

Gratitude, parenting style, and suicidal ideation

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The moderating effects of gratitude on the association between perceived parenting styles and suicidal ideation

Abstract

Suicidal ideation is defined as the thoughts about engaging in suicidal-related behaviors. Very few studies have been conducted on children's suicidal ideation as there is a biased perception that suicidal behavior under the age of 12 is scarce. However, suicide is the leading cause of death among young children. Child suicidal ideation is predictive of suicidal ideation and suicide attempts in adulthood. Association between certain parenting styles and suicidal ideation have been found in empirical studies. However, little is known about the role of parenting and suicidal ideation in Chinese young children. We examined whether gratitude can reduce the risk of suicide by moderating the association between parenting styles and child suicidal ideation. We recruited 447 Chinese children (53.3% female; mean age = 10.06, SD = 1.76) to participate in a survey. Perceived parenting style (warmth/accepting, dominating, and autonomy granting), gratitude, and suicidal ideation were assessed using self-reported measures. We found that all three perceived parental styles were significantly associated with child suicidal ideation. Further, gratitude was found to have a significant moderating effect on suicidal ideation, across the analysis of the three perceived parenting styles. This suggests that gratitude may be adopted in preventive and clinical interventions so that children at risk can benefit from reducing the negative effects of ineffective parenting styles and suicidal ideation.

Key words: suicidal ideation, children, gratitude, parenting styles

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Introduction

Over the past couple of decades, a surging trend of suicidal rates among children has been witnessed across various countries (Goldston et al., 2015). Although family and mental health practitioners often encounter children with suicidal ideation in practice, there are limited theory and research on understanding the suicidal behavior of children or on the prevention of and intervention (Ruth, Velasquez, Marshall, and Ziperstein, 2015; Soole, Kolves, and De Leo, 2015).

Suicidal ideation is defined as self-reported thoughts about engaging in suicide-related behavior (O’Leary et al., 2006). It includes both passive ideation, such as thinking about death or dying more than usual, and active ideation, such as making plans for killing oneself (Wagner, 2009). Very few studies have been conducted on children’s suicidal ideation as there is a general perception that suicidal behavior under the age of 12 is scarce (Pfeffer, 2000; Tishler, Reiss, and Phodes, 2007). Although children have the lowest rate of suicide among all age groups, it is alarming that suicide was the third cause of death among children aged 10 to 14 in the United States in 2013 (Heron, 2016). A longitudinal population-based study reported that childhood suicidal ideation was highly predictive of suicidal ideation in adulthood, and lifetime history of attempted suicide, and additional resources and intervention strategies should therefore be provided to help children with this ideation (Herba, Ferdinand, Van der Ende, and Verhulst, 2007).

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A few advanced models of suicide have been proposed to explain the complex interactions of different factors over the past decade, but most of these models apply to adult suicide (O'Connor and Nock, 2014). The interpersonal theory of suicide proposed by Joiner, Van Orden, Witte, and Rudd (2009) suggests that perceived burdensomeness (feeling of being a burden on others) and low levels of belongingness (feeling of alienation) are proximal and sufficient causes of suicidal ideation. With the capability for suicide (reduced fear of death and elevated physical pain tolerance), the presence of suicidal desire is more likely to transform into a suicide attempt. The integrated motivational-volitional model of suicidal behavior outlines the development of suicidal ideation (motivational phase) to suicidal attempts (volitional phase). As suggested, suicidal ideation is formed by feelings of defeat and entrapment, which are moderated by cognitive processes including impaired social problem solving, over-general autobiographical memory, rumination, hopelessness, lack of goal re-engagement, and low levels of social support (O'Connor and Nock, 2014).

Based on school samples, Barzilay et al. (2015) found that adolescents with a low sense of belongingness to parents and a high sense of burdensomeness were at significantly higher risk of suicidal ideation. It suggested that the interpersonal theory of suicide may apply to adolescent. However, to the knowledge of the authors, study of interpersonal theory of suicide in children is not available.

To many children, parenting processes are the most significant interpersonal relationship. Suicidal ideation, as a symptom, can be seen as a dysfunction of ineffective parenting and family system (Montgomery and Fewer, 1988). However, the exact role of family and parenting behavior in child suicide remains unclear, due to limited research in this area (Frey and Cerel, 2015).

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Although perceived parental style is often found to be a predictor of child suicidal behavior, the evidence is inconclusive. An early study of 681 students in Australia found that authoritarian parenting with low warmth and high control doubled the associated risks of suicidal thoughts among children (Martin and Waite, 1994). A representative sample of 44,610 students in Germany revealed that rejecting-neglecting parenting styles increased the risk of suicide by 1.63 times, but authoritative parenting (high warmth and low control) reduced the risk by 21% (Donath, Graessel, Baier, Bleich, and Hillemecher, 2014). A longitudinal study investigated whether observed parenting behavior predicted changes in the adolescent suicidal behavior of 802 children and their parents over five years (Boeninger, Masyn, and Conger, 2012) and nurturant-involved parenting was found to reduce the likelihood of adolescent suicidal behavior over time.

