

GIVING THANKS WITHOUT THE TURKEY: A SYSTEMATIC  
LITERATURE REVIEW AND META-ANALYSIS OF THE EFFECTS  
OF GRATITUDE INTERVENTIONS ON POSITIVE OUTCOMES IN  
FAMILY UNITS

by

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A THESIS

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## **An Abstract of the Thesis of**

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Title: Giving Thanks Without The Turkey: A Systematic Literature Review and Meta-Analysis of the Effects of Gratitude on Positive Outcomes in Family Units

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This study aims to understand what positive changes we can expect in family units after participating in gratitude-based interventions. We conducted a meta-analysis after a systematic literature review, identifying four relevant research articles that use comparable interventions and outcome measures to estimate the overall effect sizes. The analyses focused on different positive outcome constructs to determine the efficacy of gratitude interventions in increasing positive outcomes. These constructs were focused on personal well-being (gratitude and subjective happiness) or family well-being (family happiness and family harmony). After conducting a random effects meta-analysis within each subgroup, results indicated that measures of gratitude and family happiness were not sensitive to change in subjects after participating in a gratitude-based intervention, however subjective happiness and family harmony did yield a significant effect after gratitude-based interventions, such that reports of subjective happiness and family harmony increased post-intervention with a (small, medium or large) effect size.

*Key words:* Gratitude, Family, Relationships, Happiness, Harmony

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## **Introduction**

“Now let’s go around the table and say what we are thankful for”.

Whether this potentially familiar statement brings warmth to your chest, or perhaps solicits an annoyed eye roll, you have probably consciously made a point to express your gratitude one way or another. Many only commit to this practice around the holiday seasons, but it might hold more power when not confined to a particular time or activity.

Gratitude can be understood as feeling thankful and having a general readiness to show and return appreciation and kindness. Studies in the past have investigated the way in which gratitude may play an important role in cultivating positive emotions and outcomes in general, in both individual and relational contexts demonstrating that perceived higher levels of gratitude from a romantic partner is associated with a reduction in attachment anxiety, not only at the time of measurement, but also for the next year. (Park et al., 2019).

### **Gratitude in relationships**

Overall, gratitude expression is associated with improved interpersonal relationships (Lambert et al., 2010). Various studies have aimed to illustrate the different ways gratitude expression may improve social relationships in several different contexts, including romantic, platonic, and familial relationships. In fact, researchers Wood, Maltby, Stewart, Linley, and Joseph (2008) found that dispositional gratitude has some component of a positive bias when interpreting social situations, suggesting that someone with a generally grateful disposition is more likely to view a social situation positively than get hung up on negative interpretations of the same situation.

Researchers Kong, Ding, and Zhao (2014) investigated the effects of gratitude in college students on general scores of well-being. Researchers also found that gratitude was linked to life satisfaction through social support and self-esteem in a mediation model. (Kong, Ding, & Zhao, 2014). These findings suggest that expressing gratitude can increase life-satisfaction, especially when an individual perceives significant social support and possesses self-esteem to some extent.

Many other studies specifically examine the role of gratitude in romantic relationships and how its expression affects relationship satisfaction and sexual satisfaction. Researchers Eyring et al. (2021) found that forgiveness and gratitude mediate “many of the associations between couples' mindfulness and their sexual and relational satisfaction,” (Eyring et al., 2021). In a romantic relationship, gratitude expression seems to have some significant impact on perceived relationship quality and satisfaction for the individuals that make up the partnership.

Several other studies investigate the effects of gratitude expression in romantic relationships, specifically those with attachment anxiety or insecurity. Park et al. (2019) found that when an insecurely attached partner perceives gratitude from the other partner, feelings of attachment anxiety were reduced over time and results were sustained up to a year after the evaluation period. In another study done by the same researchers (Park et al., 2019), they found that when romantic partners perceive high levels of gratitude expression, an avoidantly attached partner may have increased feelings of being cared for up to three months later, which was then associated with increased satisfaction and commitment. Overall, their results provide relevant evidence



that perceived partner gratitude expression protects against negative effects of attachment avoidance on satisfaction for insecurely attached partners.

Understanding the role that gratitude plays in fostering positive outcomes in individuals, as well as relationships, will provide valuable insight on how to live more positively with ourselves and with others by improving the ways we act and communicate with each other. In fact, in family settings, gratitude is associated with improved perceived life-quality (Bai & Jin, 2016), reinforcing pro-social behavior for children when emphasized by parents (Wu et al., 2016), and increased feelings of closeness within families (Bai & Jin, 2016). Gratitude also moderates suicidal ideation in adolescents across parenting styles (Lo et al. 2017). Clearly there is considerable evidence that there is an association between gratitude and positive relationship outcomes.

### **Gratitude within the family**

There is a relatively little research on the impact of gratitude in non-romantic important relationships such as within the family. Within these past findings investigating gratitude, there is a thread of positive outcomes, specifically related to relationship-functioning to some degree. Because relationships are important in a developmental context, such that more positive relationships are thought to better encourage a healthy developmental trajectory (Bornstein, 2015; Center on the Developing Child, 2016; Fischer & Bidell, 2006; Li & Julian, 2012; Thompson, 2015), what would happen if the expression of gratitude was emphasized in the earliest relationships we begin in? How might instilling gratitude as a value in familial systems positively change the trajectory of attachment, thus laying a solid foundation for

positive and effective communication in future relationships? These are the questions, as well as a lack of significant literature on the subject, that influenced the focus of the current study.

### **Gratitude Interventions**

The majority of research reviewed above uses correlational designs that cannot establish a causal link between gratitude and positive outcomes. Although these studies are promising, to establish a causal link, a gratitude manipulation (such as an intervention) should be used, and ideally, randomly assigned to a treatment and control group.

Gratitude interventions, generally, are activities designed to facilitate feelings or expressions of gratitude within subjects. A commonly used gratitude intervention, for example, would be writing a gratitude letter directed at some specific subject or concept identified by the researchers. One of the studies analyzed in our current study asked college students to write gratitude letters to their parents or guardians (Shin, 2020). Another example of a gratitude intervention would be keeping a gratitude journal where participants are directed to write down things they are grateful for daily, weekly, or some other fixed time. Gratitude interventions may also be an activity that requires participants to focus on expressing or facilitating gratitude within a particular context, like in Ho et al. (2019) where families practiced healthy eating and gratitude expression, or physical activity and gratitude expression during their time together as a family.

