

The Relation of Gender and Perception of Others for Support Erosion

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### Abstract

Previous research on social support and depressive symptoms has found a relation between decreases in social support and increases in depressive symptoms. However, it is not clear whether support leads to decreases in depressive symptoms (support alleviation) or depressive symptoms leads to a decrease in support provision (support erosion). The current study explored this causal relation by having pairs of same-sex friends complete measures of support requests, receipt, provision, and other support variables within that friendship three times over a six-week period. We also explored whether the relation depended on gender, possible mechanisms behind the relation, and conducted exploratory analysis on relationship quality. Results showed no evidence for support alleviation but evidence for support erosion occurring for females. Provider burden limitedly explains this finding. Overall relationship quality does not seem to be influenced by depression. Future research should address communal strength in conjunction with the depressive symptom and social support relation.

### The Relation of Gender and Perception of Others for Support Erosion

Past research has highlighted the importance of social support for both physical and mental health (Cohen, Gottlieb & Underwood, 2000). The major theory that addresses how social support protects health is the stress-buffering hypothesis (Cohen, 2004). This hypothesis suggests that social support provides the resources needed to cope with stressful experiences through assistance, information, and empathy. The stressful experience that is the focus of this research is the experience of depressive symptoms. The described aspects of social support are helpful for individuals suffering from depressive symptoms, so it is not surprising that researchers have explored the relation between social support and depressive symptoms.

One large cross-sectional survey of adults living in Norway collected measures of depression and perceived social support (Grav, Hellzèn, Romild & Stordal, 2012). A lack of perceived social support was correlated with a higher rate of depression. The idea that social support reduces the prevalence of depression or depressive symptoms may be referred to as the support alleviation hypothesis. However, it is not clear if support actually reduces depression because much of the previous research that has detected this relation is correlational. Thus, it is not possible to determine causality. Although it is possible that social support leads to a decrease in depressive symptoms, it is also possible that an increase in depressive symptoms leads to a decrease in social support. This alternative hypothesis is known as “support erosion.”

The idea of support erosion was first suggested by Coyne (1976). Prior to Coyne, it had been suggested that depressed individuals had lower levels of support because

they experienced a more stressful social environment or did not possess the necessary social skills to navigate the social aspects of the world. Coyne suggested, however, that depressed individuals' lack of support could largely be attributed to the way support providers respond to depressed individuals. He stated that a support provider feels guilty if he or she does not attend to the depressed individual's needs. Then the support provider attempts to offer support, but it is not genuine. When the depressed individual notices this lack of genuine concern from others, his or her depressive thoughts of not being accepted are confirmed, which then elicits stronger depressive symptoms (Coyne, 1976). Thus, Coyne suggested that the causal relation flows in the direction of increased depressive symptoms leading to a decrease in support. To date, the question remains whether the relation between social support and depression is best explained by support erosion or support alleviation.

Several longitudinal studies have attempted to address this question. One longitudinal study examined the relation between adolescent depressive symptoms and family support (Sheeber, Hops, Alpert, Davis & Andrews, 1997). At the initial assessment, adolescents and their mothers completed self-report measures of family support, family conflict, and adolescent depression. One year later they completed the same measures. The investigators found that family support and family conflict were relatively stable over the year, but that an initial lack of family support and high family conflict predicted an increase in depressive symptoms over the course of the year. However, initial depressive symptoms were not able to predict a decrease in family

support or an increase in family conflict over the year. Thus, this particular study provided evidence for support alleviation but not support erosion.

It is possible that the type of relationship studied may influence whether support alleviation or support erosion occurs. A longitudinal study surveyed adolescents about depressive symptoms and perceived social support from family, non-family adults, and friends (Slavin & Rainer, 1990). Two measurements were conducted eight months apart. For girls only, the initial level of depressive symptoms was able to predict a decrease in family support but the initial level of family support was not able to predict a decrease in depressive symptoms. However, nonfamily social support did not predict changes in depressive symptoms over time, nor did depressive symptoms predict changes in nonfamily social support over time. Thus, this particular study provided evidence for support erosion in the case of adolescent girls' family relationships but not boys' family relationships or either boys' or girls' non-family relationships.

A longitudinal study of middle school girls also addressed the issue of causality by examining different support sources but found quite different results. Middle school girls completed measures of perceived social support from parents and peers and measures of depressive symptoms three times over the course of two years (Stice, Ragan & Randall, 2004). Parental support remained stable during the study, and a lack of initial parental support predicted an increase in depressive symptoms over the two years. However, high initial depressive symptoms did not predict a decrease in parental support. Thus, evidence for support alleviation was found but not support erosion in the case of parents. The reverse was found for peer support. A lack of initial peer support

did not predict an increase in depressive symptoms over the two years, but high initial depressive symptoms predicted a decrease in peer support. Essentially, support alleviation occurred in the context of relationships with parents but support erosion occurred in the context of peer relationships.

At first glance, the findings from Stice et al. (2004) counter the findings of Slavin et al. (1990), but it is important to note that Slavin et al. (2004) studied family relationships broadly. In Slavin et al. (1990) no distinction was made between support from a parent and support from a cousin, which likely differs; that is, both fell within the broad “family support” category. It seems less likely that support erosion would occur for a parent-child relationship due to the inherent stability of this relationship (as shown by Stice et al., 2004).

Other studies, aside from Stice et al. (2004), have found evidence for support erosion rather than support alleviation within friendships. One longitudinal study collected measures of relationship quality and depressive symptoms three times with about five weeks between each assessment (Oppenheimer & Hankin, 2011). Researchers found an increase in depressive symptoms led to a decrease in relationship quality, but a decrease in relationship quality did not lead to an increase in depressive symptoms. These findings held for both males and females and for all three kinds of peer relationships examined: same-sex friendships, opposite-sex friendships, and romantic relationships.