However, there are cross-cultural differences in suicidal behaviors in adults and it is also an issue for child suicidal ideation (World Health Organization, 2014). Conversely, Greening et al. (2010) reported that authoritarian parenting predicted less suicidal behavior among African-American children aged 10 to 12. Further, a survey of 365 Hong Kong adolescents aged 13 to 17 found that lower maternal warmth predicted higher suicidal ideation (Wong, Man, and Leung, 2002). Finally, a study of 120 Chinese students aged 15 to 19 reported that higher maternal control and lower parental warmth were associated with more suicidal ideation (Lai and McBride-Chang, 2001).

Moreover, parenting behaviors may interact with child characteristics and they make the suicide-related pathways more complicated. Cero and Sifers (2013) suggested that parenting support and boundaries (parental rule setting, enforcement of rules, and parental monitoring) predicted adolescent suicide attempts through the mediation of children's psychological factors.

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Self-esteem mediated the relationship between parenting support and suicide attempts and such effects was twice as strong for girls. Parenting boundaries mediated the relationship between exposure to violence and suicide in boys.

The above findings draw our attention to three important issues. First, different parenting styles may be associated with children's suicidality in different ways, but such relationship is also contingent on the child's cultural context. Second, the positive association with authoritarian parenting applied only to older African-American children and those with higher depressive symptoms, but not to younger children (aged 6-9) regardless of their depressive symptoms, or to Caucasian children (Greening, Stoppelbein, and Luebbe, 2010). Thus, it may be posited that the relationship between parental styles and child suicidal ideation may be specific to children's ethnicity, age, and the intensity of the suicidality. Third, multiple factors are associated with child suicide, and suicide risk may be increased when specific parenting styles interact with certain child attributes or forms of behavior. Therefore, studies of children's positive attributes as a protective factor against negative parenting and suicidal ideation are needed to contribute to the current body of knowledge.

This study attempts to contribute to the understanding of suicidal ideation of young children in China. The suicidal rate among Chinese children aged 5 to 14 has been reported as 4% and 5% in Hong Kong and mainland China, respectively (World Health Organization, 2014). A study in Shanghai, a major city in China, showed that 2.4% of parents reported that their children aged 11 to 16 had talked about suicide in the previous six months (Liu, Sun, and Yang, 2008). Further studies on suicidal ideation among Chinese children are warranted for three major reasons. First, many studies have been conducted in western countries. However, parenting practices vary across cultures and it is uncertain whether the associations between parenting styles and child

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suicide in Chinese families are the same as those found in Western studies (Bornstein and Cheah, 2006). More evidence is required to understand the relationship between parenting and child suicide across cultures so that evidence-based prevention and treatment programs can be developed.

Second, compared with most developing countries, self-harm is a more frequent cause of death for children in China. For all causes of death under the age of 20 between 1990 and 2013, suicide was ranked twenty-second among all developing countries, while it was the fifth cause of death among all developed countries (Global Burden of Disease Pediatrics Collaboration, 2016). In China, suicide was ranked twelfth during the same period, and second and fourth in Japan and South Korea, respectively, suggesting that suicide in collectivistic cultures should be given more attention. Finally, Chinese people represent 20% of the world population. However, the tendency toward emotional non-expression and insensitivity toward depression in China makes the identification of children with a risk of suicide more difficult (Philips et al., 2007). Child suicide should be given greater attention in the development of public health and social policies in China. Family and mental health professionals who are involved with Chinese overseas students and migrants should also equip themselves with knowledge about suicide among Chinese children.

During the past decade, gratitude has been identified primarily as a beneficial psychological factor influencing the behavior and reactions of children. Gratitude in general refers to the acknowledgement that one has received a benefit from another that was not intentionally sought, deserved, or earned, but was due only to the good intentions of another (Emmons and Stern, 2013). Gratitude can promote positive mental health among children (Kirschman, Johnston, Bender, and Roberts, 2009), as it has been found to be positively associated with one's affect,

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optimism, life satisfaction, and negatively related to various mental health issues, such as depression and anxiety (Froh, Yurkewicz, and Kashdan, 2008). Gratitude has often been found to be positively related to the willingness to forgive, lower levels of narcissism, the promotion of relationship connections and satisfaction, conflict resolution, and an increase in helpful behavior (Wood, Froh, and Geraghty, 2010).

Some studies have documented the important role of gratitude in moderating the relationship between depression and suicidal ideation. For example, in a study of 369 university students, gratitude moderated the relationship between hopelessness, depression, and suicidal ideation (Kleiman, Adams, Kashdan, and Riskind, 2013). A longitudinal study of 209 college students by the same researchers further suggested that gratitude promoted resiliency and reduced suicidal ideation by increasing meaning in life (Kleiman et al., 2013). Li et al. (2012) studied the effect of gratitude on suicidal ideation and attempts in a sample of 1,252 Chinese adolescents. They found that gratitude reduced suicidality through the promotion of self-esteem (Li et al., 2012). Nevertheless, the moderation effects of gratitude in the relationship between parenting styles and Chinese children's suicidal ideation have been not empirically assessed.