## **The present study**

This study aims to fill this gap in knowledge to inform future research which systematically designs and evaluates gratitude interventions that aim to yield positive outcomes. In the present study, we used systematic literature review and meta-analysis to estimate effect sizes of measures which may be sensitive to change after a gratitude intervention is employed. We decided to focus on outcomes before and after an intervention in order to investigate the potential causal role of gratitude on the various outcome measures in familial relationships, which most past research on gratitude does not attempt. For the purpose of this study, the outcome measures we focus on include gratitude, subjective happiness, family happiness, and family harmony. We describe these constructs below.

### *Gratitude*

Gratitude, in a general sense, is an affective response to receiving a gift and is focused on the source of the gift. The experience of gratitude may vary between momentary affect to long-term disposition (Emmons & McCullough, 2004; McCullough, Emmons, & Tsang, 2002). This measure will provide context on the degree to which gratitude-based interventions actually encourage someone to *be a grateful person*, such that their experience and feelings of gratitude are sustained after the intervention. For example, one three-week randomized trial of a gratitude journaling intervention showed that gratitude journaling increased a neural of pure altruism in the prefrontal cortex suggesting that change with gratitude practice is larger for benefits to others versus oneself (Karns et al., 2017). We expect that participants' feelings of

gratitude would increase from the time before participating in a gratitude-based intervention to post-intervention

### *Happiness*

While happiness can be hard to define, it is often thought of as a positive affective state which may present among other feelings such as pride or excitement. Happiness may be experienced momentarily, or someone may feel that they are a *happy person*, in which case they have a generally happy disposition (Lyubomirsky & Lepper, 1999). Subjective happiness is included in our measures to evaluate changes within the individual's feelings and perceptions after participating in an intervention. This measure is different from *Family Happiness*, as it emphasizes the role that gratitude can play within a person rather than a relationship or family unit. Based on past findings which suggest that positive psychology interventions promote increases in well-being and happiness (Odou and Vella-Brodrick, 2013; Pietrowsky and Mikutta, 2012; Sin and Lyubomirsky, 2009), as well as an association between gratitude and happiness (Watkins, McLaughlin, & Parker, 2021) Because there is an emphasis on appreciation and kindness, the intervention may foster more positive emotions, leading the individual to have increased positive perceptions of their personal environment. We expected that reports of subjective happiness will increase post-gratitude intervention.

### *Family Happiness*

What makes a happy family? Researchers have described it as “feelings of security and togetherness, mutual care and support among family members, and a sense of self-contentment,” (Lam et al., 2012). Family happiness was used to evaluate the

overall effect of gratitude interventions within a group dynamic, rather than on the individual level. How happy a family is, on average, may dictate how well they understand and interact with one another or themselves, which is why we decided to investigate this measure as well. Past studies have found that positive emotions and protective family skills can be developed through positive psychology interventions in family units, which overall improve family functioning (Kauffman and Silberman, 2009; Sexton and Schuster, 2008; Sheridan et al., 2004). An emphasis on appreciation and kindness would foster more positive emotions, leading the family to have increased positive perceptions of their familial environment. Based on these findings, we expected that reports of family happiness will increase post-gratitude intervention.

#### *Family Harmony*

Family harmony, similar to family happiness, provides some evaluation of family well-being, which is relevant to our guiding questions. Family harmony, however, focuses more on components that reveal how the family functions (Kavikondala et al., 2016). In other words, how harmonious is the family functioning during tasks and interactions. Past research suggests that positive communication within family units is critical for mutual understanding, increased feelings of closeness, and preventing conflict (Galvin et al., 2004; Koerner and Fitzpatrick, 2002). An emphasis on appreciation and kindness would suggest less incidents of or attention to negativity, conflict, or miscommunication. Since gratitude is also associated with improved communication, we expected that reports of family harmony will increase post-gratitude intervention.

In order to address these questions and research goals, we undertook a systematic literature review and meta-analysis. A meta-analysis will provide a broad understanding on the efficacy of gratitude interventions on improving positive outcomes in families by revealing the pooled effects through statistical analysis. Investigating these effect sizes will provide the necessary information for developing effective interventions to improve scores in these various measures.

## **Methods**

In order to evaluate the extent to which gratitude interventions may help foster positive outcomes in family relationships, we performed a systematic literature review and meta-analysis. We required that studies measured outcomes after a gratitude manipulation or intervention was employed and that the study focused on family relationships, specifically parent-child relationships. In the present study, we estimated the effect sizes of measures of family-based positive outcomes (family harmony, family happiness) and individual positive outcomes (subjective happiness and well-being, and gratitude).

### **Literature Search and Study Selection**

We conducted a literature search using EBSCO and Pubmed. A preliminary search was conducted in PsycNet to retrieve articles of interest and survey the field of literature. This preliminary search identified relevant key search terms to best capture the aim of the present study when conducting the final search in both databases. Relevant terms of gratitude interventions, positive outcomes, and familial relationships were combined in order to conduct the final search which took place on February 4, 2022.

Twenty-nine search terms were determined to attempt to encompass all literature on this topic. All 29 search terms were run through both databases totaling to 58 searches. All articles collected by the search results were compiled into a CSV file for later sorting.

Using excel, a total of 188 papers were organized for refinement. After removing duplicate papers, the source pool had 181 papers remaining. Additional

papers were removed for being clearly irrelevant to research question (108), measuring non-parent-child/family populations (49), non-experimental studies (11), and papers that do not include a specific gratitude-based intervention (5). The remaining eight papers were analyzed, and any relevant data was extracted. During this step, four additional papers were filtered out due to incomparable methods with the last four articles, such as insufficient data reported at specific time points.

The remaining 4 papers were analyzed, and individual study data was collected and compiled into our Meta-Essentials tool for statistical analysis (Surrmond, Van Rhee, & Hak, 2017). We decided to examine only quasi-experimental data from the studies and tossed out data reported for any control groups within the Shin 2020 article and the Ho 2019 article for ease of comparing to studies without a control group present.

