality of face-to-face and Facebook social support, as well as resilience and coping efficacy, predict the health (e.g., stress, esteem, manifest mental and physical health symptoms) and well-being of romantic partners of those with spinal cord injuries. These aims were met, such that, among other findings, FtF support quality predicted health outcomes and FB support quality predicted relational closeness with the injured partner. Moreover, as suggested by the resiliency model (Richardson, 2002) and the buffering hypothesis (Cohen & Wills, 1985), resilience and coping efficacy emerged as reliable predictors of well-being; however, results also indicated that resilience may work against the closeness of the romantic relationship. Consequently, the results of this study not only extend our understanding of social support, but also provide preliminary evidence as to how resilience and coping efficacy function in ways that impact perception of support and relational closeness. This discussion will summarize and elaborate the study hypotheses and research questions in turn.

Summary of Results

The first hypothesis (H1) asserted that Facebook support messages would be rated as higher quality than face-to-face support messages, with a paired-samples t-test supporting this hypothesis. This prediction was based on Walther and Boyd’s (2002) argument that online support can supersede the quality of face-to-face support, especially regarding the level of empathy provided to the caregiver (Goldsmith, et al., 2000; Albrecht et al., 1994; Tomlinson & Aron, 2013; Adelman & Albrecht, 1987; Rook & Pietromonaco, 1987). Thus, romantic caregiving partners perceive emotional support from fellow caregivers, which can be readily
The fourth hypothesis (H4) asserted that resilience and coping efficacy would positively predict overall well-being. This hypothesis was supported using a series of hierarchical regression analyses with one of the three dimensions of caregiver health (i.e., stress, esteem, and health symptoms) as criterion variables. Both resilience and coping efficacy emerged as significant predictors in all three analyses, such that resilience and coping efficacy were inversely related to the presence of health symptoms. Thus, as resilience and coping efficacy increased, the presence of symptoms of physical and mental health ailments (including stress and reduced self-esteem) decreased.

Hypothesis five (H5) predicted that resilience and coping efficacy would be positively associated with relational closeness within the romantic relationship. Regression analysis indicated partial support for this hypothesis. As predicted, as coping efficacy of a caregiving partner increased, so did relational closeness; However, unexpectedly, results also revealed an inverse association between resilience and relational closeness in the final step of the regression model (i.e., after taking support quality into account). Considering that resilience in caregiving partners indicates the ability to overcome and integrate hardships into their lives in a healthy and constructive way (Carr, 2012), perhaps resilient caregiving partners limit emotional closeness with the partner as a self-protection mechanism against the pain concomitant with being emotionally close to someone who experiences such challenging obstacles. Being less close may also enable the caregiving partner to fulfill the role of caregiver more satisfactorily and with less threat to caregiver well-being when they are less relationally close to their disabled partner.

Hypothesis six (H6), which predicted that FfF support quality would predict overall well-being, received support. Specifically, FfF support quality was inversely related to stress and to the presence of health ailments and positively related to esteem. In contrast, RQ1, which asked
degenerative nature of the injury and/or secondary conditions of the SCI, emotional pain, the financial strain, the struggles with friends and family, the change in roles within the romantic partnership, and how even their disabled partner doesn't (and perhaps can't) relate to being on the caregiving side of the relationship. Moreover, it is likely that they want to identify with others who are feeling the isolation and loneliness associated with not being able to discuss these hardships with their disabled partner. Face-to-face network members may be ill-equipped to provide such support, yet without the support of those who truly understand, the wedge between the caregiver and their partner may widen over time. Other caregiving partners can relate to aforementioned complexities. Being able to talk about them, receiving sympathy, obtaining practical advice, and reassurance can arm the caregiving partner with ways to then go back and discuss these issues with their partner, which protects the closeness between the couple that may otherwise deteriorates over time.

The final hypothesis (H8) predicted that face-to-face and Facebook supportive message quality would mediate the association between resilience and coping efficacy on well-being and relational closeness. This hypothesis was partially supported, with significant indirect effects emerging only for face-to-face support quality as a mediator of resilience as a predictor of health outcomes (i.e., stress, esteem, and health symptoms). No indirect effects emerged regarding coping efficacy, FB support quality, or closeness. Therefore, these data support the argument that resilient people are more capable of mobilizing face-to-face support, which buffers against negative health outcomes; however, coping efficacy does not appear to stimulate such support mobilization.
In line with Walther and Boyd’s (2002) assessment of the benefits of online social support, when caregivers reach out for support online to other caregivers in similar situations, they may find solidarity, empathy, and a mutual understanding of the complexities of caregiving for a romantic partner. Thus, the caregiving partner can reach out to similar others who provide comfort, advice, and understanding that enables the caregiving partner to buffer against the temporal effects of caregiving on the closeness of the relationship with their romantic partner.

Though I did not expect to find such results, it worth noting that the passage of time appears to be a threat to the quality of the romantic relationship between a caregiving partner and disabled partner. Also, injuries sustained after entering a romantic relationship threaten the well-being of the relationship. Adequate social support (from friends and family coupled with emotional/relational support that only another caregiver can give) might help mitigate against the negative outcomes of those threats. Relying on only one source of support or the other may not be sufficient for optimal caregiver well-being or the closeness of the romantic couple. The caregiver can benefit from both sources of support contingent upon what type of support is sought. The two support networks are not mutually exclusive. Taken as a whole, perhaps the chief take-away is that different support networks serve different functions, and the happiest/healthiest caregivers may utilize support from both local friends and family (though sometimes oblivious and unable to relate) and distant Facebook caregiver (but rather intangible) contacts.