The present study aimed to empirically assess the relationship between different parenting styles and children's suicidal ideation, and the moderating role of gratitude in this relationship, in a Chinese context. The study sought to test the following five hypotheses. a) Suicidal ideation would be positively correlated with dominating parenting styles, and negatively correlated with warmth/accepting and autonomy-granting parenting styles. b) Gratitude would be negatively correlated with suicidal ideation and dominating parenting styles, and positively correlated with warmth/accepting parenting, and autonomy-granting parenting styles. c) Gratitude would moderate the relationship between warmth/accepting parenting styles and child suicidal ideation.

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d) Gratitude would moderate the relationship between dominating parenting styles and child suicidal ideation. e) Gratitude would moderate the relationship between autonomy-granting parenting styles and child suicidal ideations.

Method

Participants

Five primary schools in Hong Kong were recruited with the assistance of a local non-government organization. Four hundred forty-seven Chinese children (53.3% female; mean age = 10.06, SD = 1.76, range 9-12) from the five primary schools were invited to take part in the study in 2012 to 2013. The data from eight respondents were discarded as at least one of the scales had missing data. Therefore, the data from 439 valid questionnaires were used. Of these, 70.5% of the children lived with both parents, 18.1% lived with their mother, 6.5% lived with their father, and 4.9% did not live with either parent.

Procedures

Signed consent was obtained from the children's main caregivers. Participation was entirely voluntary, and the children were assured that there would be no negative consequences if they chose not to participate in the study. For children's easy understanding, we select scales written in plain language to measure study variables. The questionnaire took about 20 minutes to complete on average. In each school, a class session was allocated. A team of trained research assistants was present in the classroom to instruct the children on how to fill in the questionnaire. Teachers and other staff members were asked to leave the classroom while the children

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completed the questionnaire. The research was approved by the Research Ethics Committee of the City University of Hong Kong.

Measures

Parenting styles

The Warmth and Acceptance Scale (WAS; Greenberger & Chen, 1996) was used to assess the children's perceptions of their parents' use of a warm and accepting parenting style. There were six items pertaining to this style of parenting, and the children were asked to rate the extent to which they agreed with the statements about their parents on a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*) (e.g. "My parents enjoy spending time with me"). Higher scores indicated stronger perceptions of the warmth/acceptance of parents' parenting styles. The scale has been translated and validated in Hong Kong context, and showed good reliability (Cronbach's alpha = .79) (Leung, Wong, Wong, & McBride-Chang, 2010). In the current study, the Chinese version of WAS reported a Cronbach's alpha of .83, suggesting good internal consistency. Six items from the Control and the Organization dimensions of the Family Environment Scale (FES; Moos & Moos, 1981) were adopted to assess children's perceptions of their parents' use of a dominating/controlling parenting style. The children were asked to rate the extent to which they perceived their parents to be dominating (e.g., "My parents are controlling of me"). Participants responded on 5-point Likert scales, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicated stronger perceptions of a dominating parenting style. This scale has been translated and used for Hong Kong children and adolescents (Ma & Leung, 1990), and the internal consistency of the Control and the Organization subscale was .69 and .67

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respectively. In this study, the Chinese version showed good internal consistency (Cronbach's alpha .80).

The Perception of Parenting Style and Practices (PPSP; Stewart et al., 2000) was adopted to measure children's perceptions of their parents' use of an autonomy-granting parenting style. An example item was "My parent listens to my point of view even when we disagree". Children were asked to respond on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to indicate the extent to which they perceived their parents used an autonomy-granting parenting style, with higher scores indicating stronger perceptions. The PPSP has good discriminant validity and can significantly predict adolescents' positive self-image and life satisfaction (Stewart et al., 2000) The scale has an internal consistency of .80 for girls and .77 for boys in Stewart et al.' study. The internal consistency of the PPSP in this study was good, with a Cronbach's alpha of .84.

Child suicidal ideation

The first five items of the Scale of Suicidal Ideation (SSI; Beck and Kovacs, 1979) were selected to screen participants for presence of suicidal ideation. The five items were 1) "wish to live," 2) "wish to die," 3) "desire to make active suicide attempt," 4) "reasons for living/dying," and 5) "passive suicidal desire," of which the first three items were rated on a 4-point scale from 0 to 3, while the latter two items were rated on a 3-point scale from 0 to 2. As suggested by Beck, Kovacs, and Weissman (1979), these scores were summed by the respective rating of individual items, with higher score representing higher suicidal ideation in the child participants. A previous study adopted Chinese version of SSI and reported an internal consistency of .85 (Zhang, 2007). The internal consistency of SSI in the current study was .79.