One variable that could determine whether support erosion occurs is gender. Research has shown that people are more willing to interact with depressed women

than depressed men. For example, in one study, participants were provided with several vignettes about individuals expressing symptoms of a psychiatric disorder, depression included (Schnittker, 2000). Participants' social tolerance and perceived dangerousness of the described individuals were measured. Both male and female participants had a higher social tolerance for the hypothetical depressed woman than the hypothetical depressed man. Part of this gender difference was attributed to the fact that participants perceived the hypothetical woman as less dangerous than the hypothetical man.

This difference in social tolerance could affect the occurrence of support erosion. Because support providers are more willing to interact with a depressed woman than a depressed man, women can spread their support needs across multiple network members and not overwhelm any one individual. If support needs are spread across multiple individuals, individual support providers will be less likely to experience burden and not have to provide high levels of continued support.

By contrast, men are more likely to rely on the same small group of individuals for support. These support providers may become overwhelmed and decrease their support, resulting in support erosion. This theorizing suggests that support erosion is more likely to occur in the case of men than women, although one of the studies described above (Stice et al, 2004) directly contradicted this hypothesis. Thus, we examine gender as a moderator of the support erosion hypothesis on an exploratory basis.

There are several possible explanations for support erosion. Providing social support in general is a costly action to the support provider. It requires time and often patience. Providing social support to a person with depressive symptoms can be difficult because each incident of attempted support may be met with a continued negative mood, a dismissal of the support, and an overall negative reaction from the support recipient. Simply put, providing support to a person with depressive symptoms can be a burden. The support provider expends a lot of energy attempting to help the support recipient, but the support attempts never seem to be sufficient to have a positive impact. Over time, the continued but unsuccessful support provision attempts become burdensome for the support provider and the support provider begins to provide less support. This decrease in support over time is support erosion.

A slight variation of the burden explanation is that the burden rests with the support recipient rather than the support provider. That is, the support recipient may perceive himself or herself as a burden. The support recipient may notice the continued support attempts and realize the lack of impact of those attempts. The support recipient may feel guilty about “wasted” support and withdraw from the support provider (Stice, Ragan & Randall, 2004). This would lead the support provider to believe support is not needed anymore. If the support provider believes support is not needed, the support provider will decrease his or her attempts to be helpful. In other words, support provision may decrease not because it is too burdensome for the provider but rather because the support provider thinks support is no longer needed.



A final possibility as to why support erosion occurs is that it is a matter of the depressed individual's perception rather than the support provider's actual behavior. Studies that have examined the relation between support and depression typically rely on the depressed individuals' reports of support provision. Regardless of whether perceived support or received support is measured, reports come from the perspective of the depressed individual. Support erosion may occur because of a change in the support recipient's perception of support rather than an actual change in the support provider's behavior. The support recipient may perceive a decline in support receipt as a means to explain why their depressed symptoms have not subsided. It is unclear whether the depressed individual knows support is being provided to them. Essentially, to avoid blaming themselves for their persistent depressed symptoms, depressed individuals place the blame on the support provider. If researchers measured support provision from both the support recipient's and the support provider's perspective, one could distinguish whether support provision is actually decreasing or whether only the perception of support is decreasing. This study addresses this issue by obtaining perceptions of support provision from both the provider and recipient.

The primary goal of the present study was to examine the relation between support and depressive symptoms with a longitudinal design to test whether support alleviation or support erosion occurs. A second goal was to test whether this relation is moderated by gender. To the extent that support erosion occurred, a third goal was to test explanations by measuring support recipient imposed burden, by measuring support recipient withdrawal, and by comparing the depressed individual's perception

of support receipt to the provider's report of support provision. Finally, we wanted to see how depression affects relationship quality over time.

These goals were accomplished by following pairs of same-sex friends over a 6-week period. At baseline, 3 weeks later, and 6 weeks later, friend pairs completed measures of depressive symptoms, support provision, and support received. Linking changes in depressive symptoms to changes in support receipt over time will distinguish support alleviation from support erosion. This study improves upon past research by gathering data on support provision and support receipt from both individuals in the friendship pair. With this method, it will be clearer whether changes in support are a mere perception or reality.

## **Methods**

### **Participants**

Participants were 60 undergraduate students at Carnegie Mellon University (70% female). Each participant completed the study with a same-sex friend, which resulted in 30 friendship pairs (70% female pairs). Because we had a small number of pairs and wanted to maximize the possibility of finding effects for depression, we created pairs in which one person was either high or low (upper or lower quartile) on depressive symptoms. This led us to drop four pairs from the analysis because neither partner had either high or low depressive symptoms. Thus, the final sample consisted of 52 participants, or 26 pairs (73% female) with an average age of 19.25 years.

Participants were recruited through the Carnegie Mellon University Psychology Department Participant Pool. In order to be eligible for the study, each participant had

to be in the Participant Pool, have a same-sex friend who was also in the Participant Pool, and agree to complete the study. The study contained three data collection sessions, after which class credit was awarded to participants.

### **Procedures**

The study was advertised as a three-part study of changes in friendships over time. Each pair of same-sex friends signed up for a timeslot to complete the first data collection session. The friendship pair came to the lab to complete the first session. Upon arrival, the experimenter reiterated that it was a three-part study of changes in friendship over time. After signing informed consent forms, each participant was assigned a unique 4-digit code strictly for use in this experiment. The first 3 digits were the same for each friendship pair and the last digit, A or B, differentiated between the two participants in each pair. To preserve anonymity, all communication with participants was completed through the Participant Pool website. This ensured that the experimenter had no identifying information about the participants throughout data collection but was able to connect the data from all three sessions.

After assignment of the friendship pair codes, each participant completed the first survey in the lab. Each person was placed at a computer on opposite ends of the same room. The survey, hosted on Survey Monkey, was pre-loaded on the computer. Participants entered the friendship pair code and completed the survey. Participants were awarded class credit and informed they would be contacted in about 3 weeks through the Participant Pool website to complete session 2.

Approximately 3 weeks later, the experimenter contacted participants with instructions on how to complete session 2. Participants were reminded of their friendship pair code and provided a link to the second survey. Session 2 was completed remotely online. When participants opened the link to the survey, they were prompted to enter their friendship pair code and then complete the rest of the survey. Participants were given a few days to complete session 2, after which they were awarded class credit. Participants were sent up to three reminder messages to complete session 2. Failure to complete session 2 data meant that participants were not contacted by the experimenter to complete session 3. The same procedure was followed for session 3, after which they were debriefed.

