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Running head: INVESTIGATION OF GRATITUDE AND ATHLETIC PERFORMANCE 1

Counting Blessings versus Neutral Events: An Experimental Investigation of Gratitude
and Athletic Performance in Volleyball

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Abstract

Positive psychology has related gratitude to positive outcomes for individuals. The purpose of the current study was to apply gratitude journaling to the athletic domain, specifically volleyball. It was hypothesized that participants journaling about things they were grateful for at each practice would result in heightened athletic performance, measured through vertical approach and block jump, team win/loss percentage, and satisfaction with performance, especially when compared to participants who journaled about neutral practice events. Results showed a significant difference between groups in athlete satisfaction with individual and team performance; however, participants who journaled about neutral practice events displayed higher levels of satisfaction.

Keywords: positive psychology, gratitude, sport psychology, journal writing, athletic performance, satisfaction with performance

Counting Blessings versus Neutral Events: An Experimental Investigation of Gratitude
and Athletic Performance in Volleyball

The recent movement in psychology has been to focus not on fixing the negative aspects of a person, but instead focusing on ways to strengthen optimal functioning. Positive psychology, as a relatively new field in psychology, has started to play a role in positive human functioning through effective interventions to build thriving individuals, families, and communities. A study by Park, Peterson, and Seligman (2004), with more than 4000 participants, revealed that five key strengths – gratitude, optimism, zest, curiosity, and the ability to love and be loved – are more closely and consistently related to life satisfaction than other strengths. Life satisfaction refers to the way a person appraises his or her life as a whole. People who are highly satisfied with their lives are less likely to have psychological or social problems, less likely to get sick or be stressed out, and more likely to do well at work (Park, Peterson, & Seligman, 2004). The fact that these strengths are correlated with life satisfaction is enough to warrant special attention.

As a strength associated with life satisfaction, gratitude has had a long history with theologians, philosophers, and writers as an excellence of character (Emmons, 2004). The word *gratitude* is derived from the Latin *gratia*, meaning favor, and *gratus*, meaning pleasing. All derivatives from this Latin root “have to do with kindness, generousness, gifts, the beauty of giving and receiving, or getting something from nothing” (Pruyser, 1976, p. 69). Gratitude has been essential for living life well in Jewish, Christian, Muslim, Buddhist, Hindu, and Native American thought (Carman & Streng, 1989); the consensus among the world’s religious and ethical writers is that

people are morally obligated to feel and express gratitude in response to received benefits.

Positive Psychology Movement

Philosophers and psychologists have expanded this dictionary definition of gratitude as the quality of being thankful and the readiness to show appreciation and return kindness, to include much more for daily application. Applied positive psychology is the application of positive psychology research to the facilitation of optimal functioning. The positive psychology movement (Seligman & Csikszentmihalyi, 2000) has directed attention toward human strengths and virtues – the inner traits and psychological processes that most cultures, philosophies, and religions have commended as qualities that fit people well for living in the world. The Character Strengths and Virtues (CSV) handbook (Peterson & Seligman, 2004) represents an attempt from the positive psychology community to identify and classify the positive psychological traits of human beings. In the same way that the Diagnostic and Statistical Manual of the Mental Disorders is used to assess and facilitate research on mental disorders, the CSV is intended to provide a theoretical framework to assist in developing practical applications for positive psychology. The CSV identifies 24 character strengths that have been found to be universal – characteristics that define what's best about people (a full list of the 24 strengths and virtues is listed in Appendix A). Gratitude, a character strength in the CSV, is being aware of and thankful for the good things that happen and taking time to express thanks, the possession of which enables a person to live well. Psychologists who have aligned themselves with positive psychology are interested in psychological trends that

lead to a rich life, and several researchers (Emmons, 2004) maintain that gratitude is one of those propensities.

Figuring out how one can develop a rich life through positive psychology requires an understanding of where happiness comes from. Sheldon and Lyubomirsky (2004) have posited that three primary factors influence a person's happiness level: the happiness set point, circumstantial/contextual factors in the person's life, and volitional/activity-based factors in the person's life (Sheldon & Lyubomirsky, 2004). The set point is genetically determined and essentially constant; it represents the level of happiness a person is likely to experience when all other factors are equal to zero. It appears there is a genetically determined set point for happiness, that is, the happiness set point remains the most likely or expected value in a person's temporal distribution of happiness across the life span (Headey & Wearing, 1989). Also, although new circumstances, positive or negative, may temporarily cause people to become happier or sadder, the effect of these circumstances on happiness quickly fades or even disappears once people habituate to it (Kahneman, 1999). Real-life examples of highs and lows that eventually fade away include: winning the lottery, getting a raise, losing in a competition, etc. It is important to note that people may have considerable latitude when it comes to their happiness set point; it might be better characterized as a set *range*.

The second influence that Sheldon and Lyubomirsky (2004) conceive to affect happiness is positive life changes. These are based on changes in the circumstances, settings, and facts of a person's life (Sheldon & Lyubomirsky, 2004). "Circumstances" refers to demographic variables such as age, income, or marital status but also refers to geographic variables such as the home and region in which a person lives. These

circumstances tend to remain relatively static and stable, becoming the background of a person's life.

In contrast, the third factor Sheldon and Lyubomirsky describe, volitional/activity-based factors, are intentional and effortful practices (cognitive, behavioral, or volitional) in which a person engages, are more resistant to the effects of adaptation. Some examples of intentional practices include, but are not nearly limited to: noticing how many times you say thanks and whether you mean it every time (gratitude), surrounding yourself with optimistic and future-minded friends, particularly when you face a setback (hope), or sending funny emails to your friends (humor). Intentional activity, such as the application of the character strengths and virtues posited by Peterson and Seligman (2004), can create a self-sustaining cycle of positive change in which invested effort leads a person to further opportunities for satisfying actions and accomplishments (Sheldon & Lyubomirsky, 2004) and ultimately affecting their set happiness level.