Gratitude

The Gratitude Questionnaire (GQ-6; McCullough, Emmons and Tsang, 2002) was used to measure the participants' self-reported gratitude. The participants were asked to report whether they agreed with the six statements about gratitude, for example, "I have so much in life to be thankful for," on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). One question was reverse scored. Higher average scores indicated higher levels of gratitude. The present study adopted the Chinese version of GQ-6 which has reported satisfactory reliability (Cronbach's $\alpha = .80$) and construct validity in a Taiwan Chinese study (Chen, Chen, Kee, & Tsai, 2009). Cronbach's α of GQ-6 in the current study was .72.

Data Analysis

To explore whether gratitude moderated the relationship between children's perceived use of parenting styles and suicidal ideation, three regression equation models were constructed. The first regression model tested the moderating effect of child gratitude on the relationship between warm parenting and child suicidal ideation, while child and the other two parenting styles were controlled. Similarly, the second regression model tested child gratitude as a moderator of the dominant parenting-child suicidal ideation link, and the third regression model tested the moderating effect on the relationship between autonomy-granting parenting and child suicidal ideation. The slopes of parenting styles to child suicidal ideation at high, medium, and low levels of gratitude were examined with 1 *SD* above the mean, the mean, and 1 *SD* below the mean, respectively (Aiken, West and Reno, 1991). The moderation analyses were accomplished using the PROCESS macro that can be operated in the Statistical Package for the Social Sciences (SPSS) environment (Hayes, 2013). A macro is a plug-in program for SPSS, which automatically

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performs a series of operations for specific calculations, and the PROCESS macro was developed by Hayes (2013) for performing moderation analyses. The descriptive statistics and correlation analyses were also performed in IBM SPSS version 21.

Results

The means, standard deviations, correlations between study variables, and alpha coefficients for each construct under study are shown in Table 1. Suicidal ideation was positively correlated with dominating parenting styles, and negatively correlated with warmth/accepting and autonomy-granting parenting styles. Gratitude was negatively correlated with suicidal ideation and dominating parenting styles, and positively correlated with warmth/accepting and autonomy-granting parenting styles.

<insert Table 1 here>

T-tests were used to examine the relationships of two demographic variables on suicidal ideation: children's sex and living arrangements (children from two parent families versus children living with one parent or a relative). Both sex ($t = .45, p = .66$) and differences in family type ($t = 1.20, p = .23$) were non-significant. Therefore, we used the full sample in all of the regression analyses.

Results of the first regression model are shown in Table 2. Both warmth parenting (WARM) and child gratitude (GRAT) were negatively related to child suicidal ideation ($\beta = -.25, p < .001$ and $\beta = -.20, p < .001$, respectively). The interaction between GRAT x WARM was significant ($\beta = .19, p < .001$) and yielded a 4% increase in the total R^2 . Figure 1 illustrates that the slope of

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warmth parenting on child suicidal ideation was significantly different from zero at low ($t = -5.77, p < .001$) and medium ($t = -3.36, p < .01$) levels of gratitude. As predicted, for children who perceived a lower level of warm parenting, those with medium gratitude experienced lower suicidal ideation than those with low gratitude. At a high level of gratitude, the slope was not statistically significant ($t = -.21, p = .84$).

<insert Table 2 and figure 1 here>

Table 3 shows the results of the second regression model. Dominant parenting (DOM) was positively related to child suicidal ideation ($\beta = .13, p < .01$), while GRAT was negatively related to child suicidal ideation ($\beta = -.20, p < .001$). The interaction between GRAT x DOM was significant ($\beta = -.10, p < .05$) and yielded a 1% increase in the total R^2 . The slope of dominant parenting on child suicidal ideation was significantly different from zero at low ($t = 3.49, p < .001$) and medium ($t = 2.68, p < .01$) levels of gratitude. As predicted, for children who perceived higher levels of dominant parenting, those with medium gratitude experienced lower suicidal ideation than those with low gratitude. Children with high gratitude experienced even lower suicidal ideation at higher levels of dominant parenting, but the slope was not statistically significant ($t = .52, p = .61$).

<insert Table 3 and Figure 2 here>

Finally, in the third regression model, autonomy-granting parenting (AUTO) and GRAT were negatively related to child suicidal ideation ($\beta = -.16, p < .01$ and $\beta = -.20, p < .001$,

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respectively). The interaction between GRAT x AUTO was significant ($\beta = .12, p < .05$) and yielded a 2% increase in the total R^2 . The slope of autonomy-granting parenting on child suicidal ideation was significantly different from zero at low ($t = -4.50, p < .001$) and medium ($t = -2.98, p < .01$) levels of gratitude. As predicted, for children who perceived lower levels of autonomy-granting parenting, children with medium gratitude experienced lower suicidal ideation than those with low gratitude. The slope at high gratitude was not statistically significant ($t = -.43, p = .66$).

<insert Table 4 and Figure 3 here>

Discussion

We found that significant association between three perceived parental styles with child suicidal ideation. While dominating parenting style was positively associated with suicidal ideation, autonomy-granting, and warmth/acceptance parenting style were negatively associated with suicidal ideation. Further, gratitude was found to have significant moderating effects on suicidal ideation. This suggests that children's positive cognitive characteristics may buffer them from the negative associations of inappropriate parenting styles and suicidal ideation.