### **Categorization of the Selected Studies**

Within each article included in the final analysis, researchers reported means and standard deviations of positive outcomes for the subjects over time after employing some gratitude-based interventions. Positive outcomes evaluated in these studies were grouped together based on relevance and tools used for measurement. These sub-groups identified in the analysis include subjective happiness, family happiness, family harmony, and gratitude.

<i>Study</i>	<i>Population</i>	<i>Study Design</i>	<i>Evaluation Period</i>	<i>Intervention Type</i>	<i>Outcome Measures</i>
Ho et al. (2019) - A	N: 665 individuals in family units, mean age: 20-59 yrs., males and females	Between-subjects*	2 hr course followed by a 1 hr booster course one month later. 3-month follow up	Positive psychology and healthy diet course	SHS, Family Well-being-3 single item indicator



Ho et al. (2019) - B	N: 528 individuals in family units, mean age: 20-59 yrs., males and females	Between-subjects*	2 hr course followed by a 1 hr booster course one month later. 3-month follow up	Positive psychology and physical activity course	SHS, Family Well-being-3 single item indicator
Ho et al. (2017)	N: 936 individuals in family units, mean age: 39.5 yrs., males and females	Within-subjects	Two 2-3 hr core course followed by a 1 hr booster course 6 weeks after core course	Gratitude and positive psychology-based course	SHS, Family Well-being-3 single item indicator
Martin et al. (2019)	N: 108 parents/guardians of children with developmental disorders, mean age: 39.7 yrs., males and females	Within-subjects	Approx. 2.5 hr course once a week for six weeks	HOPE Programme, focus on elements of gratitude	HADS, WEMWBS, GQ-6
Shin et al. (2020)	N: 286 college students, mean age: 20.5 yrs., males and females	Between-subjects*	Surveys and questionnaires administered online followed by 20-minute letter writing activity. Surveys completed again 2 weeks later	Gratitude letter writing activity	PANAS, GAC, PSS-6

Table 1. Characteristics of the Included Studies

\*For between subjects with an intervention group and control group, only the intervention group was included in the meta-analysis to be comparable with other studies due to the small number of studies

## Measures

### *Gratitude*

Gratitude is assessed in the selected studies using two established measures of gratitude including the 6-item Gratitude Questionnaire (GQ-6; McCullough et al., 2002) and the Gratitude Adjective Checklist (GAC; McCullough, Emmons, & Tsang, 2002). The GQ-6 is a self-report questionnaire that evaluates the disposition to experience gratitude in daily life. It consists of 6 question items such as “I have so much in life to

be thankful for” where the participant indicates a number on a scale from 1-7 which corresponds to how much they agree with the statement (1 = “strongly disagree, 7 = strongly agree). The GAC only uses three items to assess frequency of affect adjectives: thankful, grateful, and appreciative. For each item, participants identify a number 1 (“not at all”) through 5 (“extremely”) to indicate how often they experienced that affect over the amount of time prompted by the interviewer.

### *Subjective Happiness*

Subjective happiness is evaluated across the studies using three different tools. The Chinese version of the Subjective Happiness Scale (SHS; Lyubomirsky and Lepper, 1999) measures the overall happiness self-reported by an individual using a 7-point Likert-type scale. The SHS consists of four items, such as “In general, I consider myself...”, which a participant may then indicate “1 = not a very happy person”, or “7 = a very happy person”. Another tool utilized in the studies is the 14-item Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007). This scale measures the general well-being in an individual by asking participants to self-report how often they have had the mentioned experience in the last 2 weeks. An experience, for example, would be “I’ve been feeling good about myself”. The last tool used to measure subjective happiness across the studies is the positive affect subscale of the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988). This subscale has 10 self-report items that ask the participant to identify the extent they have felt a certain way over the past week, for example, “Distressed” or “Enthusiastic”. Participants then answer on a 5-point scale, “1 = very slightly or not at all” to “5 = Extremely” .

### *Family Happiness*

Family happiness is measured by a single-item within the ‘Family Well-being’ overall measurement which evaluates family health, happiness, and harmony together (Wang et al., 2014). The single-item indicator for this measure is “Do you think your family is happy?”, which the participant would report a number from the scale, 0 (not at all) to 10 (very much).

### *Family Harmony*

Family harmony is also measured within the ‘Family Well-being’ overall measurement as with a single item. The item referring to family harmony is “Do you think your family is harmonious?” which, again, the participant would report a number from the scale, 0 (not at all) to 10 (very much). Family harmony is also evaluated using the 6-item Parental Sacrifice Scale (Chao & Kaeochinda, 2010) because the scale allows participants to acknowledge the sacrifices made by parents for the family’s sake, which suggests some level of understanding and appreciation between family members, which may then result in a more harmonious family unit. This scale measures the extent which children perceive and feel gratitude towards their parents’ hard work and sacrifice to ensure a good life for the child. Because this measurement tool has some relational quality, such that gratitude towards parents after acknowledging what parents/guardians have sacrificed is assessed rather than just feelings or expressions of individual gratitude or happiness, we felt it was appropriate to evaluate within this construct, however additional analyses excluding this measure would be interesting to compare to the results presented in this current study. Participants respond with a number 1 (strongly disagree) through 5 (strongly agree) to statements like “My parent

has made many sacrifices to give me a better life.” The last component of family harmony used in this analysis is measuring *flow* in family members before and following an intervention. Flow is assessed based on how many flow behaviors are demonstrated during the evaluation period within a family. Flow behaviors in this sense are behaviors that display “...cooperation among family members and discovery and utilization of each other’s strengths, (Csikszentmihalyi, 1997)” (Ho et al., 2017). The emphasis on cooperation encouraged researchers to categorize this data in the analysis of Family Harmony because recognition of each other’s strengths, as well as a high level of cooperation suggests that the family operates rather harmoniously.