Even though there is evidence for a happiness set point, recent research in positive psychology has identified several promising interventions, such as pursuing meaningful personal goals (Sheldon & Elliot, 1999), seeking out and forgiving transgressors (McCullough, Pargament, & Thoresen, 2000), and counting blessings on a regular basis (Emmons & McCullough, 2003). Research documenting long-term effectiveness of cognitive and behavioral strategies to improve circumstances and volitional-based factors has encouraging implications for the possibility of cultivating and elevating long-term happiness.

Barbara Fredrickson's broaden-and-build theory (1998) supports the notion that positive emotions, such as gratitude, may foster enhanced individual and even organizational function, the ability for a group to perform optimally. Positive emotions, such as gratitude, joy, contentment, love, pride, etc., have a complementary effect: they serve to broaden an individual's momentary thought-action repertoire, which in turn has the effect of building that individual's physical, intellectual, and social resources; positive affect broadens the scope of thinking and will also broaden the scope of action. Grateful individuals appear to creatively consider a wide range of prosocial actions and also sustain enduring social relationships, which are critical to both individual and collective survival.

A study by Fredrickson & Branigan (2005) further supports Fredrickson's broaden-and-build theory (1998) with college students. Positive emotions broadened the scope of attention in a global-local visual processing task and thought-action repertoires. There is also an undoing effect of positive emotions to regulate negative emotions and stress. The evidence from the studies presented above suggests one may consider that fostering the growth of gratitude, by increasing attention to grateful ideas, may elicit better performance through a wider range of prosocial actions. Much research shows that a good mood promotes helpfulness, a prosocial action (Carlson, Charlin, & Miller, 1988).

Cultivating Gratitude and Well-Being

Although research surrounding the cultivation of gratitude is fairly new, there is enough evidence of beneficial outcomes from manipulating the amounts of gratitude one experiences. Emmons and McCullough (2003) carried out a study that investigated the effects of a "grateful outlook" on psychological and physical well-being. More

specifically, they focused their research on whether relative to focusing on complaints or on neutral life events, a focus on counting one's blessings lead to enhanced psychological and physical functioning.

Research suggests that gratitude is a pleasant emotion that is often linked with positive emotions such as contentment (Walker & Pitts, 1998), happiness, pride, and hope (Overwalle, Mervielde, & De Schuyter, 1995). Emmons and McCullough (2003) suggest that exercises meant to produce a feeling of gratitude will create greater well-being over time, relative to focusing on negative or neutral life events. To test their hypothesis, they randomly assigned participants to different experimental conditions and then had them keep daily or weekly records of their positive and negative affect, coping behaviors, health behaviors, physical symptoms, and overall life appraisals. Their findings showed that regularly focusing on one's blessings lead to benefits. Participants focused on their blessings were found to be more positive and optimistic, spent more time exercising, reported fewer physical symptoms, had higher levels of positive affect, and were more likely to report having helped someone with a personal problem or offered emotional support to another. These advantages were most pronounced when compared with a focus on hassles or complaints, yet were still apparent in comparison with simply reflecting on the neutral events in one's life. As a whole these findings suggest that prosocial motivation is a consequence of the gratitude manipulation because gratitude serves as a moral motivator (McCullough, Kilpatrick, Emmons, & Larson, 2001).

Gratitude Development in Childhood and Adolescence

The development of strengths and virtues in youth is unclear. Adolescence is a period of significant change physically, socially, emotionally, and intellectually (Erikson,

1984). Because adolescents experience rapid shifts in mood and extreme positive and negative affective valence (McCauley, & Myers, 1992), they may have difficulty sustaining an even level of positive affect. However, a study by Froh, Sefick and Emmons (2008) suggests that gratitude can be cultivated in youth just as Emmons and McCullough (2003) showed with an adult population. Some developmental theorists (Klein, 1957) consider gratitude an inherent capacity present at birth that develops along with normal cognitive and emotional development. Klein (1957) even viewed gratitude as a developmental achievement of emotional maturity that “underlies the appreciation of goodness in others and in oneself” (Klein, p. 187). Although believed to be inherent, gratitude comprehension seems to develop over several years. Gratitude does not appear to occur regularly in response to receiving benefits until middle childhood (Emmons & Shelton, 2002). The link between attributions of responsibility for positive outcomes, the experience of gratitude, and the desire to do good to one’s benefactor probably solidifies between ages 7 and 10 (Gleason & Weintraub, 1976).

Application of Gratitude Cultivation in Organizations

Even though steps have been made in positive psychology toward the application of cultivating virtues in one’s life, more should be investigated as to whether aspects of these virtues can be applied to specific spheres of one’s life through a group or organization they are a part of. Many organizational groups, such as employees of a company or players on a team, may benefit by cultivating various virtues in their environment not only because of the direct effects of improving organizational climate, but also because as a cognitive strategy, gratitude can improve individual well-being and lower toxic emotions in the workplace (Peterson & Park, 2006). Gratitude is a strength

that characterizes people who are well fit to living harmoniously with others. It appears to foster positive mood states, prosocial behavior, and in-turn enhanced performance among beneficiaries and benefactors alike making it seem as though it should improve organizational life as well. The concept of developing gratitude in organizations has been applied to the workplace, but could it also apply to an organization such as an athletic team?

Sport Psychology. Psychological research on happiness and virtues cannot be applied to the athletic field without first recognizing key aspects of sport psychology and optimal functioning. Sport Psychology is the study of a person's behavior in sport and seeks to understand psychological/mental factors that affect performance in sports, physical activity, and exercise. The goal of sport psychology is to purposely improve individual and team performance through important skills such as goal setting, relaxations, visualization, self-talk, awareness/control, concentration, confidence, and using rituals.