### **Measures**

The following measures were administered at all three times of assessment unless otherwise noted. Subscript  $_{SR}$  refers to the support recipient, and subscript  $_{SP}$  refers to the support provider.

**Support receipt:** The support receipt measure, administered to support recipients, consisted of 6 items, each of which was responded to on a 5-point scale (1=Never, 5=Very Often). The measure included items such as, “My friend listened to me talk about my feelings” and “My friend gave me advice on how to deal with a problem.” The internal consistency was good ( $\alpha_{SR}=.90$ ).

**Support provision:** The support provision measure, administered to support providers, consisted of 7 items, each of which was responded to on a 5-point scale (1=Never; 5=Very Often). The measure included items such as, “I listened to my friend

talk about his/her feelings” and “I gave my friend advice on how to deal with a problem.” The internal consistency was good ( $\alpha_{SP}=.92$ ).

**Mechanisms of support erosion:** We are testing two possible mechanisms of support erosion. The first mechanism, **burden**, was completed by support providers. It consisted of 3 items, each of which was responded to on a 5-point scale (1=Never; 5=Very Often). The measure included items such as, “It took a lot of energy to help my friend” and “At times, I was annoyed helping my friend with personal problems.” The internal consistency was good ( $\alpha_{SP}=.71$ ). The second mechanism, withdrawal of support recipient, was measured by having support recipients complete measures of **support requests** and having support providers complete measures of **support rejection**. The support requests measure consisted of 5 items, each of which was responded to on a 5-point scale (1=Never, 5=Very Often). The measure included items such as, “I asked my friend to talk with me about a decision I had to make” and “I asked my friend if I could talk about my feelings.” The internal consistency was good ( $\alpha_{SR}=.85$ ). The support rejection measure consisted of 4 items, each of which was responded to on a 5-point scale (1=Never; 5=Very Often). The measure included items such as, “My friend rejected my advice on how to deal with a problem” and “My friend dismissed my attempts to comfort him/her when he/she was upset.” The internal consistency was somewhat low ( $\alpha_{SP}=.56$ ), but no one item detracted from the internal consistency.

**Relationship quality:** We measured relationship quality with three scales and administered all three scales to both support recipients and support providers. First, participants completed a 4-item measure of **dependability** by responding to each item

on a 5-point scale (1=Not At All Accurate; 5=Very Accurate). The measure included items such as, "I can depend on my friend for aid if I really need it" and "I can count on my friend in an emergency." The internal consistency was good ( $\alpha_{SR}=.88$ ,  $\alpha_{SP}=.84$ ). Second, participants completed a **liking** measure which consisted of 4 items, each of which was responded to on a 5-point scale (1=Not At All Accurate; 5=Very Accurate). The measure included items such as, "My friend and I have fun together" and "I enjoy spending time with my friend." The internal consistency was good ( $\alpha_{SR}=.88$ ,  $\alpha_{SP}=.81$ ). Finally, the **closeness** measure consisted of 2 items, each of which was responded to on a 5-point scale (1=Not At All Close; 5=Very Close). The items were, "How close do you feel to your friend?" and "How satisfied are you with your relationship with your friend?" The correlation between these two items was good for support recipients ( $r_{SR}=.72$ ,  $p < .001$ ) and acceptable for support providers ( $r_{SP}=.53$ ,  $p < .005$ ).

**Shortened CES-D:** The shortened CES-D, an abbreviated measure of depressive symptoms, was used (Radloff & Rae, 1979; Schulz et al., 1997). It consisted of 10 items, each of which was responded to on a 4-point scale by support recipients (1=Rarely or None Of The Time; 4=Most Of The Time). The internal consistency was good for support recipients ( $\alpha_{SR}=.88$ ) and acceptable in the case of support providers ( $\alpha_{SP}=.70$ ).

**Demographics:** The following demographic information was collected at the first data collection session: college class, length of friendship, whether the friendship pair was roommates, age, gender, and race. Data are shown in Table 1.

## Results

After all data were collected, session 1 (baseline) CES-D scores were calculated for each participant. The two scores in each friendship pair were compared to determine who would be considered the support recipient and who would be considered the support provider. Pairs were created so that half of support recipients had a low CES-D score and half had a high CES-D score.

### **Baseline Analysis**

Before testing our hypotheses, we needed to determine whether there were differences between high and low depression support recipients on the independent variables. Chi-square tests revealed no group differences in gender, and Independent t-tests revealed no group differences in length of friendship or the two primary support variables (support receipt and support provision). For mechanism variables, there were no group differences in provider burden or recipient support requests, but there was a group difference in provider reports of rejected support. Support providers reported a higher number of support attempts being rejected when the support recipient was in the high depression group ( $M = 1.70$ ) than in the low depression group ( $M = 1.23$ ),  $t(24) = -2.68, p = .01$ .

In regard to relationship quality, there was a trend toward a group difference in recipient reports of closeness but not in provider reports of closeness. High depression recipients felt less close to providers ( $M = 3.50$ ) than low depression recipients ( $M = 4.08$ ),  $t(24) = 1.69, p = .10$ . There also was a marginally significant group difference on support recipient dependability but not provider reports of dependability. High depression recipients reported less ability to depend on providers in a time of need ( $M =$

3.82) than low depression recipients ( $M = 4.46$ ),  $t(24) = 1.69$ ,  $p = .10$ . There were no group differences in recipient or provider reports of liking.

