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To cite this article: Giacomo Bono & Jason T. Sender (2018) How Gratitude Connects Humans to the Best in Themselves and in Others, *Research in Human Development*, 15:3-4, 224-237, DOI: [10.1080/15427609.2018.1499350](https://doi.org/10.1080/15427609.2018.1499350)

To link to this article: <https://doi.org/10.1080/15427609.2018.1499350>



Published online: 30 Jul 2018.



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How Gratitude Connects Humans to the Best in Themselves and in Others

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Gratitude provides many advantages throughout development. This study provides a comprehensive review of research on gratitude, with a focus on understanding how it is adaptive in human development. Mounting evidence shows that gratitude is advantageous because it helps reduce antisocial behavior and pathology, protects from stress, promotes physical and mental health, improves social functioning and interpersonal relationships, and supports resilience across the life-span. We argue that gratitude is foundational for human development and that its advantages motivate self-improvement in people and enable them to work more effectively in social environments to achieve important goals. The review closes with a focus on current issues in assessment, methods, and interventions, as research in these areas will help advance empirical understanding of gratitude's role in human development and help inform better interventions. Overall, gratitude helps individuals find meaning and coherence in life so that they can improve themselves and elevate others.

INTRODUCTION

Establishing positive social ties to supportive groups and communities are key resources for humans' functioning. Gratitude is uniquely suited to developing such social resources. Thus, experiencing and practicing gratitude can benefit most individuals. However, society poses many challenges today. Families are busier than ever, with more dual-income households contending with stagnated wages and rising living costs. Teachers contend with increasingly diverse students who also have greater social emotional challenges; whereas schools must operate with insufficient budgets, counselors, and school psychologists. Culturally, more commercial messages vie for our time, money, and motivations. Consider further the ubiquity of social media and smartphones, and it is clear that people must navigate through lots of information and difficult choices today.

It is no surprise then that mental illness rates remain unacceptably high and are mounting, especially among youth. Depression rose significantly in the United States from 2005 to 2015 among Americans age 12 years and older, with rates accelerating the most among youth (Weinberger et al., 2017). Psychopathology rose from 1938 to 2007 among U.S. college students and from 1951 to 2002 among high school students (Twenge et al., 2010). These authors also argue that cultural changes largely

underlie these patterns, such as shifts toward extrinsic goals (e.g., materialism and status) and away from intrinsic goals (e.g., community, affiliation, and meaning in life).

These trends suggest that gratitude is advantageous to cultivate. Gratitude is unique among the human virtues due to its malleability and strong link to happiness. Of the variety of psychological and social benefits for individuals, relationships, groups, and organizations (Rusk, Vella-Brodrick, & Waters, 2016), gratitude may help individuals better manage their attention and make wiser decisions, create more supportive relationships and communities, and build resilience so that collectively society can better cooperate and solve problems.

This article describes how gratitude optimizes human development. After defining *gratitude*, we examine how it helps us understand and enhance human development. This work outlines many benefits, from promoting kindness and well-being to deterring antisocial behavior and pathology. In terms of personal function, gratitude's protection from stress and depression helps support mental health, achievement, and resilience. Socially, altruistic behaviors become reciprocated by others, and this helps build positive social ties, which is foundational for human development. The personal and social benefits support team functioning, whether at school or work. In civic terms, grateful individuals tend to contribute to community. We close with a focus on assessment, methods, and interventions—areas where more research is needed.

WHAT IS GRATITUDE?

Gratitude is the feeling of appreciation for benefits in life. Benefits can be interpersonal gifts given altruistically by benefactors or they can be things or relationships of value that do not involve interpersonal agency. Gratitude falls under the larger multidimensional concept of appreciation (Adler & Fagley, 2005; Rusk et al., 2016), but both create meaning, well-being, and coherence in one's life. The main focus of this article is on the interpersonal variety of gratitude.