Research on the psychological characteristics of elite performers has primarily focused on Olympic and World champions; however, it has also been extended to the mental attributes of young developing and talented athletes (Holland, Woodcock, Cumming, & Duda, 2010). Analysis by Holland, Woodcock, Cumming and Duda (2010) has revealed categories of psychological qualities with techniques employed to carryout these qualities such as personal performance strategies, reflection on action, taking advantage of supportive climate, and team-based strategies.

The Present Study. Along with understanding the role that gratitude can play in specific organizations like sports teams, this study further examined the development of

gratitude in youth. There is a small amount of empirical study of gratitude in children. This study aimed to corroborate recent discoveries in positive psychology through the use of cultivating gratitude, one of 24 virtues from the Character Strengths and Virtues handbook (Peterson & Seligman, 2004), and applied it to current methods of journal reflection used in sport psychology to enhance the athletic performance of adolescent female athletes in the sport of volleyball. It was hypothesized that, when compared to others focusing on neutral practice events, that participants who were focused on items they were grateful for in journal writing after each practice, would in turn show greater athletic performance. Athletic performance was measured both objectively through vertical block jump, vertical spike approach jump, team win/loss percentage, and subjectively through participant satisfaction with performance. It was theorized that participants who journaled about grateful practice events would feel morally motivated to act in a manner that benefitted themselves and their team to perform optimally.

Methods

Participants

One hundred fifty-six female volleyball players from 16 teams of the Northern Lights Volleyball Club in Burnsville, Minnesota were recruited to participate in this study. Nineteen teams were initially recruited; three teams dropped out of the study due to their own journaling exercises. Players were first recruited through consent of coaches for their team to participate and then individually recruited. Passive parental consent, whereby parents were asked to respond only if they did *not* wish their child to participate, was used for participants under the age of 18. All participants were female and ranged in age from 10- to 18-years-old. As incentive for participation in this study, participants

were entered into a prize drawing, sponsored by the Macalester Psychology Department, for gift certificates of different values to the Midwest Volleyball Warehouse.

Materials

Gratitude Manipulation. The manipulation for this study was based on Emmons and McCullough's (2003) manipulation. In the gratitude condition, participants were provided with the following instructions:

There are many things in volleyball, both large and small, that we might be grateful about. Think back over the past practice and write down on the lines below three things in your practice that you are grateful or thankful for.

In the neutral events condition, they were asked the following:

What were some of the events that affected you during practice?

Think back over the past practice and write down on the lines below the three events that had an impact on you.

Participants were only required to list three events as opposed to five used in Emmons & McCullough's (2003) model due to the shortened range of time in which to reflect (a few hours versus an entire day or week). Participants responded to prompts immediately after each practice for a total of six weeks (two in December and four in January). There were a total of 80 individuals from eight teams in the gratitude condition and 76 individuals from eight teams in the neutral events group.

Gratitude Measure. Gratitude was measured before and after journal manipulation using the Gratitude Questionnaire – 6 (GQ-6) developed by McCullough and Emmons (2002) before and after manipulation to measure the effect of journaling on

gratitude. The GQ-6 is a short, self-report measure of the disposition to experience gratitude. Participants answered six items on a seven-point likert scale (from “strongly disagree” to “strongly agree”). The survey asked questions about the participant’s gratitude towards life, e.g., “I have so much in life to be grateful for”. Questions are outlined in Appendix B. Possible scores range from 6 to 42. The GQ-6 had somewhat internal reliability with Cronbach alphas of 0.53 before manipulation and 0.68 after manipulation. There is previous evidence that the GQ-6 is positively related to optimism, life satisfaction, hope, spirituality and religiousness, forgiveness, empathy, and prosocial behavior, and negatively related to depression, anxiety, materialism, and envy.

Athletic Performance Measure. Athletic performance was measured in two ways: vertical jump testing and team win-loss records. Players were measured on how high they can jump with a volleyball “spike approach” and a “block jump” initially at try-outs and once a month during regular strength and agility training. Vertical jump was measured before, during, and after journal manipulation.

Vertical jump testing is an individual skill measure. To look at the possible outcomes the journal manipulation had on the team dynamic, team win-loss records were reported. Competitions with other teams started in the third week of the journal manipulation and were reported up until a month after manipulation.

Satisfaction with Performance Measure. Satisfaction with performance was measured using a modified version of Riemer and Chelladurai’s (1998) Athlete Satisfaction Questionnaire (ASQ). Seventeen items were taken from the questionnaire from the following subgroups: Individual Performance (three questions), Team Performance (three questions), Team Social Contribution (three questions), Team

Integration (four questions), and Personal Dedication (four questions). Items were answered with a seven-point likert scale (1 = not at all satisfied, 4 = moderately satisfied, 7 = extremely satisfied). Individual Performance seeks to measure an individual's satisfaction with her own task performance including absolute performance, improvements in performance, and goal achievement; e.g., "the degree to which I have reached my performance goals during the season". Team Performance refers to an individual's satisfaction with her team's level of performance including absolute performance, goal achievement, and implies performance improvements; e.g., "the team's win/loss record this season". Team Social Contribution measures how teammates contribute to the athlete as a person; e.g., "my social status on the team". Team Integration refers to the athlete's satisfaction with the members' contributions and coordination of their efforts toward the team's task; e.g., "how the team worked to be the best". Personal Dedication measures the athlete's satisfaction with her own contribution to the team; e.g., "the degree to which I did my best for the team". The shortened list of questions from the ASQ had good internal reliability with Cronbach alpha's of 0.78 (Individual Performance), 0.83 (Team Performance), 0.89 (Team Social Contribution), 0.85 (Team Integration), and 0.78 (Personal Dedication). A full list of questions used from Riemer and Chelladurai's (1998) ASQ is listed in Appendix C.