We also examined whether there were gender differences in the independent variables at baseline. There was no gender difference in relationship length. Independent t-tests revealed gender differences on both primary support variables. Female support recipients reported receiving more support ( $M = 3.33$ ) than male support recipients ( $M = 2.10$ ),  $t(24) = 3.70$ ,  $p = .001$ . Also, female support providers provided a higher amount of support ( $M = 3.29$ ) than male support providers ( $M = 2.24$ ),  $t(24) = 2.95$ ,  $p = .007$ . In regard to mechanism variables, independent t-tests revealed a gender difference in support requests. Female support recipients requested more support ( $M = 3.30$ ) than male support recipients ( $M = 2.00$ ),  $t(24) = 3.15$ ,  $p = .004$ . There were no gender differences for provider reports of rejected support, recipient induced burden, or support recipient or provider reports of the three relationship quality variables (dependability, closeness or liking).

### **Support Alleviation**

To test the support alleviation hypothesis, we conducted multiple regression analysis to predict both T2 and T3 depressive symptoms. In each case, we entered T1 depressive symptoms on the first step of the regression so that we are predicting changes in depressive symptoms. We entered the two T1 support variables on the second step of the regression: recipient report of support receipt and provider report of support provision. Neither predicted changes in depressive symptoms between T1 and T2, between T2 and T3, or between T1 and T3. We also examined whether the two



support variables at T3 predicted changes in depressive symptoms between T1 and T3. Neither of the T3 support variables predicted changes in depressive symptoms. Thus, there was no evidence for support alleviation.

We also examined whether support alleviation was influenced by participant gender. To do so, we computed interaction terms between each of the two support variables and gender. There were no significant interactions between gender and support at any time of assessment.

### **Support Erosion**

We first tested the support erosion hypothesis with a 2 (gender) by 2 (depressive symptoms group: high, low) analysis of covariance on T2 support variables, with the respective T1 support variable as the covariate. There were no effects of gender or depressive symptoms on T2 support receipt or support provision.

Next, we tested the support erosion hypothesis with a parallel analysis at T3. We used a 2 (gender) by 2 (depressive symptoms group: high, low) analysis of covariance on T3 support variables, with the respective T1 support variable as the covariate. There were no effects of gender or depressive symptoms on support receipt. However, for support provision, there was a main effect of gender ( $F [1,17] = 7.06, p = .02$ ) that was qualified by a marginally significant interaction with depression group ( $F [1, 17] = 4.10, p = .06$ ). As show in Figure 1, male support providers provided more support at T3 to those high in depressive symptoms at T1 than those low in depressive symptoms at T1, signifying an increase in support in response to depression. Although female support providers provided more support overall than male support providers, female support

providers provided less support at T3 to those high in depressive symptoms than those low in depressive symptoms at T1, signifying a decrease in support in response to depression.

Our final test of support erosion over the entire study was conducted with a repeated measures analysis of variance. Gender and participant depressive symptoms group were the between subjects factors and time (T1, T2, T3) was the within subjects factor. We examined the same set of dependent measures. For support recipient receipt, there was a main effect of gender ( $F [1, 19] = 4.71, p = .04$ ) that was qualified by an interaction with time ( $F [2, 18] = 3.47, p = .05$ ). Although men had an overall lower level of support receipt compared to women, men's levels seemed to slightly increase over time ( $M_s = 2.03, 2.31, 2.39, T1, T2, T3, respectively$ ), whereas women's support receipt decreased over time ( $M_s = 3.21, 2.61, 2.66, T1, T2, T3, respectively$ ). For support provider provision, there was a main effect of gender ( $F [1, 18] = 13.46, p = .002$ ) that was qualified by a marginally significant interaction with depression group ( $F [1, 18] = 2.95, p = .10$ ). Similar to the interaction depicted in Figure 1, Figure 2 shows that although male support providers had an overall lower level of support provision compared to female support providers, male support providers seemed to increase support provision for the high depression group compared to the low depression group, whereas female support providers decreased support provision for the high depressive group compared to the low depression group.

### **Mechanism Variables**

We first tested the mechanism variables with a 2 (gender) by 2 (depressive symptoms group: high, low) analysis of covariance on T2 mechanism variables, with the respective T1 mechanism variable as the covariate. There were no effects of gender or depressive symptoms on the T2 mechanism variables: burden, support requests, or rejected support.

We conducted a parallel analysis at T3 and also found no effects of gender or depressive symptoms on the three T3 mechanism variables.

Our final test of mechanism variables over the entire study was conducted with a repeated measures analysis of variance. Gender and participant depressive symptoms group were the between subjects factors and time (T1, T2, T3) was the within subjects factor. We examined the same set of dependent measures. There was a marginally significant interaction between depression group and gender for provider burden ( $F [1, 18] = 3.63, p = .07$ ), but no effects involving time. As shown in Figure 3, male support providers reported a higher level of recipient induced burden for recipients in the high depression group as opposed to the low depression group. Female support providers, however, reported a similar level of burden whether the support recipient was low or high in depression. There were no significant effects involving time, gender or depression group for support recipient requests. There was a significant main effect of depression group on rejected support. Support providers for those in the high depression group reported a higher number of support attempts being rejected ( $M = 1.58$ ) than support providers for those in the low depression group ( $M = 1.21$ ) ( $F [1, 18] = 6.06, p = .02$ ).

### Relationship Quality

We first examined the relationship quality variables with a 2 (gender) by 2 (depressive symptoms group: high, low) analysis of covariance on T2 relationship quality variables, with the respective T1 relationship quality variable as the covariate. There was a marginally significant main effect of gender on support recipient closeness ( $F [1,19] = 3.95, p = .06$ ), but no effect of gender on support provider closeness. Female support recipients reported feeling an increase in closeness to support providers ( $M = 3.80$ ) compared to male support recipients ( $M = 3.19$ ). There were no main effects of depression group or interactions between gender and depression on support recipient or provider closeness. For support recipient liking, there was a significant interaction of depression group and gender ( $F [1,19] = 4.71, p = .04$ ). As shown in Figure 4, depressed and nondepressed female support recipients revealed similar liking for support providers at T2, but male support recipients in the high depression group decreased their liking of support providers at T2 compared to male support recipients in the low depression group. There were no effects of gender or depressive symptoms on support provider liking, and no effects of gender or depressive symptoms on support recipient or support provider reports of dependability.