Some scholars argue that to distinguish interpersonal gratitude as a virtue, beyond just a satisfying emotion, a beneficiary must act on a moral obligation to reciprocate (eventually) to the benefactor so as to deepen that relationship (Mendonça & Palhares, 2018; Roberts, 2016). But if gratitude is a response to receiving benefits altruistically by a benefactor, then no obligation of altruistic reciprocity to benefactors should be expected. We find this view overly transactional and propose that a beneficiary's expression of genuine thanks to a benefactor reciprocates to the benefactor; and that this expressive act is meaningful to both parties because it signals a "self-improvement" or "generativity" motive in the beneficiary that imbues gratitude with virtue. Indeed, consensus is growing that expressing gratitude is one of the most potent ways to practice it (Lambert et al., 2013; Seligman, Steen, Park, & Peterson, 2005). Recent evidence supports this conceptualization of gratitude. For instance, growth in gratitude predicts increased social integration and meaning in life among adolescents during high school (Bono & Froh, 2018), and a toolkit for fostering gratitude in young adults ages 18 to 30 increases search for purpose and identified purpose relative to a control group (Bronk et al., 2018). Therefore, gratitude may be virtuous because it elicits a broader more purposeful motive in beneficiaries to validate the initial gift by paying benefits back (to benefactors), forward (to others), or toward oneself.

WHY IS GRATITUDE IMPORTANT FOR UNDERSTANDING HUMAN DEVELOPMENT TODAY?

Gratitude is inherently relational and has three moral functions (McCullough, Kilpatrick, Emmons, & Larson, 2001). First, it serves as a moral barometer. The experience of gratitude indicates to beneficiaries that a benefactor plays a special role in their welfare. Second, gratitude is a moral reinforcer because its expression makes benefactors more likely to continue extending kindness. Third, gratitude serves a moral motive because it motivates recipients of benefits to reciprocate kindness and inhibit destructive acts toward benefactors or others.

Supportive social networks buffer individuals from adversity and pathology on one hand and help enhance health and well-being on the other. Strong social relationships help people cope with life adversities and pursue life opportunities for growth.

Positive Bonds and Prosociality

The social and moral effects of gratitude spread to others too. Gratitude builds trust (Dunn & Schweitzer, 2005), and receiving expressions of gratitude increases prosocial behavior in people by enabling them to feel socially valued (Grant & Gino, 2010). Thus, securing caring relationships provides bedrock for many positive outcomes in human development, and gratitude seems geared toward that end. But does gratitude show such social and moral effects with youth?

Gratitude serves as a moral barometer and moral motive functions for youth too. Froh et al. (2014) found that benefit appraisals (i.e., personal value of benefits, cost to benefactors, and altruistic intentions of benefactors) can be scaffolded in children as young as age 8 and that such a curriculum increased grateful emotions and affective well-being 5 months later. Thus, children's gratitude depends on their perceptions of benefits and benefactors, indicating the barometer function. Longitudinal research on adolescents ages 11 to 14 by Bono et al. (2017) demonstrated the moral motive function. Growth in gratitude over a 4-year period was related with increases in prosocial behavior (e.g., helping a classmate with his or her work, sticking up for a peer in trouble) and decreases in antisocial behavior (e.g., upsetting a peer by being mean, threatening to hurt another to get his or her way). Further, these relationships were reciprocal. These findings suggest that gratitude may be linked with improved quality of social ties developmentally and that its social and moral effects are stable.

Support for the moral reinforcer function among youth comes from research showing gratitude strongly linked to positive social surroundings. Froh, Yurkewicz, and Kashdan (2009) found that early adolescents' gratitude was positively related with perceptions of peer and familial social support and satisfaction with school, family, community, and friends. An early adolescent intervention also positively affected perceptions of positive social relationships (Froh, Sefick, & Emmons, 2008). Among college students, perceived social support mediated gratitude's positive links with self-esteem and life-satisfaction (Kong, Ding, & Zhao, 2015).

School and work require more collaboration, necessitating more emotional competence and social skills. As the pace and complexity of society rises, so too will the importance of social capital. Talent, skills, intelligence, and learning are all individual attributes that can be nurtured and shaped through relationships with others. Social and emotional intelligence help people and organizations succeed. Grateful individuals are more likely to exhibit interdependent behavior because of goal contagion—suggesting that gratitude can help bind recipients to groups' goals,

bring social agents closer, and possibly improve groups' coordinated action (Jia, Tong, & Lee, 2014). Further, research employing social network analysis shows a "pay-it-forward" effect as well; grateful individuals transferred the goodwill they received onto others in the future, and this eventually influences the structure of a given social network (Chang, Lin, & Chen, 2012).