The relationship between negative parenting styles and children's suicidal ideation is consistent with the literature. This finding supports the notion that negative parenting styles are associated with cognitive vulnerability, including negative inferential styles, dysfunctional attitudes, low self-esteem, and rumination, which can increase the risk of suicidal ideation in children (Alloy, Abramson, Smith, Gibb, and Neeren, 2006).

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This study provides empirical evidence about the role of gratitude in child suicidal ideation. Indeed, gratitude may enhance individual well-being and facilitate positive relationships that help children to be more supportive, forgiving, and empathic toward others, which may help them to better accept and understand the negative aspects of their parenting experiences (McCullough, Huebner, and Laughlin, 2000). Our results explicitly support the buffering function of gratitude in children. As our results show, the significant relationships of different parenting styles on children's suicidal ideation were only observed in children with low and medium levels of gratitude, but not in those children with high levels of gratitude. This implies that children in possession of the character for gratitude, and an appreciation of their life and things around them are more resilient to the negative influence of parenting behavior on suicidality.

Gratitude may reduce negative feelings such as defeat, entrapment, and perceived burdensomeness, and promote a sense of belonging so that children may experience a reduction in the desire for suicide. Gratitude may further enhance the enjoyment of activities, promote awareness of pleasant events, help to counteract rumination, encourage positive reappraisal, and enhance relationships. An alternative explanation is that gratitude may develop new meanings in one's life that can strengthen the resilience of children who are experiencing suicidal ideation (Kleiman, Adams, Kashdan & Riskind, 2013). For children experiencing distress about negative parenting, gratitude may help them to perceive their adverse family life and development in a more positive way, for instance as a necessary path and training opportunity for future success. A famous quote from Mencius, a founder of Confucianism states that "When Heaven is about to place a great responsibility on a man, it always first frustrates his spirit and will, exhausts his

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muscles and bones, exposes him to starvation and poverty, harasses him with troubles and setbacks so as to stimulate his mind, toughen his nature and enhance his abilities” (Sun, 2013).

In this regard, Watkins (2014) suggested that gratitude may function through five relational processes to reduce the effect of one’s the cognitive vulnerability that results from negative parenting. These positive cognitive processes include enhancing the enjoyment of activities, promoting awareness of pleasant events, helping to counteract rumination, encouraging positive reappraisal, and enhancing relationships.

There is a pressing need to adapt interventions for children in response to the suicidal risks. Evidence-based treatments focusing on promoting distress tolerance, emotion regulation, and interpersonal effectiveness have been developed (Miller, Rathus, and Linehan, 2007; Perepletchikova et al., 2011). As children with suicidal ideation may feel overwhelmed by negative parenting and cognitive processes, it is uncertain whether the development of gratitude, a healthy thinking habit, can help to moderate the risk. However, the role of gratitude in moderating children’s suicidal ideation has received little attention.

Limitations and Implications

Findings of this study should be interpreted within the context of several limitations, including the use of cross-sectional data, self-reported measures, and a convenience sampling method. Due to the nature of cross-sectional data, the relationships between gratitude, perceived parenting style, and suicidal ideation are only correlational. To secure a good response rate, parents were not involved in the present study, although we are aware that young children may not be able to report parenting behavior accurately (Taber, 2010), suggesting the importance of including

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parents' ratings in the same study. Finally, the results of this study may be inconclusive and not generalizable to the Hong Kong or Chinese population. Studies based on clinical samples and different areas in China can contribute to the literature on this important topic. Besides, different research design, such as the collection of longitudinal data, using diagnostic psychiatric measures, and stratified random sampling should be considered. Other variables relating to risk factors for child suicide should be considered to corroborate whether gratitude can benefit young children and their families.

Further research should be conducted to study the application of gratitude exercise in the prevention and treatment of child suicidal behavior. There is evidence that prevention programs can change young people's attitudes about suicide and promote help seeking (Ciffone, 2007). Interventions that adopt a cognitive behavioral approach have shown promising results (Robinson, Hetrick, & Martin, 2011), but there is a growing interest among mental health professionals in incorporating alternative intervention strategies into suicide prevention (Oxhandler and Pargament, 2014; Wingate et al., 2006). Some findings also suggest that promoting gratitude in intervention for people with suicidal ideation or attempts can be relatively cost effective, and offers convenient program design and implementation (Kirschman et al., 2009). For example, gratitude was found to promote optimism and reduce hopelessness for suicidal in-patients (Huffman et al., 2013). However, although planned gratitude exercises can benefit adults, such activities may not apply to children. Lambert and Veldorale-Brogan (2013) suggested that three types of gratitude intervention may apply to adolescents, namely teaching participants to count their blessings using personal journals, share their grateful experiences, and express their gratitude to important people in their lives, including parents.