We conducted a parallel analysis at T3 of the relationship quality variables. We used a 2 (gender) by 2 (depressive symptoms group: high, low) analysis of covariance on T3 relationship quality variables, with the respective T1 relationship quality variable as the covariate. There was a marginally significant main effect of depression group on support recipient dependability ( $F [1, 18] = 3.33, p = .09$ ). High depression support

recipients reported less ability to depend on support providers in a time of need at T3 ( $M = 3.39$ ) than low depression support recipients ( $M = 4.17$ ), indicating a reduction in dependability over time for the high depression group. There were no other effects involving gender or depression group on recipient or provider reports of dependability. There also were no significant effects involving gender or depression group on support recipient or support provider liking or closeness.

Our final test of relationship quality over the entire study was conducted with a repeated measures analysis of variance. Gender and participant depressive symptoms group were the between subjects factors and time (T1, T2, T3) was the within subjects factor. We examined the same set of dependent measures. There was a main effect for depression group on support recipient dependability. Support recipients who were low in depressive symptoms rated higher levels of ability to depend on their friend for support ( $M = 4.32$ ) than those high in depressive symptoms ( $M = 3.53$ ) ( $F [1, 19] = 6.27$ ,  $p = .02$ ). For provider dependability, there was a significant interaction between time and depression group ( $F [2, 18] = 4.47$ ,  $p = .02$ ). Provider reports of dependability on their friend did not change over time when support recipients were low in depressive symptoms ( $M_s = 4.10, 4.40, 4.16$ ), whereas providers reported reduced dependability over time when support recipients were high in depressive symptoms ( $M_s = 4.36, 3.84, 4.02$ ).

There was a trend toward a main effect of time on liking for both the support recipient ( $F [2, 18] = 2.90$ ,  $p = .08$ ) and the support provider ( $F [2, 17] = 3.08$ ,  $p = .07$ ). Support recipients reported liking support providers less over time ( $M_s = 4.41, 4.13,$

3.97, T1, T2, T3, respectively), and support providers reported liking support recipients less over time ( $M_s = 4.66, 4.33, 4.20, T1, T2, T3, respectively$ ).

For closeness, there was a marginally significant main effect of gender ( $F [1, 19] = 3.18, p = .09$ ) that was qualified by a marginally significant interaction with time ( $F [2, 18] = 2.65, p = .098$ ). Female support recipients reported overall higher levels of closeness to support providers than male support recipients and remained stable with closeness levels over time ( $M_s = 3.88, 3.88, 3.65, T1, T2, T3, respectively$ ). Male support recipients, however, reported a decrease in level of closeness to support providers over time ( $M_s = 3.42, 2.83, 3.08, T1, T2, T3, respectively$ ). For support provider closeness, there was a trend toward a significant interaction between time and gender ( $F [2, 17] = 3.05, p = .07$ ), however no clear pattern emerged for either female support providers ( $M_s = 3.87, 3.70, 3.83, T1, T2, T3, respectively$ ) or male support providers ( $M_s = 3.57, 3.71, 3.43, T1, T2, T3, respectively$ ).

### **Ancillary Analyses**

We wanted to explore whether the depression of support recipients had an influence on the providers' levels of depression. If the high depression recipients were causing the providers' depression to increase, changes in provider or recipient perception of support may be due to providers not being in a position to provide help rather than the support alleviation hypothesis or the support erosion hypothesis. To test this hypothesis, we conducted a 2 (gender) by 2 (recipient depressive symptoms group: high, low) analysis of covariance on T2 provider depressive symptom scores, with the T1 provider depressive symptoms scores as the covariate. There were no effects of gender

or recipient depressive symptoms on the T2 provider CES-D score. We conducted a parallel analysis at T3 and also found no effects of gender or depressive symptoms on the T3 provider CES-D score.

### **Discussion**

The first goal of the study was to determine the relation between social support and depressive symptoms. The previous literature had mixed support for both support alleviation and support erosion. The current study, however, provided no evidence for the support alleviation hypothesis for either males or females. The support variables were not able to predict changes in depressive symptoms. There was, however, some support for the support erosion hypothesis, but only after addressing the second goal of the study, whether gender moderated this relation.

Male providers reported providing more support to depressed friends than to nondepressed friends. This demonstrates the ideal situation in a support exchange; providers gave more support to those who needed it (high depression). The opposite occurred for females. Female providers reported providing less support over time to depressed friends than to nondepressed friends. Female providers gave less support to those with the greatest need (high depression). According to the provider reports, support erosion occurred for females.

Recipient reports, however, do not reflect the same findings as provider reports. Male recipients, regardless of depression group, reported receiving more support over time. Female recipients, regardless of depression group, reported receiving less support over time. Thus, recipient reports do not align with provider reports because there is no

influence of depression on support receipt. The discrepancy in findings between providers and recipients could mean that provider reports are not accurate and that support erosion is not occurring for depressed females. Alternatively, support erosion may be occurring for depressed females but females are simply not aware of it. If this were the case, that is beneficial for the recipients, but it is likely they will eventually notice the decreases in support.

There was no evidence of support erosion for males from either recipients' or providers' points of view. It could be due to gender difference in support exchanges in general. Males reported receiving and providing less support compared to females. There may have been a floor effect for males, meaning that it is difficult to erode support when little support exists in the first place. Perhaps if support exchanges were occurring for males in the same manner as for females, support erosion would occur. Alternatively, it may be that males are at less risk for support erosion and are more responsive in terms of support provision to friends who are distressed.

The third goal was to test the mechanisms of support erosion, to the extent that support erosion occurred. The first mechanism examined was provider burden. Males reported higher burden in providing support to friends who were depressed than nondepressed, whereas female providers reported similar levels of burden regardless of their friends' levels of depression. The gender differences for provider burden do not reflect the gender differences for support provision because females engage in support erosion and males do not. However, this incongruity does not completely eliminate provider burden as a potential explanation for support erosion. We may have captured



the burden mechanism at different points in the relationship for males and females. If reducing support truly is a means to reduce provider burden, we may have captured males when burden was high but before support erosion occurred. Female providers may no longer feel burdened because they have already reduced their level of support provided. This is why the levels of burden are the same for females regardless of whether their friends are depressed or not. In time, male providers may follow the same pattern as females and reduce support as a way to reduce burden.