Mental Health and Well-Being

Gratitude is robustly linked to adjustment and well-being too. Grateful people experience more joy, hope, love, and zest, and fewer destructive emotions like envy, greed, and resentment (Emmons & McCullough, 2003; McCullough, Emmons, & Tsang, 2002; Watkins, Woodward, Stone, & Kolts, 2003). A longitudinal study showed that gratitude predicted increased perceived social support and decreased stress and depression 3 months later, independently of the Big Five personality factors (Wood, Maltby, Gillett, Linley, & Joseph, 2008).

Health and Adjustment to Disease

Although gratitude is a clinically relevant trait for improving well-being (Wood, Froh, & Geraghty, 2010), it is understudied in medical populations. Two groundbreaking studies addressed this critical gap recently. One study examined the relationships between gratitude, spiritual well-being, sleep, fatigue, mood, cardiac-specific self-efficacy, and inflammation in patients (age 56–75 years) with Stage B asymptomatic heart failure (Mills et al., 2015). These researchers found that gratitude fully mediated the associations of spiritual well-being with sleep quality and depressed mood and partially mediated the associations of spiritual well-being with fatigue and self-efficacy. Because heart disease kills more people worldwide than any other disease, gratitude may be clinically valuable as a treatment for improving heart failure patients' lives.

Another study by Sirois and Wood (2017) examined gratitude's longitudinal associations with depression in two chronic illness samples, arthritis and irritable bowel disease. Gratitude, depression, perceived stress, social support, illness cognitions, and disease-related variables were assessed twice 6 months apart. Results showed that majorities in both samples met the cut-off scores for significant depression at Time 2 (T2). Gratitude was negatively associated with depression at T1 and T2. More importantly, in both samples gratitude significantly predicted lower T2 depression after controlling for T1 depression, demographics, illness cognitions, changes in illness-relevant variables, and thriving. This landmark study showed the relevance of gratitude for health-related clinical populations and indicates that gratitude may help individuals adjust to chronic illness.

HOW DOES GRATITUDE MATTER FOR LIFE-SPAN DEVELOPMENT?

Although the above studies outline beneficial moral, social, mental, and physical effects, one question remains: "What is the larger role of gratitude in human development?" Providing a hint, Froh, Bono, and Emmons (2010) found that adolescents' gratitude was associated with increases in social integration, the motivation to give back to or help one's community and society. More grateful adolescents reported increases in social integration 6 months later, and this relationship

was mediated by increases in life satisfaction and prosocial behavior at 3 months. Moreover, gratitude and social integration mutually increased each other. This suggests that gratitude may support generativity in human development. Because gratitude has so many adaptive effects and is robustly tied to life satisfaction and mental health, it seems safe to assume that gratitude helps optimize psychosocial development. So what lifelong assets does gratitude promote?

Social Benefits: Attachment and Social Relationships

Earlier we outlined major ways gratitude has been found to be beneficial for individuals. It's helpful to consider the beneficial mechanisms gratitude has in terms of psychosocial theory. Accordingly, the challenges of development across all periods of the life span after infancy all involve steadily growing agency and coherence of selfhood vis-à-vis bonds with other people. This speaks to the importance of social relationships as a foundation for life.

Social Benefits of Gratitude among Youth

In the first 2 years of life, healthy attachments lend infants the psychosocial resource of trusting others to grow hope, and this is achieved through mutuality with caregivers. Otherwise, infants learn to withdraw, which limits psychosocial development during this period. Early in development, gratitude likely stems from secure attachments with parents and caregivers, but this has yet to be directly supported empirically. However, gratitude development in adolescents was associated with greater perceived support from parents (Bono et al., 2017). This coincides with other evidence that not just parent support, but also teacher support, are robust environmental antecedents of early adolescents' gratitude (Reckart, Huebner, Hills, & Valois, 2017).