Competitiveness. To ensure the manipulation effects did not influence one's competitiveness, five questions were included to measure the importance of winning. Questions asked, "How important is winning to..." and included, (1) the participant, (2) the participants coaches, (3) the participants team, (4) the participants parents, and (5) the Northern Lights Volleyball Club. Questions were answered on a seven-point Likert scale

(1 = not at all important, 4 = moderately important, 7 = very important). Questions are listed in Appendix D.

Procedure

Participants in teams were randomly assigned to one of the two journaling conditions. To account for age differences, teams were grouped by players' age ranges and then randomly assigned to a journal condition (the two oldest teams had different journal conditions, the next two oldest teams had different journal conditions, etc.) Before manipulation, participants were given a six-item gratitude survey to measure gratitude and compare groups. Separate instructions for the different groups were printed on worksheets followed by three blank spots for participants to list blessings or practice events. The listing of grateful events or neutral practice events was made at the end of each practice. To protect anonymity of the participants' responses, reports were handed in immediately after completion into an envelope that was placed in a team bin. Team bins were then brought to a secure location where only the researcher and the director of the junior volleyball club had access. Journaling took place for 14 to 16 (depending on team) practice periods (six weeks of practice) starting with the first team-practice of the season. At the completion of manipulation, participants were given a 28-item questionnaire to measure gratitude, satisfaction with performance, and competitiveness.

Results

Gratitude Cultivation

Examples of gratitude-inducing experiences listed by participants were as follows: "I am thankful for being able to participate in volleyball," "I am thankful for my coaches," and "[I am thankful] I did well on getting my hits over [the net]." Examples of

events generated by participants were: “When my coach yelled at me for not shagging (retrieving balls), it made my confidence go down,” “Practicing longer [had an impact on me],” and “I tried my hardest so I felt good about that.” A random sample of 100 out of 968 total journals from the neutral events condition were coded by the experimenter to ensure responses were relatively neutral; 42% were positive, 40% were neutral, and 18% were negative; given this relative imbalance it appears the neutral events journal prompt did not elicit a neutral condition, but a condition that was moderately positive in nature.

Individual measures of gratitude through the “Gratitude Survey” were examined to seek an increase in gratitude, especially in the experimental group, from before and after journal manipulation. Independent samples t-test showed no significant increase in gratitude scores for either group (gratitude condition initial, $M = 36.84$; gratitude condition post, $M = 37.03$; neutral events condition initial, $M = 37.15$; neutral events condition post, $M = 37.12$). Mean gratitude scores are displayed in Table 1.

Athletic Volleyball Performance

Athletic performance in volleyball was measured through vertical jump measures (both spike approach jump and block jump) and through team win/loss percentage. To control differences in ability across age, teams from all ages were assigned to gratitude and neutral events conditions. An increase in vertical jump measures was expected through all participants as they participated in strength, agility, and quickness (SAQ) exercises weekly; however, a greater increase was expected for participants in the gratitude condition. Differences in vertical jump scores (measured in inches) were examined with a within-subjects, repeated measures analysis of variance (ANOVA). This revealed no significant difference for vertical spike approach jump, $F(1, 135) =$

1.65, $p = ns$, $d = 0.24$, or vertical block jump, $F(1, 135) = 4.86$, $p = ns$, $d = 0.09$.

Although significant differences were not found, participants from the neutral events condition displayed trends of higher final vertical spike approach jump, $M = 101.62$ inches, compared to participants in the gratitude condition, $M = 101.24$ inches, and higher final vertical block jump, $M = 106.01$ inches, compared to participants in the gratitude condition, $M = 105.70$ inches. Trends of increase in vertical jump measures are displayed in Table 2.

Team performance, measured through team win/loss percentage was calculated based on the number of matches won over the total number of matches played during the journal writing period and four weeks after the journal writing period. Differences in mean team win/loss percentage were assessed with an independent samples t-test revealing no significant difference between the gratitude condition ($M = 0.61$, $SD = 0.12$) and the neutral events condition ($M = 0.72$, $SD = 0.13$), $t(154) = -5.40$, $p = ns$.

Satisfaction with Volleyball Performance

Satisfaction with athletic performance was analyzed using a self-report of satisfaction with individual performance, team performance, team social contribution, team integration, and personal dedication. Independent samples t-tests were used to determine differences between groups. There was a significant difference found for satisfaction with individual performance for the gratitude ($M = 5.02$, $SD = 1.03$) and the neutral events ($M = 5.40$, $SD = 1.11$) conditions; $t(129) = -2.06$, $p = 0.04$. A significant difference was also found between the gratitude ($M = 5.03$, $SD = 1.17$) and neutral events ($M = 5.88$, $SD = 0.88$) conditions in satisfaction with team performance; $t(129) = -4.70$, $p < 0.001$. Finally, a marginally significant difference was found between the gratitude (M

= 5.37, $SD = 1.15$) and neutral events ($M = 5.69$, $SD = 0.88$) conditions in team integration; $t(129) = -1.76$, $p = 0.08$.

Significant differences were not found between gratitude ($M = 5.70$, $SD = 1.29$) and neutral events ($M = 5.85$, $SD = 1.12$) conditions in satisfaction with team social contribution or between gratitude ($M = 5.37$, $SD = 1.15$) and neutral events ($M = 5.69$, $SD = 0.88$) conditions in satisfaction with team integration. Mean scores for satisfaction with performance can be found in Table 3 and displayed in Figure 3. Contrary to the expected findings, participants who wrote about neutral practice events revealed greater satisfaction than those who wrote about things they were grateful for during practice.

Discussion

Overall, findings did support the hypotheses that athletes writing about what they were grateful for during practice would show greater athletic performance. Participants in the gratitude and neutral events showed little to no difference in many measures including, gratitude, vertical jump measures, win/loss percentage, and satisfaction with athletic performance aspects such as personal team contribution, integration of the team, and personal dedication. However, differences were found between groups in satisfaction with individual and team performance; participants in the neutral events condition reported higher levels of satisfaction, a result unexpected from previous research in cultivating gratitude. Also unexpected were results showing that participants in the neutral events condition performed better, although marginally, in both vertical block and spike approach jump at the end of the study.