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Recent group-based intervention that incorporated elements of hope and gratitude was implemented with 68 Chinese children between 9 and 11 years of age with subclinical depressive symptoms (Kwok and Gu, 2016). Using a randomized controlled trial, the intervention participants reported significant improvements in depression symptoms and life satisfaction. A mediation analysis further suggested that only changes in gratitude, but not changes in hope, mediated the effects of the intervention (Kwok and Gu, 2016). Findings of the present cross-sectional study and the above intervention study both contribute to the growing evidence of the therapeutic value of gratitude exercises for young children. Dialectical behavior therapy, an evidence-based approach for suicidal adolescents, highlights the overlap between personality disorders and suicidal behavior in adolescents (Miller, Rathus, and Linehan, 2007). This approaches include components of emotion regulation and interpersonal effectiveness. The findings of the present study imply that gratitude exercises could also be integrated into modules for suicidal children to reduce their emotional and behavioral difficulties (Perepletchikova et al., 2011). Further studies could investigate the effects of gratitude on suicidal ideation among children. As it may be more challenging to work with children with suicidal ideation due to their lack of motivation in help-seeking, practitioners should develop relevant knowledge and skills for particular target groups, instead of implementing the same type of gratitude activities for diverse populations (Kaczmarek et al., 2015).

Conflict of interests

The authors declare that they have no competing interests.

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Ethical standard

All procedures performed in this study involving human participants were in accordance with the ethical standards of the research ethics committee of the investigators and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent

Written consent was obtained from all caregivers of individual participants included in the study.

Author contributions

HHML: designed the study, assisted with data analysis, and prepared the manuscript. SYCLK: executed the study, analyzed the data, and assisted in prepared the manuscript in the section of result. JWKY: assisted in data analysis, and wrote the paper in the section of results. AYTL: collaborated with the design and editing of the manuscript. CHLT: collaborated with the design and editing of the manuscript.

References

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, Ca: Sage.

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- Alloy, L. B., Abramson, L. Y., Smith, J. M., Gibb, B. E., & Neeren, A. M. (2006). Role of parenting and maltreatment histories in unipolar and bipolar mood disorders: Mediation by cognitive vulnerability to depression. *Clinical Child and Family Psychology Review, 9*, 23-64.
- Barzilay, S. Feldman, D., Snir, A., Apter, A., Carli, A., Hoven, C.W., ... Wasserman, D. (2015). The interpersonal theory of suicide and adolescent suicidal behavior. *Journal of Affective Disorders, 183*, 68-74. doi: 10.1016/j.jad.2015.04.047.
- Beck, A. T., Kovacs, M., & Weissman, A. (1979). Assessment of suicidal intention: The scale for suicide ideation. *Journal of Consulting and Clinical Psychology, 47*, 343-352.
- Boeninger, D. K., Masyn, K. E., & Conger, R. D. (2012). Testing alternative explanations for the associations between parenting and adolescent suicidal problems. *Journal of Research on Adolescence, 23*, 331-344.
- Bornstein, M. H., & Cheah, C. S. (2006). The place of “culture and parenting” in the ecological contextual perspective on developmental science. In Rubin, K. H., & Chung, O. B. (Eds.) *Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective* (pp. 3-33). New York: Psychological Press.
- Cero, I., & Sifers, S. K. (2016). Parenting behavior and the interpersonal-psychological theory of suicide: A mediated moderation analysis with adolescents. *Journal of Affective Disorders, 150*, 987-992.
- Chen, L. H., Chen, M. Y., Kee, Y. H., & Tsai, Y. M. (2009). Validation of the Gratitude Questionnaire (GQ) in Taiwanese undergraduate students. *Journal of Happiness Studies, 10*, 655-664.

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- Ciffone, J. (2007). Suicide prevention: An analysis and replication of a curriculum-based high school program. *Social Work, 52*, 41-49.
- Donath, C., Graessel, E., Baier, D., Bleich, S., & Hillemacher, T. (2014). Is parenting style a predictor of suicide attempts in a representative sample of adolescents? *BMC Pediatrics, 14*, 113–132.
- Emmons, R. A., & Stern, R. (2013). Gratitude as a psychotherapeutic intervention. *Journal of Clinical Psychology, 69*, 846-855.
- Frey, L. M., & Cerel, J. (2015). Risk for suicide and the role of family: A narrative review. *Journal of Family Issues, 36*, 716-736. DOI: 10.1177/0192513X13515885.
- Froh, J. J., Yurkewicz, C., & Kashdan, T. B. (2009). Gratitude and subjective well-being in early adolescence: Examining gender differences. *Journal of Adolescence, 32*, 633-650.
- Global Burden of Disease Pediatrics Collaboration (2016). Global and national burden of diseases and injuries among children and adolescents between 1990 and 2013: Findings from the Global Burden of Diseases 2013 Study. *JAMA Pediatrics, 170*, 267-287. doi:10.1001/jamapediatrics.2015.4276.
- Goldston, D. B., Daniel, S. S., Erkanli, A., Heilbron, N., Doyle, O., Weller, B., Sapyta, J. (2015). Suicide attempts in a longitudinal sample of adolescents followed through adulthood: Evidence of escalation. *Journal of Consulting and Clinical Psychology, 83*, 253-264. DOI: 10.1037/a0038657.
- Greenberger, E., & Chen, C. (1996). Perceived family relationships and depressed mood in early and late adolescence: A comparison of European and Asian Americans. *Developmental Psychology, 32*, 707-716.

