

Social Support Mediates the Relationship Between Gratitude and Suicide Ideation

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Suicide is among the leading causes of death in the United States; in fact among all age groups suicide is the tenth leading cause of death worldwide (Centers for Disease Control and Prevention, 2012). Most of the literature surrounding suicide has only looked into the risk factors associated with suicide.

It is important to look at not only risk factors but also protective factors for suicide because increasing certain protective factors could help to lower individuals' thoughts of suicide and help prevent them from acting on these thoughts.

One important protective factor is gratitude. Gratitude can be defined as being thankful and noticing the positive aspects of one's life (Kleiman, Adams, Kashdan, & Riskind, 2013). Several studies have examined the effect gratitude has on one's overall well-being, as well as some known risk factors for suicide and suicidal ideation. Gratitude has been found to increase social connections, as well as a sense of belonging (Kleiman et al., 2013). Having a grateful attitude towards others could possibly increase the amount of social support one receives, which could potentially lower the occurrence of suicide ideation. Few studies have directly investigated this relationship, but several studies have examined the effect that gratitude and social support have on overall well-being and depressive symptoms (e.g., Kleiman, Adams, Kashdan, & Riskind, 2013; Wood, Froh, & Geraghty, 2010).

Several studies have examined how gratitude affects overall well-being. One of these studies was conducted by Kleiman and colleagues (2013), which examined the effect that gratitude and grit have on meaning of life, a known resiliency factor against suicide. Two hundred and nine college students participated in the study through the use of questionnaires that were given four weeks apart (Kleiman et al., 2013). They completed questionnaires on grit, gratitude, meaning in life, depressive symptoms, and current suicidal ideation. All of the

variables examined were significantly correlated in the expected directions (Kleiman et al., 2013). The results revealed that high levels of gratitude and grit were found in the individuals with the lowest occurrence of suicidal thoughts. Gratitude was found to be the most important factor, but neither gratitude nor grit alone explained the resiliency factor for suicide (Kleiman et al., 2013). This means that gratitude and grit work together to increase meaning in life, which helps to protect against suicidal thoughts.

A similar study examined the relationship between gratitude and well-being as well as several risk and protective factors that affect well-being. The risk and protective factors examined included depression, adaptive personality traits (e.g., openness, agreeableness, and conscientiousness), positive social relationships, and physical health (e.g., stress and sleep; Wood, Froh, & Geraghty, 2010). Gratitude was found to increase positive factors such as adaptive personality traits and lower negative factors such as stress. The authors also found that gratitude did not appear to be related to any other construct in the way that it improved overall well-being, meaning that gratitude uniquely affects well-being. The authors indicated that future research should involve examining how gratitude directly affects different aspects of psychopathology (Wood, Froh, & Geraghty, 2010). Other studies have also looked into how gratitude influences well-being.

In a similar study Toussaint and Friedman (2009) examined gratitude and forgiveness, and how affect and belief mediated this relationship. The study included 72 outpatients who had received treatment for general distress and quality of life problems (Toussaint, & Friedman, 2009). Their ages ranged from 20 to 58 years old. The participants completed several questionnaires which assessed their well-being, affect, belief, forgiveness and gratitude. The authors' aim was investigate the associations between forgiveness, gratitude, and well-being, but

they also examined possible mediators of this relationship like affect and belief. The association between gratitude and well-being was found to be strong and consistent with other past studies. The results revealed that forgiveness and gratitude were positively related to increased well-being, but they were not mediated by affect and belief (Toussaint, & Friedman, 2009). The authors suggested that gratitude exercises could be added to the treatment of outpatients. Similar to other studies, the authors suggested that an area for future research could involve examining which specific gratitude interventions or exercises would be the most effective when treating patients who suffer with symptoms of depression or suicide ideation.