Considering Alternative Explanations

Competitiveness. One explanation as to why participants writing about neutral practice events as opposed to grateful practice events performed better in vertical block and approach jump or team win/loss percentage is the possibility that gratitude might influence one's drive to compete and win. For instance, after focusing on grateful things for several weeks, one might think, "Well I have all of these great things to be thankful for [coaches, teammates, facilities, etc.] so performing my best or winning really isn't the most important to me." Results from this study showed no significant differences in either gratitude, or competitiveness of self, parents, team, coach, or the Northern Lights Junior Volleyball Club. Therefore, it can be concluded that competitiveness and a motivation to win was highly unlikely a factor in a higher satisfaction with individual and team performance for participant's journaling about neutral practice events.

Specificity of Journal Responses. Results showed significant results counter to the hypothesis that players who journaled about grateful events would perform better. To further explore what factors may be related to this finding, the specificity of journal entries were examined. Research has shown a dilemma between an emphasis on broad, domain-independent and domain-specific thinking skills (Glaser, 1984). The central issue is resolving the focus of transferability, or one's ability to transfer thinking skills and knowledge to solving problems and actions. But participants have shown somewhat limited capability in transferring general skills, so knowledge structure-process interactions are powerful aspects of human performance (Glaser, 1984).

Research has shown that the specificity of self-talk among athletes improved actual performance (St Clair Gibson & Foster, 2007). Self-talk is a mental skill technique

that can help an athlete's performance through enhancing their internal dialogue (St Clair Gibson & Foster, 2007). Self-talk can be described as what the moment means to that athlete at a specific point in time. The internal dialogue is simply thoughts that make themselves known and can direct your actions in performance which can be processed very quickly, eventually becoming automatic in nature. The majority of self-talk during exercise is either positive or neutral in character, consistent with the present findings, if self-talk is related to the reflective thoughts recorded in journal responses. It has been controversial whether or not specific training or self-talk can improve performance over time, although studies suggest that task-specific self-talk appears to have a beneficial effect on physical performance (St Clair Gibson & Foster, 2007). Self-talk may be compared to journal responses in this study because they are thoughts from participants from throughout practice – their own self-talk recalled and recorded after each practice.

To examine the possibility that task-specific reflection may benefit performance, journal responses were coded as either task-broad or task-specific. Task-specificity was defined as something that happened in a definite time, place, or instance. For example, writing that one was grateful for their coaches would be task-broad whereas writing that one was grateful for the feedback their coach gave them during a drill during their practice that night would be counted as task-specific. Responses from a random sample of 50 journals from the gratitude condition (out of 1109 total) and 50 journals from the neutral events condition (out of 968 total) were coded either constant or changing, according to what the response referred to. In the gratitude condition, 76% of responses were about something constant and 24% about case-specific events. In the neutral events condition, 45% of responses were constant and 55% of responses referred to a specific event. This

finding may suggest why participants who wrote about neutral practice events, who also responded with more specific entries, showed higher satisfaction with individual and team performance.

Limitations

Research in the field of sport psychology is often limited in scope due to small sample sizes (Mahoney, Avener, & Lavalley, 2008); it is uncommon to find many athletes who compete under many of the same circumstances to participate in a study with the scope of this one. This study obtained over 150 participants, which is quite common today in studies with athletes (Horn, 1992); however, a larger sample size will have a direct effect on statistical power – the probability that an analysis will detect significant results.

Despite the improvement in sample size, there are obvious limitations to this study. The current study adapted Emmons and McCullough's (2003) design that included three experimental conditions: gratitude, neutral events, and hassles. The advantages of gratitude journaling were most pronounced when compared with a focus on hassles or complaints, which was eliminated from the current study due to ethical considerations; the hassles or complaints condition was removed to ensure no negative effects would occur for participants still developing life-long volleyball skills and dealing with other changes in their life (i.e., puberty). Emmons and McCullough (2003) also had varying lengths of journaling for different studies. They were able to find the most pronounced benefits between groups from participants journaling daily for about two weeks, as compared to their other studies in which participants journaled weekly. This study asked participants to journal after every practice, yet participants did not practice

everyday. Perhaps, journaling about grateful practice events may be more beneficial for a team that is practicing everyday, or nearly everyday, like a high school or college team that is in season. For youth club sports, many teams practice a few times a week. In addition, although participants journaled about the same amount of times in Emmons and McCullough's research, there was a two-week break period between the second and third week of responses. This break was due to holidays, causing the entire club to be closed during a two-week period and interrupting data collection. In order for effects to be more pronounced, journal responses may have to be constantly elicited from participants to build and cultivate grateful and positive thinking.

Another potential limitation of the study is that participants were recruited just a week after teams had formed from try-outs. This early recruitment was necessary for manipulation but this also hindered the study when some participants dropped from the club entirely to join another team. One team planning to participate even had to dismantle because too many players quit the team.

Because of timing of the project and the season of play for participants, game win/loss percentages from each team were not able to be obtained for the entire season. Effects of journaling about grateful events may not have reached full potential with a team until later in the season when teams have become comfortable and developed together as a team. Another possible measure of performance at the team level for the end of the season could have been improvement in league standings. Teams from the Mizuno Northern Lights Volleyball Club participate in *Power League* a couple weekends in a month. Teams are moved up or down in the brackets according to previous league records. For instance, if a team places first in their pool one weekend, they will be

moved to a higher pool the next time they play, with better teams. A greater improvement in league standings may have shown greater athletic performance for participants writing about grateful events but data analysis occurred just after a couple dates of league play.