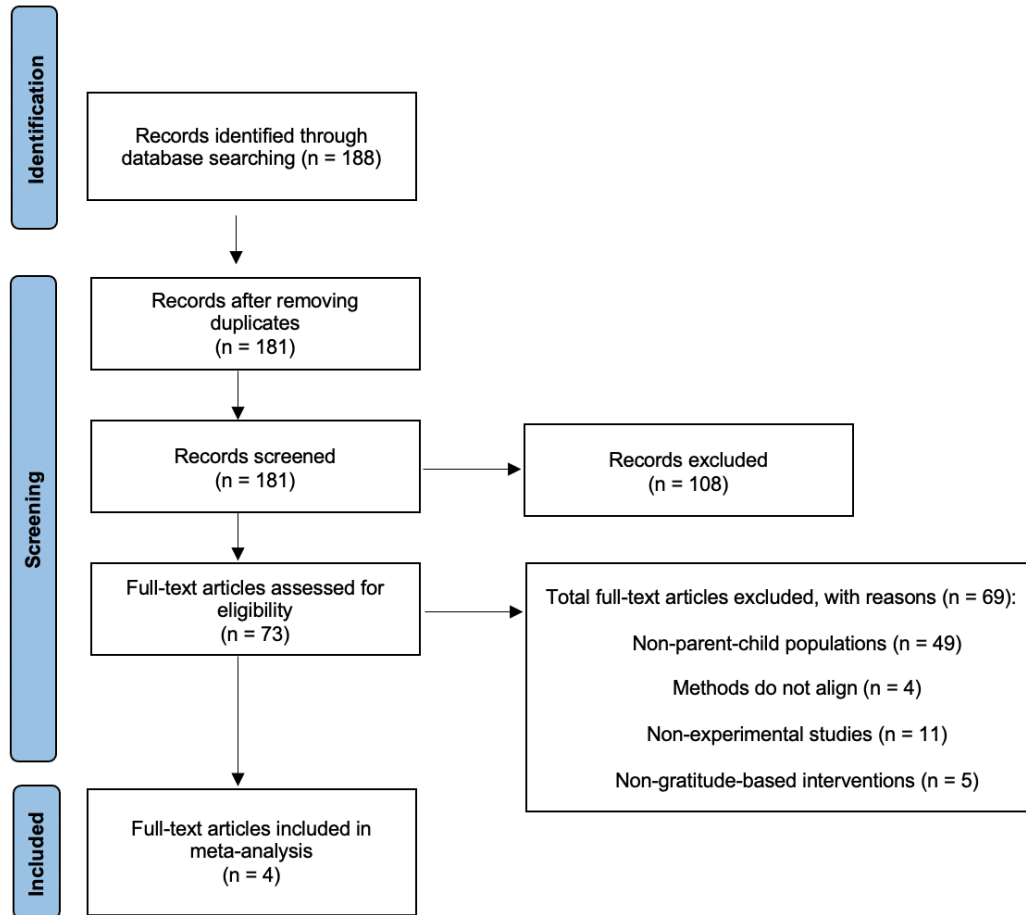


Figure 1. PRISMA Flow Diagram of the Study Selection Process

## Statistical Analysis

All the statistical analyses were performed using Meta Essentials, a set of excel workbooks for meta-analysis (Surrmond, Van Rhee, & Hak, 2017). Means, standard deviations (SD), and test-retest reliability values (r) for each measure from each study were collected into our input table for statistical calculations. We conducted analyses in various waves according to subgroup measure using the Meta Essentials Workbook 4 (Differences between dependent groups - continuous data 1.5.xlsx).

We used the Hedge's g values calculated by the Meta-Essential Workbook to measure effect size in the final analysis because it is more efficient in sample sizes

smaller than 20, but roughly the same as Cohen's  $d$  for larger samples (Hedges, 1981, Hedges & Olkin, 2014). When interpreting Hedge's  $g$ , you evaluate the strength of effect size using the same assumptions as Cohen's  $d$ , such that  $g = 0.2$  is small,  $g = 0.5$  is medium, and  $g = 0.8$  is large (Hedges, 1981).

Because we expect variance amongst the different measures in our studies, and we assume that these studies represent some random sample, we opted for a random effects model for between subgroup weighting (Borenstein et al., 2009). The random effects model, rather than a fixed effects model, allows for all studies to carry a narrow range of weight regardless of sample size. This technique makes it less likely for small sample sizes to be overlooked and for large sample sizes to dominate (Borenstein et al., 2009). Within subgroups weighting was analyzed using Tau pooled over subgroups.

### **Small Study Effect**

Potential publication bias was assessed through inspection of the trim and fill funnel plot indicated by the Meta-Essentials small study effect calculation for each subgroup. (Duval and Tweedie, 2000).

## Results

The overall effects observed within the four full-text articles suggest that gratitude-based interventions have a moderate effect on positive outcomes in family units ( $g = .56, p < .01$ ), such that we may expect some change in positive outcome measures. However, we assume that this effect size overestimates the actual effects due to studies measuring these different outcomes in the same population over time. To address this concern and get more detailed information regarding effect size of the individual measures, we conducted individual analyses of the outcome measure subgroups following the same statistical methods.

### *Gratitude*

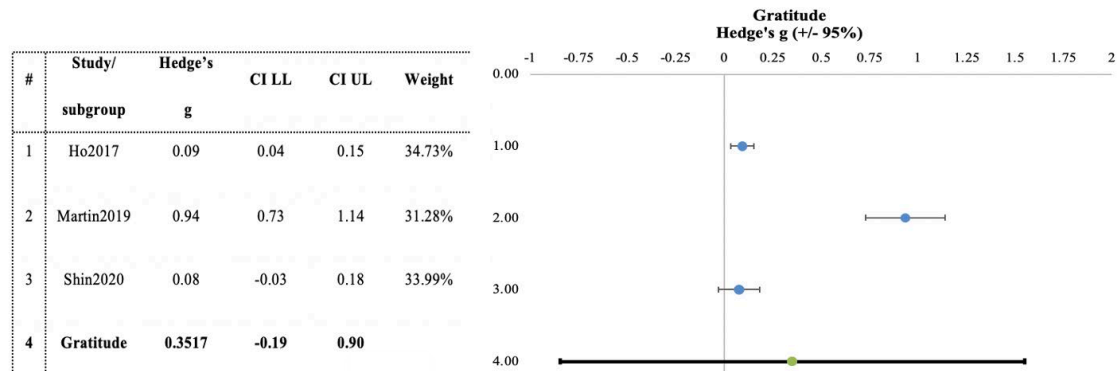


Figure 3. Forest Plot of Gratitude Using Hedge's  $g$

The gratitude outcome measure subgroup was analyzed using a random effects model. Based on the small effect size of  $g = .35$  ( $p < .5$ ), gratitude was not sensitive to change given these interventions. Using the Meta-Essential Workbook, publication bias was assessed and determined that there were no missing studies to impute, so there was no evidence of publication bias in the gratitude subgroup.