With hope achieved, toddlers start establishing the language and self-control skills to face the psychosocial challenge of developing their own will. Evidence suggests that language, emotion understanding, and theory of mind are important precursors of gratitude too (Nelson et al., 2013). But during early school age, connection with the teacher matters as children develop initiative, which is consistent with Reckart et al.'s findings; and ability to engage in peer play matters, which is consistent with Nelson et al.'s findings. There is evidence that gratitude affects well-being in older adolescents and young adults via an active coping style and social support too (Lin & Yeh, 2014).

Other important predictors of healthy human development are prosociality and factors like empathy and trust. Research has linked gratitude to trust (Dunn & Schweitzer, 2005), empathy (McCullough et al., 2001), and prosocial behavior in adults (Bartlett & DeSteno, 2006; Tsang, 2006). Besides being mutually associated with prosocial behavior in adolescents, growth in gratitude was also associated with empathy and trust too (Bono et al., 2017). These factors are vital in early school age and middle childhood when youth face developmental tasks of forming friendships and playing in teams; and again in adolescence when interactions and memberships with groups fuel emotional competence and identity. For instance, trait gratitude benefits high school athletes in terms of team satisfaction, life satisfaction and burnout (Chen & Kee, 2008).

Conversely, problems with aggression and antisociality can persist into adulthood. The negative link between gratitude and antisocial behavior (Bono et al., 2017) should help teens manage peer pressure and develop their identity into adulthood. Do such effects extend to adults?

Social Benefits of Gratitude among Adults

Employing different designs (i.e., cross-sectional, longitudinal, experience sampling, and experimental), DeWall, Lambert, Pond, Kashdan, and Fincham (2012) found that experiencing gratitude contributed to lower aggression and that this effect was due to gratitude's promotion of empathy. Thus, it seems that when people are grateful, be they adolescents or adults, they tend to tune in to the thoughts, emotions, and motives of other people's positive actions and focus not on self-interest or harming others but on understanding and mirroring other people's kindness.

In terms of social ties, evidence indicates that gratitude promotes relationship formation and maintenance too. One study examined gratitude naturally in the context of college sororities' gift-giving week (Algoe, Haidt, & Gable, 2008); gratitude was predicted by new members seeing older members as more responsive to their needs during the week, which consequently predicted greater relationship quality between members a month later. Others find that gratitude promotes social affiliation and social inclusiveness (Bartlett, Condon, Cruz, Baumann, & Desteno, 2012).

Gratitude boosts feelings of connection, satisfaction, and commitment in friendships (Algoe, Gable, & Maisel, 2010), romantic relationships (Joel, Gordon, Impett, MacDonald, & Keltner, 2013), and marital relationships (Gordon, Arnette, & Smith, 2011). It signals communal relationship norms and fuels mutually responsive behaviors between recipients and benefactors, which supports not only the formation and maintenance of quality social ties in general (Algoe et al., 2010) but also relationship maintenance behaviors like sensitivity and concern (Lambert & Fincham, 2011). Psychosocially, gratitude should help adults meet developmental tasks like forming romantic relationships and establishing and managing a career and family life.

INDIVIDUAL BENEFITS: COPING WITH STRESS, SELF-IMPROVEMENT, AND RESILIENCE

Two major challenges for individuals throughout life are coping with stress and adversity and setting goals and strategizing to reach them. So does gratitude help with these challenges and help motivate self-improvement in general? Evidence shows that gratitude supports exercising (Emmons & McCullough, 2003) and coping with challenges—which, in turn, buffers people from stress (Wood, Joseph, & Linley, 2007).

Individual Functioning and Resilience among Youth

There is evidence that gratitude buffers adolescents from stress (Reckart et al., 2017). So does it support coping, self-improvement, and resilience in youth too? Research by Ma, Kibler, and Sly (2013) examined how moral affect gratitude versus life-orientation gratitude (i.e., expressing thanks and appreciation to others vs. having a deeper and broader sense of appreciation in life) were related with various risk and protective factors among African American adolescents. They found that moral affect and life-orientation gratitude correlated with positive family ties. Further, moral affect gratitude correlated with more protective factors (academic interest and performance, extracurricular activity engagement), and life-orientation gratitude correlated with fewer risk factors (likelihood of sexual intimacy and intercourse and drug/alcohol use).