Along with a limited time for data collection, this study was also limited in scope of measuring athletic performance. The sport of volleyball requires many skills to be successful: serving, passing, setting, spiking, blocking, etc. Vertical block and spike approach jump are good indicators of potential for great skill in blocking and spiking, but do not necessarily indicate performance in other skills. Especially since the introduction of the Libero position (a position devoted solely to defensive skills), volleyball is a sport in which some players do not even block or spike during a match. Finding ways to assess other skills may enhance measuring a relationship between grateful thinking and athletic performance. In addition, there may be many confounds to team performance other than a realization of gratitude – physical ability, height, daily mood, daily health, facilities, and many more factors may play a role in a teams wins and losses. Understanding how gratitude relates to these factors may help to understand how gratitude can affect individual and/or team performance.

Further Research

Taking into account the previously stated limitations, future research on integrating gratitude cultivation in sport psychology may be directed at examining a wider variety of sports and more levels of performance. Volleyball is a team sport, which varies greatly from other team sports that require different skills and different levels of cooperation. Performance may be more easily shaped through gratitude if a person is

training for an individual sport like tennis or golf. Professional, beginning, and recreational athletes could be studied as well.

Furthermore, with research in sport psychology suggesting that task specific reflection and thoughts are beneficial to performance (Feltz & Landers, 2007; St Clair Gibson & Foster, 2007), future research should be implemented with more specific gratitude manipulation. Prompts to participants should be more explicitly stated to promote participants in different groups to respond with events that are task-specific to performance in their particular sport. For instance, being grateful for a good spike in practice because of good form and other variables, as opposed to being grateful for parents that will drive one to practice may produce heightened performance.

Conclusion

Although findings from this study do not support the cultivation of gratitude to be beneficial for sport performance outcomes in youth volleyball players, it may be important to incorporate gratitude and other positive characteristics into training programs for athletic teams. Athletes, from beginning youth to professionals, seek not only ways to work on the physical aspect of their game (working out, lifting weights, etc.) to become strong but also mental practices that allow them to perform at the top of their game when competition rises. Sport psychology is ever changing, and, with new developments in positive psychology, it may be possible to utilize practices from the Character Strengths and Virtues handbook for athletes specifically.

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Table 1

Mean Gratitude Scores for Gratitude and Neutral Events Conditions Before and After Journal Manipulation

Journal Condition	<i>N</i>	<u>Pre-Manipulation</u>		<u>Post-Manipulation</u>	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Gratitude	60	37.02	3.73	37.27	3.69
Neutral Events	67	37.01	3.28	37.16	3.99

Table 2

Mean Vertical Jump Measures (in inches) for Gratitude and Neutral Events Conditions

Vertical Block Jump		Journal Condition	
		Gratitude	Neutral Events
	<i>N</i>	68	69
Team Try-out	<i>M</i>	98.26	98.13
	<i>SD</i>	4.78	5.61
Week 4	<i>M</i>	100.46	100.86
	<i>SD</i>	5.12	5.66
Week 8	<i>M</i>	101.24	101.62
	<i>SD</i>	4.63	5.41

Vertical Spike Approach Jump		Journal Condition	
		Gratitude	Neutral Events
	<i>N</i>	68	69
Team Try-out	<i>M</i>	105.47	105.33
	<i>SD</i>	5.55	6.19
Week 4	<i>M</i>	105.57	105.77
	<i>SD</i>	5.31	5.95
Week 8	<i>M</i>	105.7	106.1
	<i>SD</i>	5.18	5.55

Table 3

Mean Satisfaction with Performance from the Athlete Satisfaction Questionnaire (ASQ)

Riemer & Chellandurai (1998)

Satisfaction with...	Journal Condition			
	Gratitude		Neutral Events	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
	<i>N</i> = 63		<i>N</i> = 68	
Individual Performance	5.02	1.03	5.4	1.11
Team Performance	5.03	1.17	5.88	0.88
Team Social Contribution	5.7	1.29	5.75	1.12
Team Integration	5.37	1.15	5.69	0.88
Personal Dedication	6.16	0.76	6.17	0.67