Gratitude can also have an effect on risk factors for suicide. Kleiman and colleagues (2013) examined the effect of gratitude on hopelessness and depressive symptoms, two known risk factors for suicide. It was hypothesized that gratitude would weaken the relationship between suicide risk factors and suicide ideation (Kleiman et al., 2013). To examine this relationship, 369 college students completed online questionnaires hopelessness, depressive symptoms, gratitude, and suicide ideation. The results revealed that gratitude buffered the effect of hopelessness and depressive symptoms, thus weakening this relationship (Kleiman et al., 2013). Another finding was that gratitude only acted as a protective factor among participants who reported suicide ideation. This is consistent with the finding that protective factors are most beneficial when there are also risk factors present (Kleiman et al., 2013). The authors also pointed out that gratitude can be increased or changed over time which indicates that gratitude interventions, such as journals or lists, may be a helpful and cost effective strategy in the treatment of suicide ideation and behavior (Kleiman et al., 2013). The authors suggested that future studies could directly manipulate gratitude and see the effect that it has on suicidal thoughts. The effect of gratitude on suicide ideation has been shown in a few additional studies.

One of the first studies to examine the effect of gratitude on suicidal behaviors included 1,252 Chinese adolescents whose ages ranged from 12 to 19 years of age, and they completed self-report measures of gratitude, stressful life events, and suicidality (Li, Zhang, Li, Li, & Ye, 2012). The measures of suicidality assessed the participants' reports of suicide ideation, suicide attempts, as well as self-harming behaviors. The authors found that their overall hypothesis was supported because gratitude was associated with less suicidality among the studied population. Specifically, the results revealed that gratitude was a protective factor for the participants who had not been through a stressful life event such as problems in their school or home life. These findings lend support to the Broaden and Build Theory of Positive Emotions (Li et al., 2012; Fredrickson, 2004), which, posits that gratitude can help to build up a person's psychological and social resources, which will make them a more well-rounded person later in their lives. This theory could also help to explain why gratitude has been positively linked to overall well-being. The Broaden and Build Theory (Li et al., 2012; Fredrickson, 2004) could also be extrapolated to a possible relationship between gratitude and social support, which is a construct that has been linked to lower depression.

Social support is another protective factor that has been linked to a decrease in depression symptoms. Several studies have also examined the effect that social support has on suicidal behaviors, suicide ideation, and risk factors for suicide. Social support can have a very influential role on a person's life. Specifically, research has shown that social support can help to lower the amount of suicide ideation a person experiences, especially when considering that most people who commit suicide withdrew socially or where in isolation before finally committing suicide (Van Orden et al., 2008). Literature has also investigated different types of social support that a person can receive such as support either from family, friends, or a significant other. There has

also been research conducted on differences between perceived social support and the actual level of social support a person receives (Endo et al., 2014; Bryan, & Hernandez, 2013).

Vanderhorst & McLaren investigated the relationship between social support, suicide ideation, and depression in a population of older adults (2005). One hundred older adults with a median age of 76.67 completed self-report measures of social support resources, sense of belonging, depression, marital status, and suicide ideation at their homes. Low levels of social support were found to be associated with increased levels of both depression and suicide ideation (Vanderhorst & McLaren, 2005). This is consistent with previous research, which found that the older adults who reported the least amount of friends were more likely to be diagnosed with depression. These findings help to provide further support for social support as a protective factor against suicide ideation.

In 2014, Endo conducted a study consisting of 2,200 randomly selected Japanese citizens to examine the relationship between social support and suicide ideation. Participants were mailed the measures, which asked about their levels of depression, social support and past history of social support (Endo et al., 2014). It was discovered that those who had the lowest levels of social support also reported the highest rates of suicide ideation. Specifically, those who reported low social support reported that they received little social support from their families (Endo et al., 2014). Another interesting finding was that when people reported the times in their life when they had experienced the most frequent suicide ideation, they also reported having the least amount of social support (Endo et al., 2014). This finding could indicate that the perception of social support is particularly important in respect to suicide risk (Endo et al., 2014).

Kleiman and Liu (2013) conducted a study using a nationally representative sample which was collected over several years, and consisted of a majority of Caucasians followed by

African Americans, Mexican/Hispanics, Asian, and those who specified themselves as other. The authors found that higher levels of social support were related to lower levels of suicide attempts during one's lifetime. The authors replicated this finding using participants from England, which suggests that their findings are generalizable to other populations. The authors suggest that levels of social support can be fostered among individuals with thoughts of suicide; so suicidal prevention programs could incorporate improving social support into their existing interventions for suicidal behaviors (Kleiman & Liu, 2013). There are many different types of social support a person can receive. Therefore finding out which ones are most related to suicide could help find future interventions to help those suffering from suicide ideation or behaviors.