Another study with a general adolescent sample, corroborated gratitude's effects on personal functioning, namely, academic performance and active engagement with activities, and found negative relationships with depression and envy and positive relationships with life satisfaction and social integration (Froh, Emmons, Card, Bono, & Wilson, 2011). Moreover, gratitude's negative association with materialism was stronger than materialism's negative associations with envy and Grade Point Average, implying protection against hedonistic cultural trappings.

How about protection from adversity? One study examined older adolescents' ($M = \text{age } 19$) functioning in response to parental illness (Stoeckel, Weissbrod, & Ahrens, 2015). The ill-parent group had lower family quality of life than the healthy parent group, but there were no differences in depression or anxiety levels between the two, and the association between parental health status and participants' anxiety and depression was moderated by dispositional gratitude. This suggests gratitude may help buffer children of ill parents from internalizing symptoms.

Research has found positive effects on victims of serious trauma. Two studies examined gratitude and resilience in youth after the devastating 2008 earthquake in Wenchuan, China. Zheng, Fan, and Lou (2011) found post-traumatic stress disorder (PTSD) symptoms negatively linked to gratitude, social support, and resilience and that gratitude had a direct effect on PTSD symptoms and an indirect effect on PTSD symptoms via resilience and social support. Zhou and Wu (2015) examined adolescent survivors 3.5, 4.5, and 5.5 years after the earthquake. They found that gratitude predicted posttraumatic growth (PTG) from T1 to T3 and that gratitude predicted constructive rumination from T1 to T2 but not T2 to T3, which was related to increases in PTG from T2 to T3. This casts gratitude as a stable predictor of PTG directly and indirectly via constructive rumination.

A third study examined if gratitude played a protective role for traumatized adolescents, Israeli youth living in a city bombed by missile attacks. Researchers examined if gratitude predicted PTSD symptoms in adolescents 2.5 months after the attack (Israel-Cohen, Uzefovsky, Kashy-Rosenbaum, & Kaplan, 2015). Gratitude predicted fewer PTSD symptoms in youth and that this effect was mediated by life satisfaction and negative affect, but not positive affect.

Taken together, the above findings support the notion that gratitude serves a protective factor that is distinct from other positive emotions. Gratitude seems to protect youth from risky behaviors, hedonistic cultural motivations, depression, and trauma and to promote academic performance, engagement in activities, sense of connection to family and others, and positive cognitive appraisals of traumatic/adverse events so that growth becomes possible.

Because gratitude boosts responsiveness to supportive others and self-improvement, can it help individuals achieve important goals? Bono et al. (2017) found that adolescents' gratitude development was tied to greater intentional self-regulation—a life management skill that enables people to harmonize demands and resources in their environments with their personal goals and helps them function better (Gestsdottir & Lerner, 2008). Thus, gratitude development is related to a key quality in executive control and healthy human development.

Individual Functioning and Resilience among Adults

Wood et al. (2007) found that gratitude correlated positively with active coping, seeking emotional and instrumental social support, planning, positive reinterpretation and growth; and negatively with self-blame, behavioral disengagement, substance use, and denial. Moreover, gratitude's relationship with coping styles mediated 51% of the gratitude–stress relationship.

Longitudinal research clarifies the causal relationships between gratitude, stress, and depression too (Wood et al., 2008). Gratitude encourages supportive behaviors and appraising situations positively, leading to less stress and depression. But the inverse does not occur. Although one may have lower depression and stress levels, the addition of gratitude helps to keep levels low and to sustain positive interpersonal relationships, suggesting gratitude's utility in clinical intervention.

Do gratitude's protective personal effects extend to suicide prevention? Kleiman, Adams, Kashdan, and Riskind (2013) examined if gratitude and grit interact to provide protection from suicidal ideation (SI) longitudinally. They found that individuals who were high in gratitude and grit had nearly no SIs; and though gratitude had direct effects on meaning in life (positive) and SIs (negative), the interaction of grit and gratitude had an indirect effect on SIs via meaning in life.