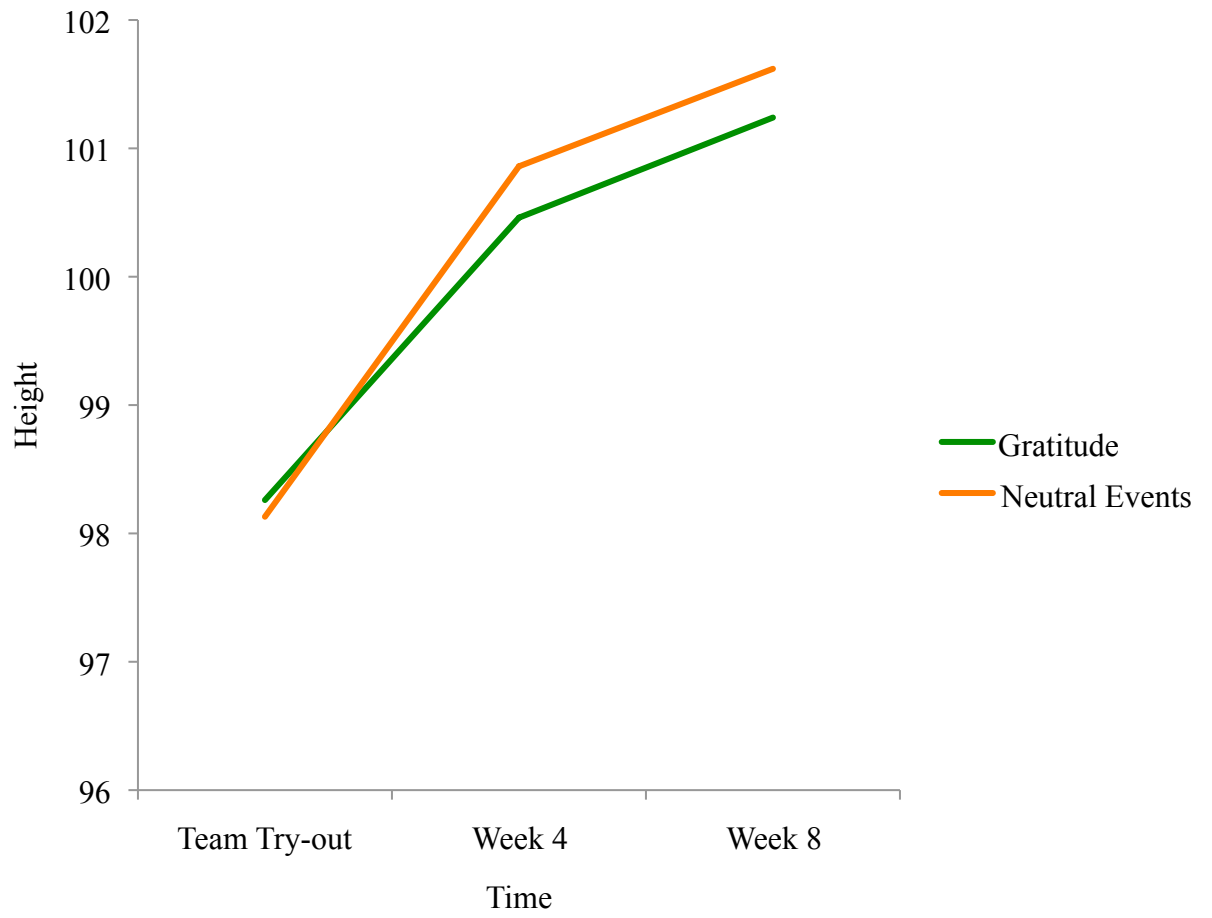


Figure 1. Trends of Increase for Vertical Block Jump Means (measured in inches).

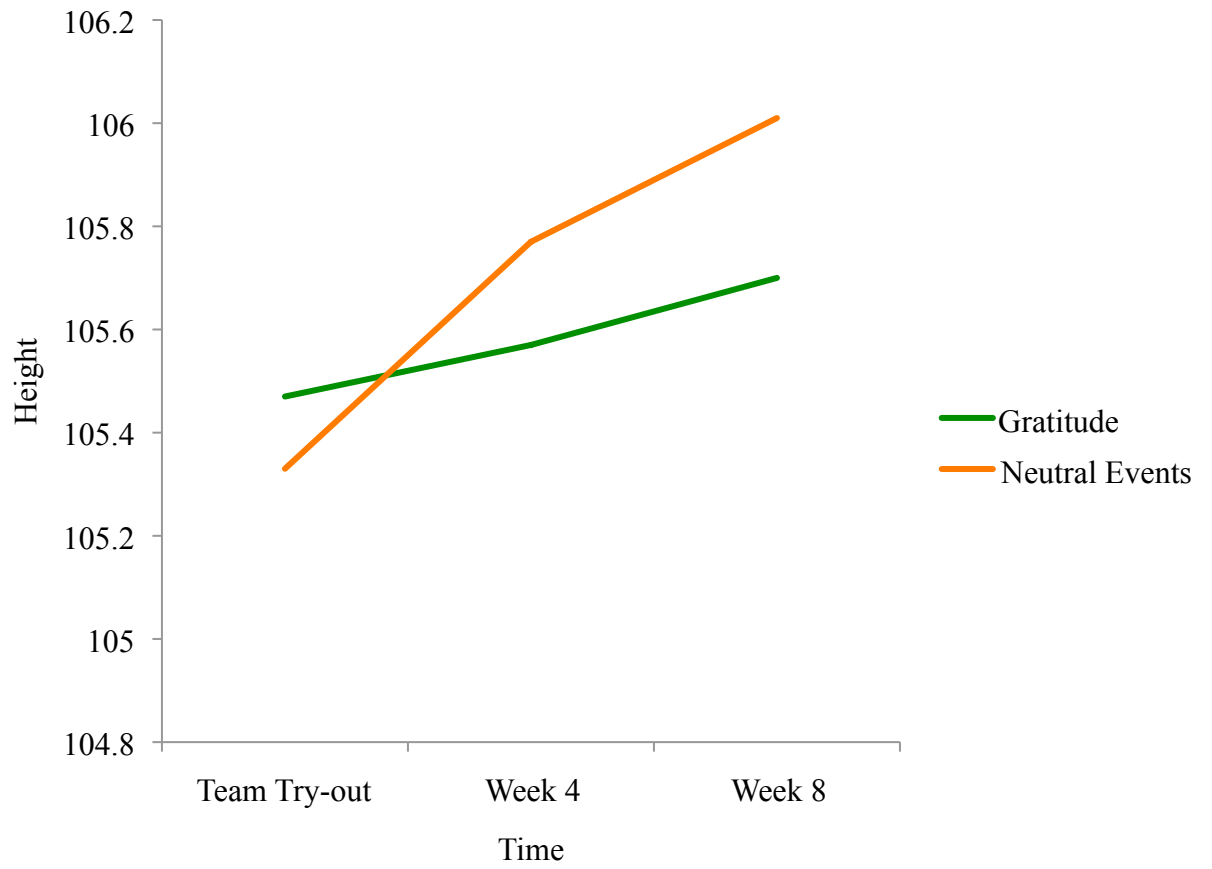


Figure 2. Trends of Increase for Vertical Spike Approach Jump Means (measured in inches).