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- Greening, L., Stoppelbein, L., & Luebke, A. (2010). The moderating effects of parenting styles on African-American and Caucasian children's suicidal behaviors. *Journal of Youth and Adolescence, 39*, 357-369.
- Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: a regression-based approach. New York: The Guilford Press.
- Herba, C. M., Ferdinand, R. F., van der Ende, J., & Verhulst, F. C. (2007). Long-term associations of childhood suicide ideation. *Journal of the American Academy of Child & Adolescent Psychiatry, 46*, 1473-1481.
- Heron, M. (2016). Deaths: Leading causes for 2013. *National Vital Statistics Reports, 65*. Hyattsville, MD: National Center for Health Statistics.
- Huffman, J. C., DuBois, C. M., Healy, B. C., Boehm, J. K., Kashdan, T. B., Celano, C. M., . . . Lyubomirsky, S. (2014). Feasibility and utility of positive psychology exercises for suicidal inpatients. *General Hospital Psychiatry, 36*, 88-94.
- Joiner, T. E., Van Orden, K. A., Witte, T. K., & Rudd, M. D. (2009). *The Interpersonal Theory of Suicide: Guidance for working with suicidal clients*. Washington, DC: American Psychological Association.
- Kaczmarek, L. D., Kashdan, T. B., Drajzkowski, D., Enko, J., Kosakowski, M., Szäefer, A., & Bujacz, A. (2015). Why do people prefer gratitude journaling over gratitude letters? The influence of individual differences in motivation and personality on web-based interventions. *Personality and Individual Differences, 75*, 1-6.
- Kirschman, K. J. B., Johnson, R. J., Bender, J. A., & Roberts, M. C. (2009). Positive psychology for children and adolescents: Development, prevention, and promotion. In S. J. Lopez, &

Gratitude, parenting style, and suicidal ideation

- C. R. Snyder, (Eds.) *Oxford handbook of positive psychology* (2nd ed., pp. 133-148). New York: Oxford University Press.
- Kleiman, E. M., Adams, L. M., Kashdan, T. B., & Riskind, J. H. (2013). Grateful individuals are not suicidal: Buffering risks associated with hopelessness and depressive symptoms. *Personality and Individual Differences, 55*, 595-599.
- Kwok, Y. C. L., and Gu, M. (2016). Positive psychology intervention to alleviate child depression and increase life satisfaction: A randomized clinical trial. *Research on Social Work Practice, 26*, 350-361. DOI: 10.1177/1049731516629799.
- Lambert, N.M., & Veldorale-Brogan (2013). In C. Proctor and P.A. Linley (eds.), *Research, applications, and interventions for children and adolescents: A positive psychology perspective* (pp. 117-128). Dordrecht: Springer Netherlands.
- Lai, K. W., & McBride-Chang, C. (2001). Suicidal ideation, parenting style, and family climate among Hong Kong adolescents. *International Journal of Psychology, 36*, 81-87.
- Leung, A. N. M., Wong, S. S. F., Wong, I. W. Y., & McBride-Chang, C. (2010). Filial piety and psychosocial adjustment in Hong Kong Chinese early adolescents. *The Journal of Early Adolescence, 30*, 651-667.
- Li, D., Zhang, W., Li, X., Li, N., & Ye, B. (2012). Gratitude and suicidal ideation and suicide attempts among Chinese adolescents: Direct, mediated, and moderated effects. *Journal of Adolescence, 35*, 55-66.
- Liu, X., Kurita, H., Guo, C., Miyake, Y., Ze, J., & Cao, H. (1999). Prevalence and risk factors of behavioral and emotional problems among Chinese children aged 6 through 11 years. *Journal of the American Academy of Child & Adolescent Psychiatry, 38*, 708-715.

Gratitude, parenting style, and suicidal ideation

- Liu, X., Sun, Z., & Yang, Y. (2008). Parent-reported suicidal behavior and correlates among adolescents in China. *Journal of Affective Disorders, 105*, 73-80.
- Ma, H.K., & Leung, M.C. (199). The adaptation of the Family Environment Scale to Chinese children and adolescents in Hong Kong. *International Journal of Psychology, 25*, 545-555.
- Marshall, J.W., Ruth, B.J., Sisco, S., Bethke, C., Piper, T. M., Cohen, M., Bachman, S. (2011). Social work interest in prevention: A content analysis of the professional literature. *Social Work, 56*, 201-211.
- Martin, G., & Waite, S. (1994). Parental bonding and vulnerability to adolescent suicide. *Acta Psychiatrica Scandinavica, 89*, 246-254.
- McCullough, G., Huebner, E. S., & Laughlin, J. M. (2000). Life Events, self-concept, and adolescents' positive subjective well-being. *Psychology in the Schools, 37*, 281-290.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology, 82*, 112-127.
- Miller, A. L., Rathus, J. H., & Linehan, M. M. (2006). *Dialectical behavior therapy with suicidal adolescents*. New York: Guilford Press.
- Montgomery, J., & Fewer, W. (1988). *Family systems and beyond*. New York: Human Sciences Press.
- Moos, R. H., & Moos, B. S. (1981). *Manual for the family environment scale*. Palo Alto: Consulting Psychology Press.
- O'Connor, R. C., and Nock, M. K. (2014). The psychology of suicidal behaviour. *Lancet Psychiatry, 1*, 73-85.