The research described so far has used general population samples. But a rigorous test of resilience effects would examine trauma victims. Kashdan, Uswatte, and Julian (2006) explored if trait gratitude and daily gratitude experiences were related with daily hedonic and eudaimonic well-being in combat Veterans with or without PTSD over time. They found that Veterans with PTSD had lower trait gratitude than those without PTSD but did not differ on daily gratitude. Trait gratitude predicted greater daily well-being during the study beyond the effects attributable to PTSD severity and trait affect in PTSD Veterans, but not in the non-PTSD Veterans. Daily gratitude was also uniquely related with all daily well-being indicators in both groups. These results support the notion that gratitude may help trauma survivors.

CHALLENGES FOR THE FIELD: ASSESSMENTS OF GRATITUDE AND METHODS

A challenge hampering the advancement of research in this area is that better measures are needed. This is natural given the many nuances involved with concepts related to gratitude (i.e., gratefulness, gratitude for things or events, gratitude toward people, groups, or entities, varieties of appreciation, etc.). In research that established the most widely used trait measure, the Gratitude Questionnaire (GQ-6), McCullough et al. (2002) found that highly grateful people tend to experience gratitude with more intensity, frequency, density (i.e., grateful to more people), and span (i.e., grateful for more benefits across life domains).

Another personality measure is the Gratitude, Resentment, and Appreciation Test (GRAT; Watkins et al., 2003). Its 44 items assess four dimensions: appreciating benefactors, valuing the experience and expression of gratitude, sensing more abundance than deprivation in life, and appreciating "simple" pleasures over "extravagant" ones.

Although the GRAT and GQ-6 have been well validated with adults, Froh et al. (2011) assessed the psychometric properties of the GQ-6, Gratitude Adjective Checklist (GAC; McCullough et al., 2002), and the GRAT using a sample of 1,405 youth age 10 to 19 years. They found that all three gratitude scales correlated positively with 13- to 19-year-olds but that the GRAT had low correlations with the other two among 10- to 13-year-olds, suggesting it taps something different, compared to the GAC and the GQ-6 among younger youth. The GQ-6 also performed better with youth only when using the first five items (not the sixth). Finally, the GAC was effective for the full age range. Thus, much of the youth research has used the GQ-6 and GAC.

The recent Multi-Component Gratitude Measure taps different aspects and nuances of adults' gratitude (Morgan, Gulliford, & Kristjánsson, 2017). Its 29 items measure six subscales: grateful

feelings, attitude about when it is appropriate or not, behavioral shortcomings (i.e., forgetting), practice rituals, expression, and attitude about the value of gratitude. Notably though, a major empirical limitation is that trait measures for youth younger than age 10 are lacking.

Daily diary methods are advancing the field, articulating how gratitude changes people, affects well-being (Nezlek, Newman, & Thrash, 2017), and buffers from stress (Krejtz, Nezlek, Michnicka, Holas, & Rusanowska, 2017). To illustrate, Nezlek et al. found that though grateful feelings were positively related within persons to hedonic and eudaimonic well-being on the same days, lagged analyses showed that daily grateful feelings were related to more hedonic, but not eudaimonic, well-being on subsequent days; well-being also did not relate to subsequent gratitude. On the other hand, Krejtz et al. found that well-being was more strongly related to later gratitude than vice versa. These discrepancies suggest that causal relations between gratitude and well-being may vary as a function of assessing gratitude affectively or cognitively. For instance, gratitude may influence subsequent eudaimonic well-being more, or vice versa, when gratitude is assessed in ways that focus on stable (i.e., cognitive) benefits.

INTERVENTIONS FOR FOSTERING GRATITUDE

Many interventions have been done since two classic studies (Emmons & McCullough, 2003; Seligman et al., 2005). The former used a “counting blessings” technique that became commonplace (i.e., journaling about sources of gratitude). The latter found two other efficacious techniques: daily journaling about “3 Good Things” and their causes; and the “Gratitude Visit” (i.e., writing and delivering a thank-you letter to someone).

However, two recent meta-analyses cast doubt on interventions’ effectiveness. For instance, one found only weak support for adult interventions, conservatively concluding that gratitude inductions may operate through placebo effects (Davis et al., 2015). The other found weak support for benefits to students and schools; however, this may be due to the variability of interventions and methods used and the scarcity of research conducted with students and schools so far (Renshaw & Olinger Steeves, 2016). In agreement that more research is needed to realize the potential of gratitude interventions, next we focus on recent insights for improving interventions.