Bryan and Hernandez (2013) conducted a study of social support on air force personnel. In this study, four different types of social support were examined including belonging, tangible support, appraisal support, and esteem support (Bryan, & Hernandez, 2013). Belonging support was defined as fitting in, or having friends to accompany you to social functions and activities. Tangible support involved having someone to assist you with everyday problems and responsibilities (e.g., romantic partner or spouse). Appraisal support was defined as receiving positive feedback from those around the individual. Finally, esteem support was defined as other people showing confidence and trust in the person's abilities (Bryan, & Hernandez, 2013). This sample included 273 active duty U.S. airmen who completed self-report measures of suicide ideation, depression, anxiety, and social support. The authors found that a larger amount of social support was related to a lower occurrence of suicide ideation. They also found that esteem support had the largest protective impact on suicide ideation. The authors propose that these findings can help to provide interventions for those who experience suicidal thoughts (Bryan, & Hernandez, 2013).

Low social support has been found to be a risk factor for suicide across several age groups. One of these age groups is adolescents. Miller and colleagues (2015) examined which kind of social support had the greatest impact on adolescent suicide ideation and attempts. The specific areas of social support they examined included support from parents, school, and close friends (Miller, Esposito-Smythers, & Leichtweis, 2015). The participants were 143 adolescents, ranging from age 12-18, who were currently admitted into a partial hospitalization program due to suicidal ideation, non-suicidal self-injury, severe depression, or anxiety. The measures the participants completed upon admittance to hospital included their history of social support, suicidal behaviors, suicide ideation, and symptoms of emotional disorders. Results revealed that those who had lower perceived school support also reported the greatest severity of suicide ideation. They also found that this relationship was the strongest when the participant also reported low perceived parental support (Miller et al., 2015). The authors concluded that perceived school and parental support had a greater influence on suicidal behaviors than perceived peer support among this age group, but that all three areas impact suicidal behaviors (Miller et al., 2015). The lack of social support may be similar to the construct of thwarted belongingness, which has been extensively studied in relation to suicide ideation.

Thwarted belongingness can be defined as the feeling of being discounted or unwanted by others, or having a lack of social support (Van Orden et al., 2008). Thwarted belongingness is one of the three components that make up the Interpersonal Theory of Suicidal (ITS; Joiner, 2005), and thwarted belongingness has been found to be positively associated with suicide ideation across different populations (e.g., Van Orden et al., 2008).

Van Orden and colleagues (2008) examined the possible relationship between seasonal variations in suicide rates among college students to the changing degree of belongingness the

students experienced throughout the year. The authors hypothesized that rates of suicide ideation would be the highest in the summer when student's belongingness may be decreased due to not being involved in as many activities. To investigate this relationship, 309 college students ranging in age from 17 to 51 completed self-report measures of social support and suicide ideation during the spring, fall, or summer months (Van Orden et al., 2008). The results supported the study hypothesis, and the students reported higher levels of suicide ideation during the summer when compared to both the fall and spring semesters (Van Orden et al., 2008). These findings are consistent with the Interpersonal Theory of Suicide because they suggest that belongingness plays a role in an individual's desire to commit suicide (Van Orden et al., 2008). The authors suggest that campuses should increase suicide prevention programs and social activities during high risk times, such as summer, that increase belongingness among students (Van Orden et al., 2008). Although the relationship between gratitude, social support or thwarted belongingness, and suicide ideation has not yet been studied, the relationship between gratitude and social support has been researched in quite a few studies.