## Subjective Happiness

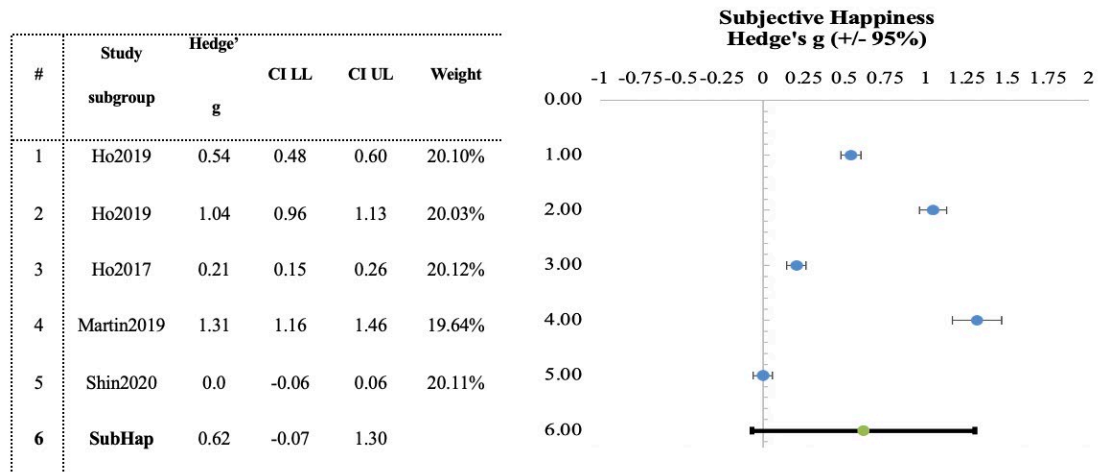


Figure 4. Forest Plot of Subjective Happiness Using Hedge's g

The subjective happiness outcome measure subgroup was analyzed using a random effects model. Subjective happiness had an effect size slightly larger than moderate,  $g = .62$  ( $p < .01$ ), suggesting that subjective happiness is somewhat sensitive to change given these interventions. Using the Meta-Essential Workbook, publication bias was assessed and determined that there were no missing studies to impute, so there was no evidence of publication bias in the subjective happiness subgroup.



*Family Happiness*

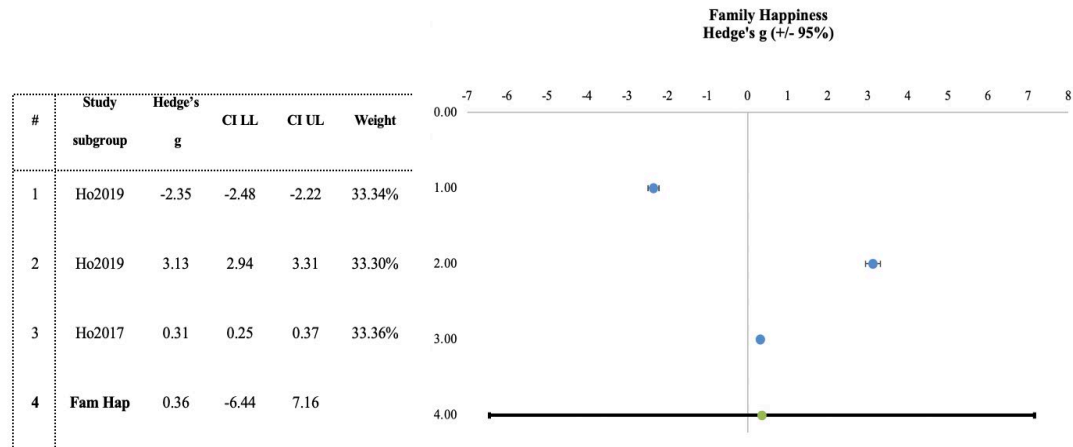


Figure 5. Forest Plot of Family Happiness Using Hedge's g

The family happiness outcome measure subgroup was analyzed using a random effects model. Based on the small effect size of  $g = .36$  ( $p < .5$ ), family happiness was not sensitive to change given these interventions. Using the Meta-Essential Workbook, publication bias was assessed and determined that there were no missing studies to impute, so there was no evidence of publication bias in the family happiness subgroup.

## Family Harmony

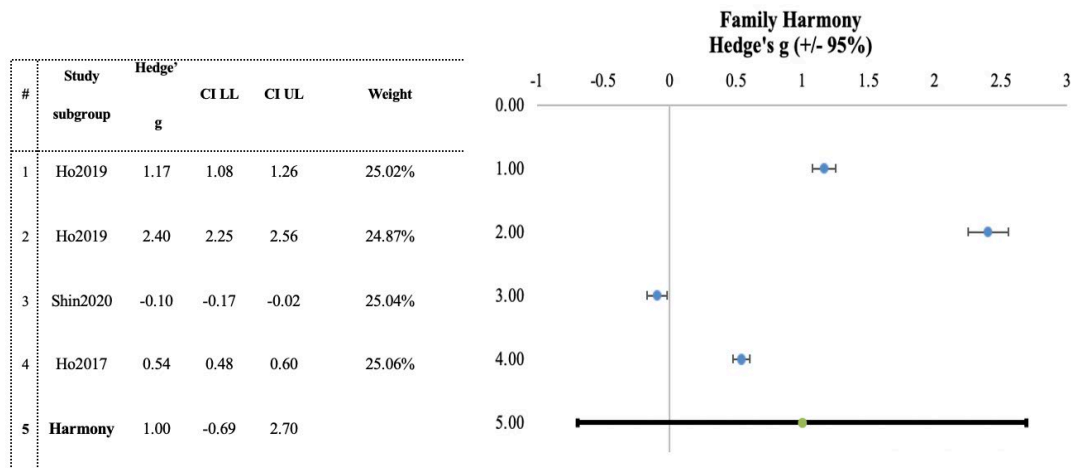


Figure 6. Forest Plot of Family Harmony Using Hedge's g

The family harmony outcome measure subgroup was analyzed using a random effects model. Family harmony had a large effect size of  $g = 1.00$  ( $p < .05$ ), suggesting that family harmony is sensitive to change given these interventions. Using the Meta-Essential Workbook, publication bias was assessed and was determined that there were no missing studies to impute, so there was no evidence of publication bias in the family harmony subgroup.