Limitations

Despite these implications, the results of this study should be interpreted with caution given several inherent limitations of the research design. Primarily, this study relied solely on self-report data from the perspective of the caregiver. Future research should seek data from the


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Xu, Y., & Burleson, B. R. (2001). Effects of sex, culture, and support type on perceptions of spousal social support: An assessment of the “support gap” hypothesis in early marriage.
Footnotes

1 The term, romantic partner(s), is used in this study to denote a romantic, committed, long term, cohabiting relationship. Due to the nature of spinal cord injury, it is not uncommon for couples to remain unmarried or to become divorced to prevent the disabled partner from losing access to medical and other benefits.

2 Face-to-face and FtF imply non-caregiver face-to-face support for the purposes of this study.

3 Facebook and FB imply romantic partner caregiver Facebook support for the purposes of this study.

4 SCI refers to spinal cord injury and spinal cord injured.
8. When did your partner experience the spinal cord injury?
   1. Before we became romantic partners
   2. After we became romantic partners

9. When did your partner experience the spinal cord injury?
   1. Before we cohabited
   2. After we cohabited

10. For how long has your partner been paralyzed (in years)? ________________

11. For how long have you been your SCI romantic partner's caregiver (in years)?
    ________________

12. Do you work? (other than being a caregiver to your SCI romantic partner)

   1. Yes, part-time
   2. Yes, full-time
   3. No

13. Are you a paid caregiver for your SCI romantic partner?

   1. Yes
   2. No

14. Are you a student?

   1. Yes, part-time
   2. Yes, full-time
   3. No

15. Does your SCI romantic partner have other paid caregiving help?

   1. Yes, part-time
   2. Yes, full-time
   3. No

16. If you answered 'yes' to question 14, for how many hours per week?
    ________________
2 No

Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983)

Directions: The questions in this scale ask you about your feelings and thoughts during the last month. For each question, choose from the following alternatives:

<table>
<thead>
<tr>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. In the last month, how often have you felt that you were unable to control the important things in your life?

2. In the last month, how often have you felt confident about your ability to handle your personal problems?

3. In the last month, how often have you felt that things were going your way?

4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Self-Esteem Instrument (Rosenberg, 1965):

Directions: For the next set of statements, please indicate how much you agree with each statement using the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I feel that I have a number of good qualities.
2. I wish I could have more respect for myself.
3. I am able to do things as well as most other people.
4. All in all, I am inclined to feel that I am a failure.
5. I certainly feel useless at times.
6. I feel that I am a person of worth, at least on an equal plane with others.
7. On the whole, I am satisfied with myself.
8. I feel that I do not have much to be proud of.
9. At times I think I am no good at all.
10. I take a positive attitude toward myself.
5. I usually come through difficult times with little trouble. 1 2 3 4 5 6 7
6. I tend to take a long time to get over set-backs in my life. 1 2 3 4 5 6 7

**Coping efficacy measure (Afifi & Weiner, 2004)**

**Directions:** For the next set of statements, please indicate how much you agree with each statement using the following scale:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I know how to talk to my romantic partner about the challenges of caring for a person with a spinal cord injury. 1 2 3 4 5 6 7
2. With my romantic partner, I know what I need to say to successfully discuss the challenges of caring for a person with a spinal cord injury. 1 2 3 4 5 6 7
3. I would have no problem coping with my romantic partner’s attitudes toward the challenges of caring for a person with a spinal cord injury, whatever those attitudes may be. 1 2 3 4 5 6 7
4. I am certain that I could handle whatever my romantic partner thought about the challenges of caring for a person with a spinal cord injury, whether it is positive or negative. 1 2 3 4 5 6 7
5. I’d be able to fully cope with my marital partner’s opinions about the challenges of caring for a person with a spinal cord injury, whatever they may be. 1 2 3 4 5 6 7

**Social Support Quality Measure (Goldsmith, McDermott, Alexander, 2000)**

**Directions:** Now, we would like to know about your evaluation of the support you receive through Facebook. Please think of the SCI support group you participate in most often. How would you rate the support you receive from that group on the following qualities? Please mark the space between the contrasting adjective pairs that most closely matches your perception of the support from the Facebook group.

<table>
<thead>
<tr>
<th>Ignorant</th>
<th>Knowledgeable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heartless</td>
<td>Compassionate</td>
</tr>
<tr>
<td>_____ : _____ : _____ : _____ : _____ : _____ : _____</td>
<td>Compassionate</td>
</tr>
<tr>
<td>1. How close are you to your romantic partner?</td>
<td>1</td>
</tr>
<tr>
<td>2. How often do you talk about personal things with your romantic partner?</td>
<td>1</td>
</tr>
<tr>
<td>3. How satisfied are you with your relationship with your romantic partner?</td>
<td>1</td>
</tr>
<tr>
<td>4. How important is your relationship with your romantic partner?</td>
<td>1</td>
</tr>
<tr>
<td>5. How much do you like your romantic partner?</td>
<td>1</td>
</tr>
<tr>
<td>6. How important is your romantic partner’s opinion to you?</td>
<td>1</td>
</tr>
<tr>
<td>7. How much do you enjoy spending time with your romantic partner?</td>
<td>1</td>
</tr>
</tbody>
</table>

Thank you!