The second mechanism we tested was withdrawal. The withdrawal mechanism represents the recipient pulling away from the provider. We measured withdrawal both through provider reports of rejected support and recipient reports of requests for support. Providers consistently reported higher rates of support attempts being rejected by depressed compared to nondepressed friends, regardless of gender. Because support erosion only occurred for females, support rejection cannot completely explain the support erosion finding. The fact that providers perceive their support as being rejected does illustrate, however, that providers are facing a challenge when attempting to provide support to their depressed friend. Depressed persons are either resisting the help being provided to them or are oblivious to the support their friend is trying to provide. There was no evidence for withdrawal from the recipient perspective, as there were no effects of depression on recipient requests for support. Thus, overall, withdrawal does not appear to be a strong explanatory mechanism of support erosion.

In addition to the hypothesized mechanisms for support erosion, we also examined whether depression in one friend led to depression in the other friend, which

would then potentially impair support provision. Provider depression was unaffected over time by recipient depression, which suggests the observed instances of support erosion were not due to a personal inability to provide support due to one's own psychological state. Although neither burden or withdrawal could fully explain the support erosion findings, it is beneficial to know that providing support to persons with depression does not cause an increase in depressive symptoms for the provider.

The exploratory analysis of the effects of depression on relationship quality revealed other interesting dynamics between support recipients and providers. The first relationship quality variable we examined was dependability. Recipients who were depressed reported less ability to depend on friends than recipients who were not depressed. This is interesting because the dependability measure is not tapping into the actual support being received or provided but rather the recipients' perception of the availability of support. Thus, depressed recipients believe there is less support available to them than nondepressed recipients. This finding regarding dependability is particularly interesting when thought of in conjunction with the rejected support finding. Because depressed recipients feel a lack of dependability on their friend and their friend is reporting high levels of rejected support, it means something is different about these interactions. Providers may not be giving the type of support their friend is looking for, therefore rejecting it, and then saying they cannot depend on their friend. Or, providers really are not giving support to their friend, falsely believing their half-hearted attempts are being rejected, and the receiver is accurately reporting they cannot depend on their friend. Either explanation illustrates a lack of communication

between provider and recipient and highlights the importance of having reports from both perspectives.

We also examined closeness and liking. The variations in closeness and liking seem to represent normal changes in friendships, not an effect of depression on relationship quality. Overall, female recipients felt closer to their friend than male support recipients. Although there were some fluctuations in closeness ratings for friends, none reflected drastic changes based on depression. Overall, friends liked each other less over time, but this was unrelated to depression.

Before concluding, we must acknowledge that there are several limitations of the present study. First, there was a small sample, which reduced our power to detect statistically significant effects. Second, many of the pairs were not newly formed friendships. The support alleviation and support erosion processes we attempted to examine may have already occurred. Our hypotheses would be better tested in a sample of friends where we could have examined the early and later stages of the friendship process. Third, we only followed pairs for six weeks. It may take a longer period of time for either support alleviation or support erosion to occur. Finally, we only explored a single peer relationship, and it may not have been the peer relationship that provided participants the most support. Because both participants in each pair were recruited from the participant pool, it severely limited not only those who were eligible to participate but also the relationships that could be studied.

Although the present study does contribute to the support erosion hypothesis, the overall literature regarding social support and depressive symptoms has shown

mixed support for both support erosion and support alleviation. Whether support erosion or support alleviation occurs may depend on the relation between the depressed individual and the support provider. One theoretical framework that describes how relationship type could influence whether support erosion occurs is communal exchange theory (Clark & Mills, 1993). According to this theory, there are two types of relationships. In an exchange relationship, individuals will endure a cost for their partner with the expectation that it will be shortly repaid. In communal relationships, however, individuals will endure a cost for their partner simply because they are responding to their partners' needs and without the expectation that the favor will be shortly returned. Communal exchange theory also argues that every relationship operates on a communal principle to some degree but can shift to an exchange relationship depending on its communal strength. Communal strength dictates the cost threshold a person is willing to endure before shifting to an exchange relationship. Support erosion may occur when the threshold is crossed from a communal relationship to an exchange relationship. That is, relationships that are lower in communal strength, like peer friendships, may be more susceptible to support erosion than relationships that are higher in communal strength, like a parent-child relationship. Future studies may address this theoretical framework by exploring the communal strength of the relationship.

In summary, the present study provided some support for support erosion but no support for support alleviation. Specifically, female support providers stated that they provided less support to depressed friends over time. There was evidence that

male support providers of depressed friends reported increased burden, that all support providers of depressed friends reported increased support rejection, and that depressed support recipients reported being less able to depend on their friends for support.

Taken collectively, all of these findings suggest that the relationship dynamics between a depressed person and his or her friend differs from those of a nondepressed person. Additionally, this study does highlight the importance of examining both recipient and provider perspectives. Support erosion occurred only from the provider perspective, and that alone suggests the perceptions of support exchanges from the provider and recipient view may not always align. Although no one mechanism appears to explain the support erosion finding in this study, the possibility remains for provider burden and recipient withdrawal to contribute to relationship dynamics among depressed people. Finally, exploratory analyses of relationship quality revealed that although relationship quality fluctuates, it does not appear to be strongly influenced by depression in the short-term.