Gratitude, parenting style, and suicidal ideation

O'Leary, C. C., Frank, D. A., Grant-Knight, W., Beeghly, M., Augustyn, M., Rose-Jacobs, R., ...

Gannon, K. (2006). Suicidal ideation among urban none and ten year olds. *Journal of Developmental and Behavioral Pediatrics, 27*, 33-39.

Oxhandler, H. K., & Pargament, K. I. (2014). Social work practitioners' integration of client's religion and spirituality in practice: A literature review. *Social Work, 61*, 1-9. DOI: 10.1093/sw/swu018.

Perepletchikova, F., Axelrod, S. R., Kaufman, J., Rounsaville, B. J., Douglas-Palumberi, H., & Miller, A. L. (2011). Adapting dialectical behaviour therapy for children: Towards a new research agenda for paediatric suicidal and non-suicidal self-injurious behaviours. *Child and adolescent mental health, 16*, 116-121.

Pfeffer, C. R. (2000). Suicidal behaviour in children: an emphasis on developmental influences. In Hawton, K., & Van Heeringen, K. (Eds.) *The International Handbook of suicide and attempted suicide (pp.237-248)*. New York: John Wiley & Sons.

Phillips, M. R., Shen, Q., Liu, X., Pritzker, S., Streiner, D., Conner, K., & Yang, G. (2007). Assessing depressive symptoms in persons who die of suicide in mainland China. *Journal of Affective Disorders, 98*, 73-82.

Robinson, J., Hetrick, S. E., Martin, C. (2011). Preventing suicide in young people: Systematic review. *Australian and New Zealand Journal of Psychiatry, 45*, 3-26. DOI: 10.3109/00048674.2010.511147.

Ruth, B. J., Velasquez, E. E., Marshall, J. W., & Ziperstein (2015). Shaping the future of prevention in social work: An analysis of the professional literature from 2000 through 2010. *Social Work, 60*, 126-134. DOI: 10.1093/sw/swu060.

Gratitude, parenting style, and suicidal ideation

- Soole, R., Kolves, K., & De Leo, D. (2015). Suicide in children: A systematic review. *Archives of Suicide Research, 19*, 285-304. DOI: 10.1080/13811118.2014.996694.
- Stewart, S. M., Bond, M. H., Ho, L. M., Zaman, R. M., Dar, R., & Anwar, M. (2000). Perceptions of parents and adolescent outcomes in Pakistan. *British Journal of Developmental Psychology, 18*, 335-352.
- Sun, C.T.L. (2013). *Themes in Chinese psychology, 2nd ed.* Singapore: Cengage Learning.
- Taber, S. M. (2010). The veridicality of children's reports of parenting: A review of factors contributing to parent–child discrepancies. *Clinical Psychology Review, 30*, 999-1010.
- Tishler, C. L., Reiss, N. S., & Rhodes, A. R. (2007). Suicidal behavior in children younger than twelve: A diagnostic challenge for emergency department personnel. *Academic Emergency Medicine, 14*, 810-818.
- Wagner, B. M. (2009). *Suicidal behavior in children and adolescents.* New Haven: Yale University Press.
- Watkins, P. C. (2014). *Gratitude and the good life: Toward a psychology of appreciation.* Dordrecht: Springer.
- Wingate, L. R., Burns, A. B., Gordon, K. H., Perez, M., Walker, R. L., Williams, F. M., & Joiner, T. (2006). Suicide and positive cognitions: Positive psychology applied to the understanding and treatment of suicidal behavior. In Ellis, T. E. (Ed), *Cognition and suicide: Theory, research, and therapy*, (pp. 261-283). Washington, DC: American Psychological Association.
- Wong, I. N., de Man, A. F., & Leung, P. W. L. (2002). Perceived parental child rearing and suicidal ideation in Chinese adolescents. *Social Behavior and Personality, 30*, 19-24.

Gratitude, parenting style, and suicidal ideation

Wood, A. M., Froh, J. J., & Geraghty, A. W. A. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review, 30*, 890-905.

World Health Organization (2014). *Preventing suicide: A global imperative*. Retrieved from http://apps.who.int/iris/bitstream/10665/131056/1/9789241564779_eng.pdf?ua=1.

Zhang, J., & Brown, G. K. (2007). Psychometric properties of the scale for suicide ideation in China. *Archives of Suicide Research, 11*, 203-210.