## Discussion

The current study is a meta-analysis focused specifically on the positive outcomes of family-focused gratitude interventions. To the author's knowledge this is the first study to systematically review and analyze the results of interventions involving gratitude components and examining outcomes related to family units.

Gratitude-based interventions exercised in family units appear to generate some change in positive outcome measures, specifically family harmony and subjective happiness. As a result of our analysis, gratitude and family happiness as measures of positive outcomes did not appear to be sensitive to change after a gratitude-based intervention.

To test the effect sizes of each subgroup measure, an additional analysis was conducted for each measure independently of other studies in different subgroups. There were no significant effects of the gratitude-based intervention on reported feelings of gratitude. Although seemingly counter-intuitive, an explanation for this may be that the time period of the gratitude intervention did not encourage gratitude behavior/expression to become habitual or be sustained past the evaluation period, which we assume would reveal more significant changes in effect size, such that subject would identify as a "more grateful" person after the intervention. It could also be the case that many of the participants generally had high positive affect. According to Henderson (2009), their findings suggests that a gratitude intervention was more effective on a population with generally low positive affect as it was for people with generally high positive affect. Alternatively, because the interventions utilized in the four articles had some focus on gratitude, along with other focuses (e.g. positive healthy

diet), it may be the case that reported feelings of gratitude were not as sensitive to change because there was additional emphasis on other behaviors.

Subjective happiness, however, did yield a significant and moderate effect size, suggesting that subjective happiness is sensitive to change after participating in a gratitude-based intervention for families. A possible explanation for these results might be that increased attention on what we are grateful for shifts overall attention to focus on positive aspects in our environment, such that negative aspects seem to affect us less. Findings from Wood, Maltby, Stewart, and Joseph (2008) suggest that dispositional gratitude is correlated with having a more appreciative and generally positive perception of one's life. It could also be that more positive interactions within a family unit facilitates a better general well-being in the individuals that make up the family.

Family happiness, however, did not follow our hypothesis and revealed no significant effects after the intervention. In other words, results suggest that participating in a gratitude intervention for families would not yield significant change in family happiness over time. Although this does not follow our original assumption, these findings may be due to variance in the affect of the individuals within the family, such that a person may feel individually happier or more positive, but still harbor negative feelings or associations toward family members. Bar-Tal et al. (1977) suggests that family obligations and family expectations may decrease the expression of gratitude between family members, so even if an intervention has an emphasis on gratitude, there may be other factors getting in the way of promoting these positive outcomes.

Lastly, we examined the effect size of family harmony after gratitude interventions and found that family harmony had the largest significant effect, suggesting that after employing gratitude-based interventions, we can expect changes in subsequent scores of family harmony. It is interesting that family harmony and subjective happiness had significant effect sizes while family happiness did not, however this may be explained in participants' understanding of family happiness. Reporting whether or not the family is happy requires participants to make assumptions about others' feelings, specifically that sense of individual contentment in family members (Lam et al., 2012). Subjective happiness only requires internal reflection and family harmony can be observed more directly through familial interactions.

### **Limitations**

This meta-analysis only analyzed four full-text articles that included relevant studies of gratitude interventions and positive outcomes, which is a relatively small sample pool for a meta-analysis. The overall effect size presented in our findings may also be unreliable given the analysis tool's tendency to overestimate the number of subjects being evaluated. We attempted to minimize the possibility of overestimating the overall effect size by conducting separate analyses for each construct subgroup so that populations would not overlap in the calculations, however it is possible our effect size may still be slightly inflated to some degree.

Another limitation of this study is that we only examined quasi-experimental data from the studies and tossed out data that was reported for control groups within the Shin 2020 article and the Ho 2019 article. Because we chose not to evaluate data from the control groups present in two of the articles for ease of comparison, we do not know

whether similar effect sizes would be observed for those groups, which would suggest that the gratitude-based intervention may not be operating the way we understand it in this study's results.

One final limitation to consider is the nature of the interventions utilized in the final four articles. Each intervention had a large emphasis on gratitude and elements of positive psychology, although some interventions had an additional emphasis like a healthy diet or physical activity. Although each is rooted in gratitude, differences in effects may be due to the different behaviors/activities emphasized in the interventions, such that effect sizes may reflect impacts of the healthy diet focus rather than gratitude.

### **Future Directions**

Our study does, however, investigate these effects in cross cultural populations, specifically in Asian and American populations. Future research should address how culture may have impacted the current findings, especially given the differences in attitude towards expressing gratitude in different cultures. For example, European Americans tend to possess individualistic ideals that emphasize personal achievement and agency (Boehm, Lyubomirsky, & Sheldon, 2011), in contrast to Asian cultures where gratitude practices and respect for elders is emphasized in the home and family for overall social harmony (Kim, Atkinson, & Umemoto, 2001; Triandis, 1995). Future research should also aim to analyze a larger literature base with comparable methods.

### **Conclusion**

This study aimed to understand how gratitude interventions may affect positive outcomes in family relationships. Investigating topics like this will ideally bring us

closer to helping families improve their relationships and functioning. Findings can be used to inform the design and improvement of interventions to better address and influence certain outcomes. Because relationships are inherently complex and influenced by a myriad of internal and external forces, research has prioritized investigating the importance of positive relationships rather than investigating ways to effectively foster positive relationships. Research focused on gratitude-based practices that cultivate strong appropriate social bonds and relationships would be beneficial to the positive psychology field, as well as the developmental psychology field, in understanding ways to improve our interpersonal relationships, as well as our own well-being and ability to cope with life's events. Because familial relationships lay such an important foundation for understanding how to interact with others and the world around us, focus on improving these familial relationships would help individuals better exist in the social world and connect with others while maintaining their own well-being and life-satisfaction. If we as a society can emphasize these values in our culture, we may be better able to understand and respect one another, such that we collaborate more efficiently to address group concerns.

In a broader context, similar findings related to this topic may be used to increase our general communication and collaboration capability with individuals different from ourselves by increasing understanding and appreciation for perspectives outside our own. In a world that is politically, socially, and racially polarized, learning to appropriately understand and respect outside values and opinions is our best way to protect ourselves against harmful outcomes and encourage mutually beneficial communication and action.