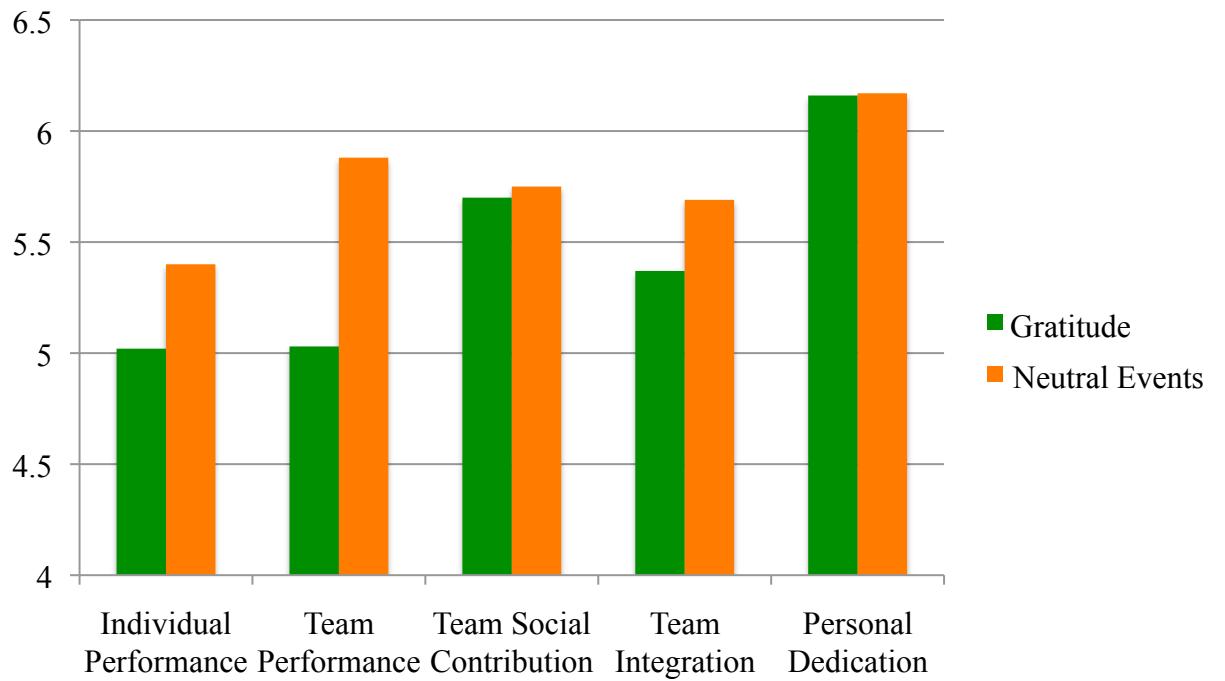


Figure 3. Mean Satisfaction with Performance Scores from the modified Athlete Satisfaction Questionnaire (Riemer & Chellandurai, 1998).

Appendix A

Character Strengths and Virtues (CSV)

Peterson & Seligman (2004)

Wisdom and Knowledge: *Creativity (Originality, Ingenuity), Curiosity (Interest, Novelty-Seeking, Openness to Experience), Open-Mindedness (Judgment, Critical Thinking), Love of Learning, Wisdom (Perspective)*

Courage: *Bravery (Valor), Persistence (Perseverance, Industriousness), Integrity (Authenticity, Honesty), Vitality (Zest, Enthusiasm, Vigor, Energy)*

Humanity: *Love, Kindness (Generosity, Nurturance, Care, Compassion, Altruistic Love, "Niceness", Social Intelligence (Emotional Intelligence, Personal Intelligence)*

Justice: *Citizenship (Social Responsibility, Loyalty, Teamwork), Fairness, Leadership*

Temperance: *Forgiveness and Mercy, Humility and Modesty, Prudence, Self-Regulation (Self-Control)*

Transcendence: *Appreciation of Beauty and Excellence (Awe, Wonder, Elevation), Gratitude, Hope (Optimism, Future-Mindedness, Future Orientation), Humor (Playfulness), Spirituality (Religiousness, Faith, Purpose)*

Bolded words are Virtues; *Italicized* words are Character Strengths

Appendix B

The Gratitude Questionnaire – 6 (GQ-6)

McCullough, Emmons, & Tsang (2002)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

1. I have so much in life to be thankful for.

2. If I had to list everything that I felt grateful for, it would be a very long list.

3. When I look at the world, I don't see much to be grateful for.*

4. I am grateful to a wide variety of people.

5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

6. Long amounts of time can go by before I feel grateful to something or someone.*

*Items 3 and 6 are reverse-scored.

Appendix C

Modified Athlete Satisfaction Questionnaire (ASQ)

Riemer & Chellandurai (1998)

In the following questions, several items related to athletic participation are listed.

Against each item, a response ranging from 1 (not at all satisfied) to 7 (extremely satisfied) is provided. Indicate the extent to which you are satisfied with the content of each statement. For the purpose of this study, please recall your experiences during this particular season and record your reactions to those experiences. Do not think about any one question for too long.

I am satisfied with...

1. the degree to which I have reached my performance goals during the season
2. the improvement in my performance
3. the improvement in my skill level
4. the team's win/loss record this season
5. the team's overall performance this season
6. the extent to which the team is meeting its goals for the season
7. my social status on the team
8. the role I play in the social life of the team
9. the degree to which my teammates accept me on a social level
10. how the team works to be the best
11. the degree to which teammates share the same goal
12. team member's dedication to work together toward team goals
13. the extent to which teammates play as a team

Appendix C (continued)

14. the degree to which I did my best for the team

15. my dedication during practices

16. my enthusiasm during competitions

17. my commitment to the team

Appendix D

Competitiveness Questionnaire

The following questions ask how important winning is for several groups, including yourself. Against each item, a response ranging from 1 (not important at all) to 7 (very important) is provided. Indicate the extent to which you feel each item is important during the current season. Do not think about any one question for too long.

How important is winning to...

1. you?
2. your head coach?
3. your team?
4. your parents?
5. the Northern Lights Volleyball Club?