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Table 1

*Participant Demographics*

	Participants ( <i>n</i> = 60)
<b>Gender:</b> % Female	73.1
<b>Age:</b>	19.25 (1.17)
<b>Roommate Status:</b> % That are roommates	26.9
<b>Length of Friendship:</b>	
% Less than a month	15.4
% Between 1-6 months	19.2
% Between 7-12 months	7.7
% Between 1-2 years	28.8
% More than 2 years	28.8
<b>Race:</b>	
% Asian	59.6
% Black or African American	9.6
% White	34.6
<b>Ethnicity:</b> % Hispanic	0



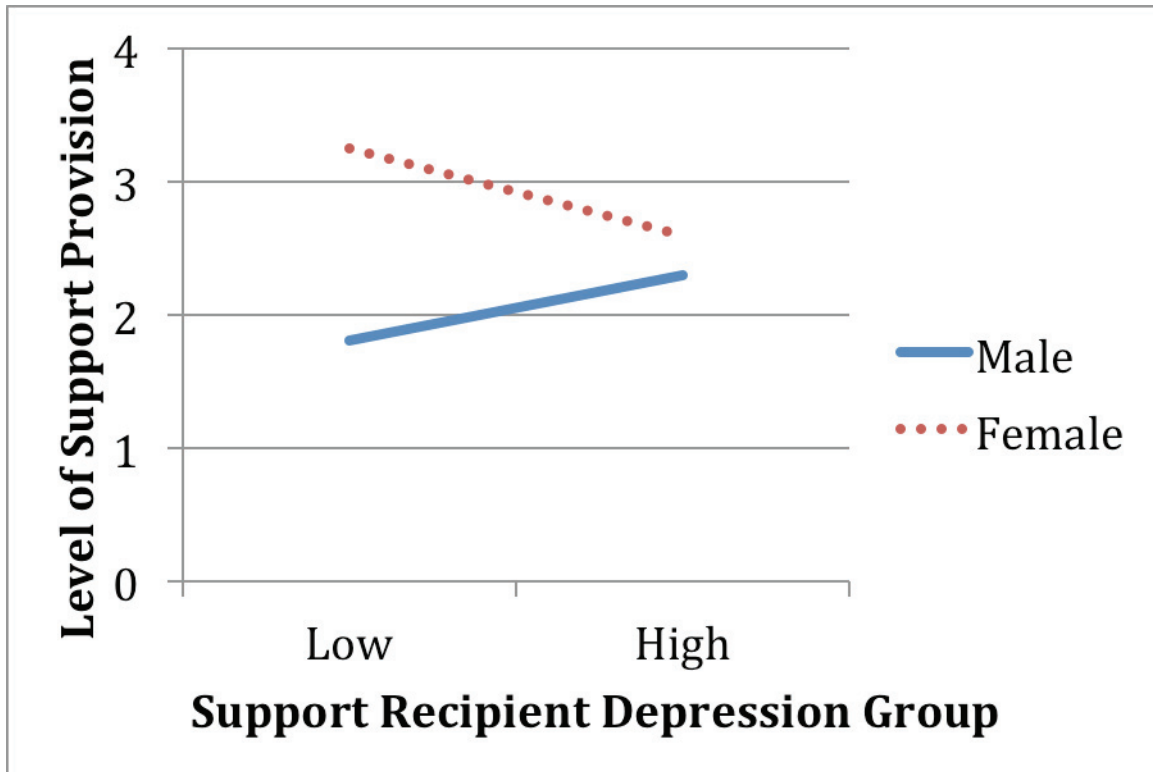


Figure 1: Level of support provision at T3 by recipient depression group and gender