## Bibliography

- Amerikaner, M., Monks, G., Wolfe, P., & Thomas, S. (1994). Family interaction and individual psychological health. *Journal of Counseling and Development* : JCD, 72(6), 614. doi:<http://dx.doi.org/10.1002/j.1556-6676.1994.tb01691.x>
- Bai, Y., & Jin, L. (2016). The Relations Among Family Functioning, Class Environment, and Gratitude in Chinese Elementary School Students. *The Asia-Pacific Education Researcher*, 25(3), 433-439.
- Bar-Tal, D., Bar-Zohar, Y., Greenberg, M. S., & Hermon, M. (1977). Reciprocity behavior in the relationship between donor and recipient and between harm-doer and victim. *Sociometry*, 40, 293–298.
- Boehm, J. K., Lyubomirsky, S., & Sheldon, K. M. (2011). A longitudinal experimental study comparing the effectiveness of happiness-enhancing strategies in Anglo Americans and Asian Americans. *Cognition and Emotion*, 25, 1263–1272.
- Borenstein, Hedges, Higgins & Rothstein (2009). *Introduction to Meta-Analysis*. John Wiley & Sons, Ltd. ISBN: 978-0-470-05724-7
- Bornstein, M. H., & Leventhal, T. (2015). Children in bioecological landscapes of development. In R. M. Lerner (Ed.), *Handbook of child psychology and developmental science: Vol. 4. Ecological settings and processes* (7th ed., pp. 1–5). Hoboken, NJ: Wiley.
- Center on the Developing Child. (2016). *From best practices to breakthrough impacts: A science-based approach to building a more promising future for young children and families*. Cambridge, MA: Harvard University, Center on the Developing Child. Retrieved from <https://developingchild.harvard.edu/resources/from-best-practices-to-breakthrough-impacts/>
- Chao, R. K., & Kaeochinda, K. F. (2010). Parental sacrifice and acceptance as distinct dimensions of parental support among Chinese and Filipino American adolescents. In S. T. Russell, L. J. Crockett, & R. K. Chao (Eds.), *Asian American parenting and parent-adolescent relationships* (pp. 61–77). New York, NY: Springer.
- Crawford, J., & Henry, J. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 43(3), 245-265.
- Duval, S., & Tweedie, R. (2000). Trim and fill: a simple funnel-plot–based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, 56(2), 455-463.



- Emmons, R. A., & McCullough, M. E. (Eds.). (2004). *The psychology of gratitude*. New York: Oxford University Press.
- Eyring, J., Leavitt, C., Allsop, D., & Clancy, T. (2021). Forgiveness and Gratitude: Links Between Couples' Mindfulness and Sexual and Relational Satisfaction in New Cisgender Heterosexual Marriages. *Journal of Sex & Marital Therapy*, 47(2), 147-161.
- Fischer, K. W., & Bidell, T. R. (2006). Dynamic development of action, thought, and emotion. In R. M. Lerner (Ed.), *Handbook of child psychology and developmental science: Vol. 1. Theory and method* (6th ed., pp. 313–399). Hoboken, NJ: Wiley.
- Galvin, K. M., Bylund, C. L., & Brommel, B. J. (2004). *Family communication: Cohesion and change* (6th ed.). Old Tappan, USA: Pearson Education.
- Hedges (1981). Distribution Theory for Glass's Estimator of Effect Size and Related Estimators. *Journal of Educational Statistics*. Vol. 6, No. 2 (Summer, 1981), pp. 107-128.
- Hedges, & Olkin (2014). *Statistical methods for meta-analysis*. Academic press.
- Henderson, K. A. (2009). Increasing gratitude, well-being, and prosocial behavior: The benefits of thinking gratefully. *Dissertation Abstracts International: Section B. Sciences and Engineering*, 70 (07), 4504
- Ho, H., Mui, M., Wan, A., Yew, C., & Lam, T. (2019). Happy Family Kitchen Movement: A Cluster Randomized Controlled Trial of a Community-Based Family Holistic Health Intervention in Hong Kong. *Journal of Happiness Studies*, 21(1), 15-36.
- Ho, H.C.Y., Mui, M., Wan, A. et al. Happy Family Kitchen: Behavioral Outcomes of a Brief Community-Based Family Intervention in Hong Kong. *J Child Fam Stud* 26, 2852–2864 (2017). <https://doi.org/10.1007/s10826-017-0788-3>
- Karns, C. M., Moore III, W. E., & Mayr, U. (2017). The cultivation of pure altruism via gratitude: a functional MRI study of change with gratitude practice. *Frontiers in human neuroscience*, 11, 599.
- Kauffman, C., & Silberman, J. (2009). Finding and fostering the positive in relationships: Positive interventions in couples therapy. *Journal of Clinical Psychology*, 65(5), 520–531. doi:10.1002/jclp.20594.
- Kavikondala, S., Stewart, S. M., Ni, M. Y., Chan, B. H., Lee, P. H., Li, K. K., ... & Leung, G. M. (2016). Structure and validity of Family Harmony Scale: An instrument for measuring harmony. *Psychological assessment*, 28(3), 307.

- Kim, B. S. K., Atkinson, D. R., & Umemoto, D. (2001). Asian cultural values and the counseling process: Current knowledge and directions for future research. *The Counseling Psychologist*, 29, 570–603.
- Koerner, A. F., & Fitzpatrick, M. A. (2002). Toward a theory of family communication. *Communication Theory*, 12(1), 70–91. doi:10.1111/j.1468-2885.2002.tb00260.x
- Kong, F., Ding, K., & Zhao, J. (2014). The Relationships Among Gratitude, Self-esteem, Social Support and Life Satisfaction Among Undergraduate Students. *Journal of Happiness Studies*, 16(2), 477-489.
- Lam, W. W. T., Fielding, R., McDowell, I., Johnston, J., Chan, S., Leung, G. M., & Lam, T. H. (2012). Perspectives on family health, happiness and harmony (3H) among Hong Kong Chinese people: a qualitative study. *Health Education Research*, 27(5), 767-779.
- Lambert, N. M., Clark, M. S., Durtschi, J., Fincham, F. D., & Graham, S. M. (2010). Benefits of expressing gratitude expressing gratitude to a partner changes one’s view of the relationship. *Psychological Science*, 21(4), 574–580.
- Li, J., & Julian, M. M. (2012). Developmental relationships as the active ingredient: a unifying working hypothesis of “what works” across intervention settings. *The American Journal of Orthopsychiatry*, 82(2), 157–166. doi:10.1111/j.1939-0025.2012.01151.x
- Lo, H.H.M., Kwok, S.Y.C.L., Yeung, J.W.K. et al. The Moderating Effects of Gratitude on the Association Between Perceived Parenting Styles and Suicidal Ideation. *J Child Fam Stud* 26, 1671–1680 (2017). <https://doi.org/10.1007/s10826-017-0683-y>
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46(2), 137–155. doi:10.1023/A:1006824100041.
- Martin, F., Clyne, W., Pearce, G. et al. Self-Management Support Intervention for Parents of Children with Developmental Disorders: The Role of Gratitude and Hope. *J Child Fam Stud* 28, 980–992 (2019). <https://doi.org/10.1007/s10826-018-01308-1>
- 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.
- 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.