The relationship between gratitude and social support has been investigated in several studies, and has been linked to several other constructs. One of these studies examined the mediating effects of social support and self-esteem on the relationship between gratitude and life satisfaction (Kong, Ding, & Zhao, 2015). Four hundred and twenty seven Chinese college students were given measures to assess their levels of gratitude, social support, self-esteem, and life satisfaction. The results revealed that adults with higher levels of gratitude were more likely to perceive greater social support from others, which increased life satisfaction (Kong et al., 2015). The study did not find a mediating effect of self-esteem between gratitude and life satisfaction. The authors also found that grateful people received more social support, which

increased their self-esteem, which then increased their life satisfaction (Kong et al., 2015). This finding also suggests that gratitude may help to reduce suicide ideation because it was found to raise meaning in life, which is a protective factor against suicide.

A similar study investigated the relationship between social support, gratitude, stress, and depression through the use of two separate longitudinal studies (Wood, Maltby, Gillett, Linley, & Joseph, 2008). The second study was used to replicate the findings of the first as well as look into how gratitude is related to the big-five personality traits. The authors examined these factors during a time of transition, which was moving to and starting college classes. Both studies found that increased gratitude led to higher levels of perceived social support and lower levels of depression (Wood et al., 2008). These results indicate that gratitude may increase levels of social support and act as a protective factor against stress and depression.

Gratitude and social support have also been linked to overall school well-being, or how well one adjusts to the environment and demands of the school setting. A study by Peizhen and colleagues (2014) examined whether the relationship between gratitude and school well-being was mediated by social support and interpersonal relationships. To assess this relationship 782 college undergraduates completed questionnaires that included measures of gratitude, interpersonal relationships, and perceived social support. The authors found that higher levels of gratitude were associated with better overall school well-being, and that gratitude helped to improve interpersonal relationships and social support, which in turn could contribute to overall school well-being. Several of the authors' suggestions for improving school well-being included helping those with suicide ideation. This could include implementing practices such as generating gratitude lists and letters as well as improving interpersonal relationships through

workshops (Peizhen, et al. 2014). The relationship between gratitude and suicide ideation could lead to the development of several interventions for those experiencing suicide ideation.

The studies mentioned above help to support several relationships. The relationships between gratitude and social support with well-being are well supported as well as the relationships between gratitude and social support in general. However, no studies have examined the relationship between gratitude and social support in relation to suicide ideation. Future research is needed in this area because it could help to further explain potential mechanisms of suicide ideation, as well as possible interventions for those who struggle with suicidal behaviors. The current study aims to examine the relationship between gratitude, social support and suicide ideation. It specifically hypothesizes that gratitude leads to higher levels of social support, which then leads to a lower occurrence of suicide ideation.

Method

Participants

Participants in the study included 175 college students enrolled in a large Midwestern university. Participants ranged in age from 18-29, with a mean age of 19.75 (SD= 1.71). The sample consisted of 124 females (70.9%) and 48 males (27.4%). The ethnic composition of the sample included 146 Caucasians (83.4%), 12 American Indians (6.9%), 9 African Americans (5.1%), 6 Hispanics/Latino/as (3.4%), 6 Asian/Asian Americans (3.4%), and 4 who identified as Biracial (2.3%).

Participants completed all study materials online and were granted course credit as compensation for their participation. Through the use of the university's online pre-screen survey, three groups of participants were recruited and used for comparison. Specifically, the first group endorsed high levels of suicide ideation in the past two weeks using the Hopelessness

Depression Symptom Questionnaire-Suicidality Subscale (HDSQ-SS). The second group endorsed high levels of depression symptoms using the Center for Epidemiological Studies-Depression (CES-D), but did not endorse thoughts of suicide. A third group was used as a “healthy” control group, which included participants who endorsed neither suicide ideation nor depression symptoms. The University Human Subjects Research Compliance Office approved all procedures for this study.

Measures

Demographics Questionnaire. The demographics questionnaire assessed for participants’ age, sex, ethnicity, education level, and history of mental health treatment.

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988) is a 12-item self-report measure that assesses participants’ perceived level of social support. Responses are rated on a Likert-type scale and range from 1 (*Very Strongly Disagree*) to 7 (*Very Strongly Agree*). The MSPSS contains subscales that measure specific types of social support participants may have, including from family (e.g., “My family really tries to help me”), friends (e.g., “I can talk about my problems with my friends”), and significant others (e.g., “There is a special person in my life who cares about my feelings”).