Many interventions have used inadequate control conditions (like hassles) for examining the mechanisms through which they operate. Two randomized controlled trials provide insight. One tested a daily gratitude three-blessings journal against a memory-placebo journal (recalling mundane events like driving routes) and a pride three-blessings journal (recalling three good outcomes that made them feel better than others) for 1 week (Watkins, Uher, & Pichinevskiy, 2015). The gratitude intervention increased subjective well-being immediately and 5 weeks later, compared to the other groups. The gratitude and pride groups activated positive memories to similar degrees. This suggests grateful processing counters the tendency to take benefits for granted.

Is it better to practice gratitude for people or things? The other randomized controlled study addressed this (O’Connell, O’Shea, & Gallagher, 2017) by comparing a “3 Good Things” gratitude journal versus an interpersonal gratitude journal versus an active control journal. The “3 Good Things” journal increased gratitude levels, which improved perceived friendship quality and life satisfaction; but the interpersonal gratitude journal did

not differ from the active control. Because it is common to not have interpersonal interactions actively appreciating aspects of daily life seems to elicit positive emotions that increase interpersonal interactions and life satisfaction.

Other research using broader gratitude interventions show advantages for youth and schools. For instance, a 4-week intervention combining meditation with gratitude visualizations yielded medium to large effects on middle school students' life satisfaction, school satisfaction, and gratitude, compared to waitlist or no-treatment control groups (Duthely, Nunn, & Avella, 2017). Another study examined a 12-week mindfulness-kindness curriculum for preschoolers (Flook, Goldberg, Pinger, & Davidson, 2015). Students in the intervention group improved in social competence, executive functioning, and report card grades; whereas the control group showed more selfish behavior (i.e., less sharing) over time. Small to medium treatment effects were found on measures of cognitive flexibility and delay of gratification too.

The above studies indicate that engagement in genuine practices that elicit positive appraisals of one's daily life is key for effectively promoting gratitude and well-being. People must be intrinsically motivated by a desire to be happier, selective of practices they enjoy, and willing to exert effort on them (Lyubomirsky, Dickerhoof, Boehm, & Sheldon, 2011) for gratitude interventions to work.

Other Gratitude Applications

How can gratitude be designed and applied innovatively in the future? For instance, self-administered gratitude and kindness practices helped reduce anxiety and increase a sense of connectedness, satisfaction with daily life, and optimism in clinical patients awaiting therapy, compared to a placebo condition (Kerr, O'Donovan, & Pepping, 2015). Thus, the emotional experiences afforded by gratitude practices can stimulate constructive changes in people.

For youth, schools are promising. One advantage of Froh et al.'s (2014) intervention is that it scaffolds grateful thinking in children so that they are able to understand the meaning behind experiences of receiving benefits from other people. Although longer term impacts have not been examined, such approaches may help youth build social capital. Other advantages of in-school curricula—like considered above—are that they may help improve student–teacher and peer relationships, satisfaction with school and school climate in general, and perhaps executive functioning and self-discipline. Helping students to function better and develop a stronger sense of community and connection to school helps not just students, but teachers and staff too.

CONCLUSION

Gratitude has many advantages for people of various ages, relationships and groups, and for society at large. Through gratitude, people find satisfaction in life and greater coherence. These are advantageous qualities for individuals, groups and communities, whether it be at school, in sports teams, or at work in hospitals. Thus, in terms of human

development, gratitude confers many psychosocial assets that not only support individuals' mental health and well-being but that help bind humans together in more purposeful ways too.

Mounting evidence suggests that gratitude may reduce antisocial behavior and pathology, protect individuals from stress and achieve more resilience, illustrating the utility of gratitude for promoting physical and mental health. Effective social functioning and positive interpersonal relationships are critical for humans' success. It remains to be seen if gratitude can help individuals work more effectively and become more civically engaged. A picture is emerging, though, of gratitude's role in supporting resilience and well-being in humans. Through gratitude, individuals find meaning and coherence in life, learn to elevate others as they improve themselves, and find a way to make a difference in the world.

FUNDING

This work was supported by the John Templeton Foundation (5970).

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