- Michopoulos, I., Douzenis, A., Kalkavoura, C. et al. Hospital Anxiety and Depression Scale (HADS): validation in a Greek general hospital sample. *Ann Gen Psychiatry* 7, 4 (2008). <https://doi.org/10.1186/1744-859X-7-4>
- Nan, H., Ni, M. Y., Lee, P. H., Tam, W. W., Lam, T. H., Leung, G. M., & McDowell, I. (2014). Psychometric evaluation of the Chinese version of the Subjective Happiness Scale: evidence from the Hong Kong FAMILY Cohort. *International journal of behavioral medicine*, 21(4), 646–652. <https://doi.org/10.1007/s12529-014-9389-3>
- Odou, N., & Vella-Brodrick, D. A. (2013). The efficacy of positive psychology interventions to increase well-being and the role of mental imagery ability. *Social Indicators Research*, 110(1), 111–129. <https://doi.org/10.1007/s11205-011-9919-1>.
- Osher, D., Cantor, P., Berg, J., Steyer, L., & Rose, T. (2020). Drivers of human development: How relationships and context shape learning and development(1). *Applied Developmental Science*, 24(1), 6-36.
- Park, Y., Impett, E., MacDonald, G., & Lemay, E. (2019). Saying "Thank You": Partners' Expressions of Gratitude Protect Relationship Satisfaction and Commitment From the Harmful Effects of Attachment Insecurity. *Journal of Personality and Social Psychology*, 117(4), 773-806.
- Park, Y., Johnson, M., MacDonald, G., & Impett, E. (2019). Perceiving Gratitude From a Romantic Partner Predicts Decreases in Attachment Anxiety. *Developmental Psychology*, 55(12), 2692-2700.
- Pietrowsky, R., & Mikutta, J. (2012). Effects of positive psychology interventions in depressive patients—A randomized control study. *Psychology*, 3(12), 1067–1073.
- Sexton, T. L., & Schuster, R. A. (2008). The role of positive emotion in the therapeutic process of family therapy. *Journal of Psychotherapy Integration*, 18(2), 233–247. doi:10.1037/1053-0479.18.2.233.
- Sheridan, S. M., Warnes, E. D., Cowan, R. J., Schemm, A. V., & Clarke, B. L. (2004). Family-centered positive psychology: Focusing on strengths to build student success. *Psychology in the Schools*, 41(1), 7–17.
- Shin, M., Wong, Y., Yancura, L., & Hsu, K. (2020). Thanks, mom and dad! An experimental study of gratitude letter writing for Asian and White American emerging adults. *Counselling Psychology Quarterly*, 33(3), 267-286.

- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology, 65*(5), 467–487. <https://doi.org/10.1002/jclp.20593>.
- Smith, M. (2020). Parent-Directed Gratitude: An Investigation of a Novel Intervention and Possible Mechanisms Between Gratitude and Well-Being.
- Suurmond R, van Rhee, H, Hak T. (2017). Introduction, comparison and validation of Meta-Essentials: A free and simple tool for meta-analysis. *Research Synthesis Methods, Vol. 8, Iss. 4, 537-553*. <https://doi.org/10.1002/jrsm.1260>.
- Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburg Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcomes, 5*, 63–75.
- Thompson, R. A. (2015). Relationships, regulation, and early development. In R. M. Lerner, & M. E. Lamb (Eds.), *Handbook of child psychology and developmental science, Vol. 3. Socioemotional processes* (pp. 201–246). Hoboken, NJ: Wiley.
- Triandis, H. C. (1995). Individualism and collectivism. Boulder, CO: Westview Press.
- Wang, M. P., Wang, X., Viswanath, K., Wan, A., Lam, T. H., & Chan, S. S. (2014). Digital inequalities of family life information seeking and family well-being among Chinese adults in Hong Kong: A population survey. *Journal of Medical Internet Research, 16*(10), e227 doi:10.2196/jmir.3386.
- Watkins, P. C., McLaughlin, T., & Parker, J. P. (2021). Gratitude and subjective well-being: Cultivating gratitude for a harvest of happiness. In *Research Anthology on Rehabilitation Practices and Therapy* (pp. 1737-1759). IGI Global.
- Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*, 1063–1070.
- Wood, A. M., Maltby, J., Stewart, N., & Joseph, S. (2008). Conceptualizing gratitude and appreciation as a unitary personality trait. *Personality and individual differences, 44*(3), 621-632.
- Wood, A. M., Maltby, J., Stewart, N., Linley, P. A., & Joseph, S. (2008). A social-cognitive model of trait and state levels of gratitude. *Emotion, 8*(2), 281.
- Wood, A., Maltby, J., Gillett, R., Linley, P., & Joseph, S. (2008). The role of gratitude in the development of social support, stress, and depression: Two longitudinal studies. *Journal of Research in Personality, 42*(4), 854-871.

Wu, H., Tseng, S., Wu, P., & Chen, C. (2016). The Relationship between Parent-Child Interactions and Prosocial Behavior among Fifth- and Sixth-grade Students: Gratitude as a Mediating Variable. *Universal Journal of Educational Research*, 4(10), 2361-2373.

Zigmond, A., & Snaith, R. (1983). The Hospital Anxiety And Depression Scale. *Acta Psychiatrica Scandinavica*, 67, 361–370.