Hopelessness Depression Symptom Questionnaire- Suicidality Subscale (HDSQ-SS). The HDSQ-SS (Metalsky & Joiner, 1992; 1997) is a 4-item self-report survey that assesses participants’ frequency and intensity of suicide ideation and impulses within the past two weeks. Response options vary for each item. Scores on each item range from one to four, with higher scores indicating a greater severity of suicide ideation.

Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D (Radloff, 1977) is a 20- item self-report measure that assess depressive symptoms. Responses can range from 0= rarely of none of the time (*less than one day*) to 3= most of all of the time (*5-7 days*).

Gratitude Questionnaire (GQ-6). The GQ-6 (McCullough, Emmons, & Tsang, 2002) is a 6 item self-report measure that assesses participants' grateful thoughts. Responses are measured using a Likert-type scale with responses ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The questions focus on gratitude frequency (e.g., "Long amounts of time can go by before I feel grateful to something or someone"), gratitude span (e.g., "I sometimes feel grateful for the smallest things"), and gratitude density ("I am grateful to a wide variety of people"). Scores are summed so that higher scores indicate higher levels of gratitude.

Results

Means, standard deviations, and correlation coefficients of study variables are presented in Table 1. Zero-order correlation analyses indicated that gratitude and social support were significantly positively associated with each other, and gratitude and social support were both significantly negatively associated with suicide ideation.

Statistical Analyses

The direct and indirect effects of gratitude and social support on suicide ideation were tested using a mediation approach. All total, direct, and indirect effects were estimated using non-parametric bootstrapping procedures, as outlined by Hayes (2013) with 1,000 bootstrapping samples. Bootstrapping estimates revealed that as gratitude increased, social support also increased, as indicated by $\beta = 1.36$, $t = 9.22$, $p < .001$, 95% CI = 1.07 = to 1.65. Bootstrapping estimates also revealed that social support negatively predicted suicide ideation, as evidenced by

$\beta = -0.02$, $t = -2.66$, $p < .01$, 95% CI = -0.03 to -0.005. However, gratitude no longer predicted suicide ideation after controlling for social support, as indicated by $\beta = -0.03$, $t = -1.95$, $p = 0.52$, 95% CI = -0.06 to 0.0003.

Discussion

Results indicated that the study hypothesis was supported. Specifically, results indicated that social support had a significant mediating effect on the relationship between gratitude and suicide ideation. This indicates that individuals with higher levels of gratitude are more likely to also experience increased social support, which in turn leads to decreased suicide ideation.

This study contributes new information to the literature because currently no other study has examined the relationship between social support and gratitude in the context of suicide ideation. This study is also unique because the sample included three different comparison groups. These groups consisted of those who endorsed recent suicide ideation (in the past 2 weeks), those who endorsed recent depression symptoms, and those who denied experiencing both suicide ideation and depression symptoms. This research is also important because it was conducted on a college sample, and suicide is one of the leading causes of death for young adults ages 15-34 in the US (CDC, 2013). Additionally, limited research has been conducted on protective factors that keep people from experiencing suicide ideation and behaviors, and the current research adds to this extant literature.

The current study has a few limitations that need to be addressed. The first limitation is the use of a college sample. This is problematic because those who attend college may have different experiences from the general population that might make the results less generalizable. For example, college students tend to report low levels of suicide ideation and behaviors

(Kleiman et al., 2013), which make the results less applicable to community and clinical samples. An area for future research could be to test the relationship between gratitude, social support, and suicide ideation in clinical populations who are seeking treatment for problems related to suicide ideation or behaviors. This study also used a cross-sectional design, so causality cannot be determined. Future research should replicate the current study using a longitudinal design, so that causality could be determined, as well as to determine whether gratitude or social support comes first in the mediational relationship with suicide ideation. As mentioned previously, another area for future studies could be to further examine how gratitude interventions directly influence suicide behaviors over time.