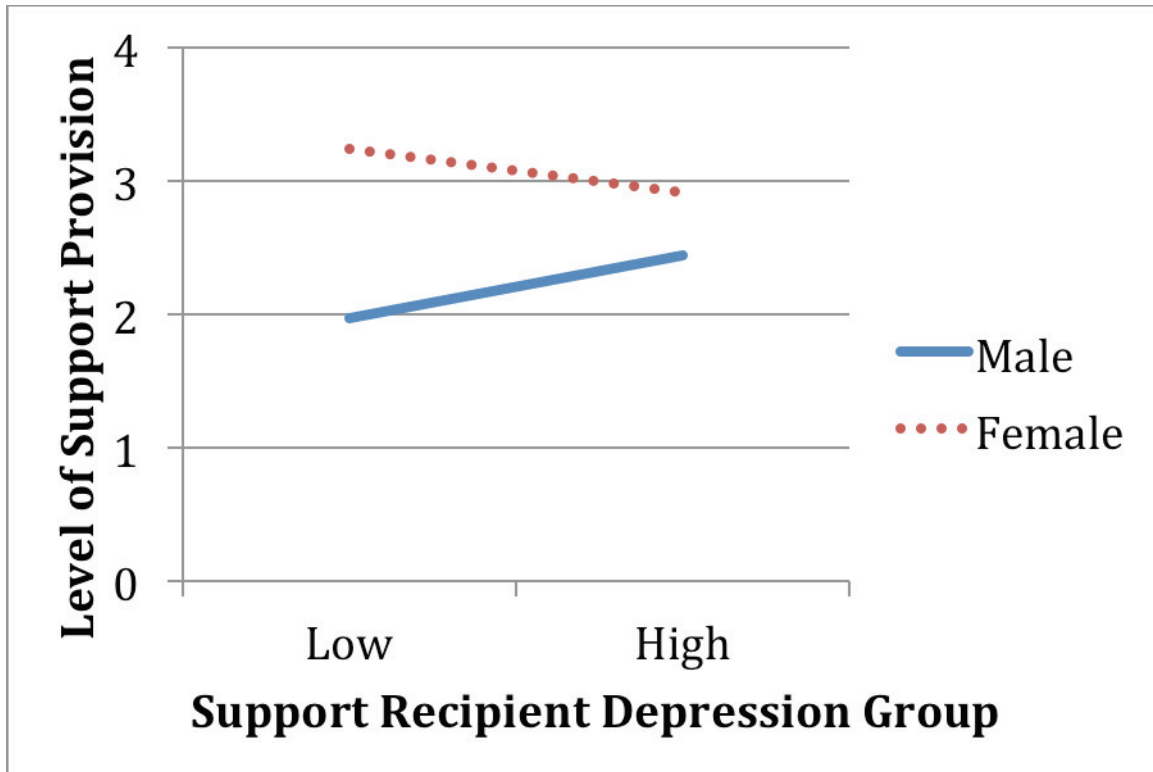


Figure 2: Level of support provision by recipient depression group and gender

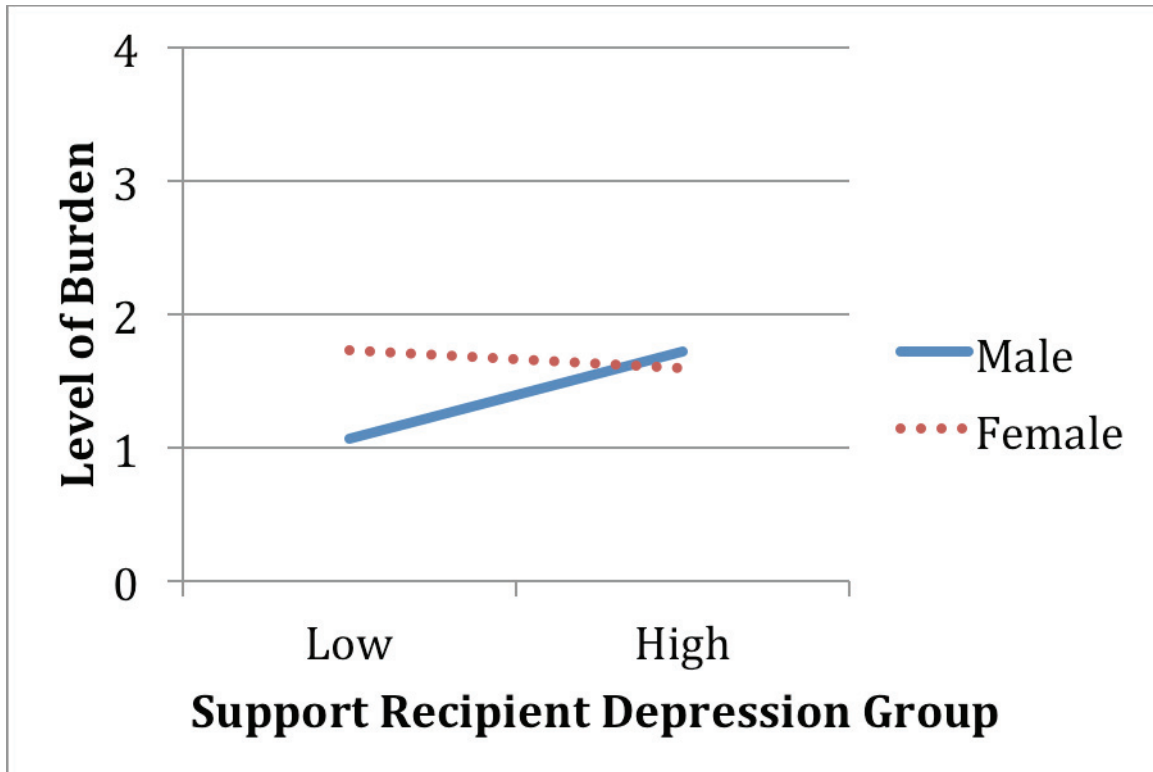


Figure 3: Level of recipient induced burden by recipient depression group and gender

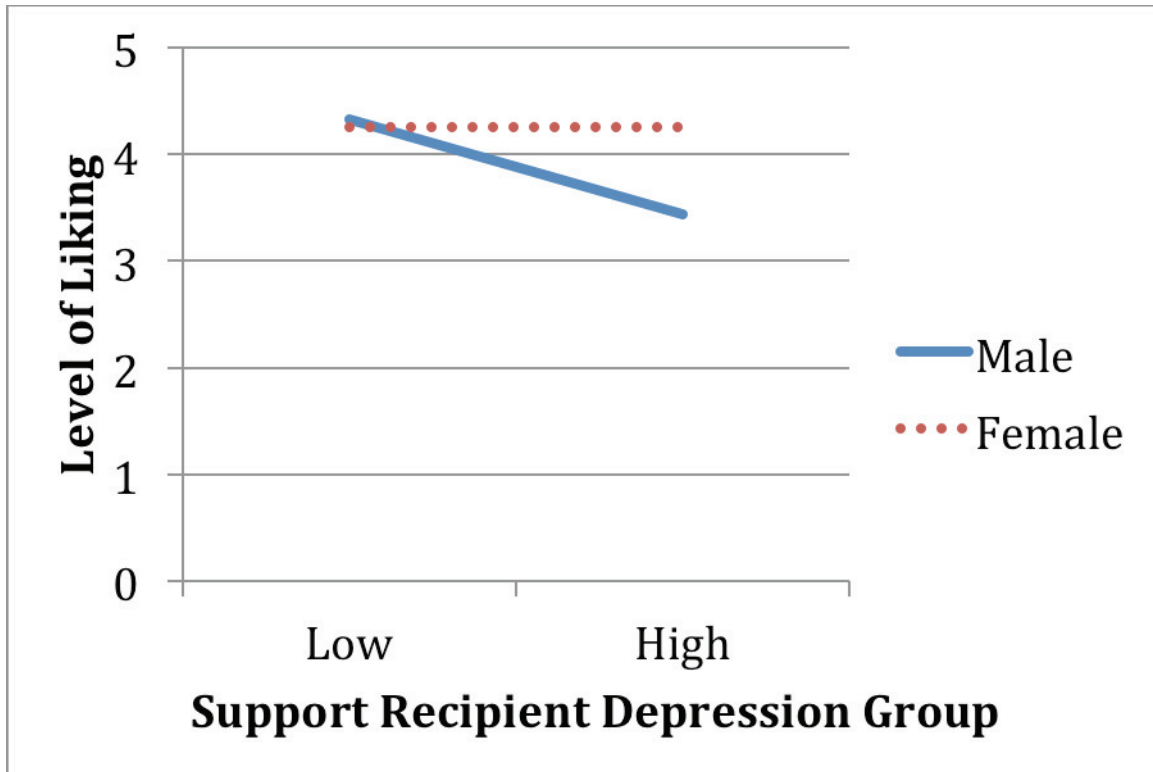


Figure 4: Level of liking at T2 by recipient depression group and gender