These results have important clinical implications. Results of the current study suggest that it may be beneficial to implement the use of gratitude interventions in the treatment of those who are struggling with thoughts of suicide. Results also suggest that it may be beneficial to foster or increase the level of social support for those struggling with thoughts of suicide. Recently, there has been a surge of development of gratitude interventions. These gratitude interventions usually consist of asking the clients/participants to write gratitude lists or letters. Several studies have already investigated the potential benefits that gratitude interventions may provide.

Rash, Matsuba, & Prkachin (2011) conducted a study that examined the effect of gratitude interventions on well-being. Their sample consisted of 56 community participants who were predominately male and Caucasian. The participants were given pretest and posttest measures to assess their levels of gratitude as well as their affect throughout the study. The participants were randomized into two groups. One group was told to think of someone they had been grateful for within the past week while the other group was told simply to think of a

memorable event. After a period of four weeks the results revealed that those who had received the gratitude intervention scored higher in life satisfaction and self-esteem than those who had been in the memorable event/control group. Interestingly, this study also found that the intervention increased levels of life satisfaction for those who reported low gratitude in the beginning of the study, and that those who initially reported high gratitude did not improve in levels of life satisfaction. While Rash et al. (2011) looked into the effectiveness of gratitude interventions other studies have examined who would benefit the most from gratitude interventions.

Although gratitude interventions have been found to be beneficial in increasing life satisfaction, these interventions may be more helpful to some people than others. For example, Harbaugh and Vasey (2014) conducted a study to examine who benefited most from gratitude exercises as well as when these exercises would be the most effective. To test their hypotheses, they recruited 164 college students who completed measures of gratitude, depression, happiness, emotions, and mood. Following these assessments, participants were randomly assigned to either complete a gratitude list exercise or a daily events list for a period of two-weeks. The results revealed that those who had completed the gratitude exercise and were low in trait gratitude were able to maintain their level of positive emotions. On the other hand, those who took part only in the daily event list experienced a decline in positive emotions over time. One important finding from this study was that those who were already high in gratitude did not benefit as much from the gratitude exercise as those who were low trait gratitude. This pattern was also true for those with depressive symptoms because those who had low gratitude experienced the largest decline in depressive symptoms. These results suggest that gratitude interventions are most beneficial to

those who are low in gratitude. Results also suggest that gratitude interventions could be used in the treatment of depression symptoms (Harbaugh and Vasey, 2014)).

Since depression was found to decrease with the use of gratitude interventions, a similar relationship may be found with suicidal behaviors. Huffman and colleagues (2014) conducted one of the few studies that has examined how gratitude interventions directly influence suicidal patients. The purpose of the study was to test the feasibility of suicidal inpatients' use of positive psychology exercises. These exercises included writing letters of gratitude to specific people they felt had helped them, writing out their personal strengths, and counting their blessings, or writing out specific things they were grateful for (Huffman et al., 2014). The 52 participants, who were all above the age of the 18, completed measures of hopelessness and optimism before and after the exercises. The participants were all receiving inpatient psychiatric care for a variety of psychological issues, but the majority were seeking care for mood disturbances. The study found that almost all of the exercises improved symptoms associated with suicide including hopelessness, which is a known risk factor for suicide. The study also found that exercises that did not call for a large amount of introspection (e.g gratitude letters, counting blessings) These particular exercises, that did not involve introspection, were found to improve optimism while reducing depression, hopelessness, and suicidal thoughts or attempts, and they were also the most completed of the exercises (Huffman et al., 2014). These results lend support that gratitude interventions can help to decrease suicidal symptoms in actively suicidal patients by providing short-term benefits. Further studies are needed to assess the effect of gratitude interventions on long-term suicidal behaviors. These studies provide further evidence that manipulating gratitude could act as a possible treatment to reduce thoughts of suicide and/or depression symptoms for those with current suicide ideation.

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Table 1

Correlations, means, standard deviations, and possible ranges.

Variable	1	2	3
1.Social support	–		
2.Suicide ideation	-.329*	–	
3.Gratitude	.574*	-.303*	–
M	65.87	.43	34.86
SD	15.78	1.26	6.64
Possible range	15-84	0-6	18-42

*p < .01.