

The power of gratitude in sports: A qualitative exploration of Olympic athletes' gratitude experiences

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Based on the broaden-and-build theory, this study used qualitative inquiry methods to explore the integral system of gratitude experiences of elite athletes, including the input, process and output stages. Semi-structured interviews were conducted with nine Olympic athletes. A thematic analysis was utilized to interpret the results. Our study revealed an integral system of gratitude experiences including the following stages: (a) an input stage characterized by the benefactor; (b) a process stage starting at the turning point characterized by the broaden and build steps; and (c) an output stage characterized by a dynamic upward spiral system consisting of long-term, expansion, hand-changing, and positive rumination powers. Our study extends previous research by identifying the three stages of the gratitude experience using a dynamic system that has powerful lasting effects and contributes to gratitude-relevant research in the field of sports psychology.

KEY WORDS: Broaden-and-build theory, Gratitude experience, Positive psychology, Thematic analysis.

Make sure you live in the moment and work your butt off every single day, and I hope I inspire people all around the world to just be themselves, be humble, and be grateful for all the blessings in your life.

I am truly honored to be your MVP this year
Stephen Curry
(2015 National Basketball Association (NBA) Awards)

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“Gratitude” is a term that is mostly expressed by elite athletes/award winners during their presentations at awards ceremonies. For example, Carl Lewis, the Olympic track and field champion, has indicated that expressing gratitude to his competitors is a part of his competitive repertoire (Lewis & Marx, 1990). Since this gratitude occurs naturally in sports, examining gratitude in the context of sports psychology is necessary. In fact, some empirical studies have demonstrated that gratitude results in different types of outcomes among athletes. For example, gratitude is positively related to athletes’ well-being (Author, 2015) but is negatively correlated with athlete burnout (Author, 2008). In addition to its influence on the individual, gratitude also has a significant influence at the interpersonal level, such as in coach-athlete and teammate-athlete relationships, which contributes to athletes’ optimal performance (Jowett, 2005). Positive consequences of gratitude are related to both athletes themselves and their interpersonal network.

Previous studies focusing on the positive effects of gratitude on athletes are well documented; however, this type of gratitude is not the same as the long-term gratitude that is experienced frequently in real life. For example, Chun and Lee (2013) investigated gratitude experiences in everyday life following traumatic spinal injury. These authors found that those participants who were grateful for the injury experience could benefit from their efforts to appraise challenging life experiences as positive. This finding implies that gratitude experiences might represent not only life events but also a malleable process that has received limited attention. Therefore, in our study, we explored the long-term experience of gratitude. To clarify the prolonged experience of gratitude, according to a time sequence, the integral system of gratitude experience has been dismantled into three stages: input stage, process stage, and output stage.

Further, according to these three stages, several questions remain unanswered, resulting in gaps in the previous literature. First, in the input stage of gratitude experiences, what specific stimuli induce athletes’ grateful emotions, and how do athletes interpret them? Second, in the follow-up process stage after the grateful emotions arise, do these grateful emotions broaden and build enduring resources for athletes, as documented in the literature? Finally, in the outcome stage, how do the outcomes of gratitude affect some people, including the beneficiaries, benefactors and other people, over a longer period? These intertwined and complicated inquiries have not previously been explored by investigating the long-term experience of gratitude. Furthermore, by exploring the experience of long-term gratitude, the far-reaching influences of gratitude on athletes can be demonstrated. We believe that exploring these questions will not only advance the theory of gratitude

but also help practitioners to design more appropriate interventions to cultivate gratitude.

In the current study, we adopt a qualitative method to explore our questions because it provides a detailed description of the dynamic process of gratitude experiences. Additionally, the broaden-and-build theory (Fredrickson, 1998) served as a framework to interpret the narratives. This theory reveals that positive emotion experience usually induced by different situations/events (input stage) could broaden an individual's momentary thought-action repertoire (process stage), which, in turn, has the effect of building that individual's physical, intellectual, and social resources (output stage). We believe that this theory, including the origin, process, and outcomes, could nicely fit our research purpose, which is to identify long-term gratitude. Thus, we chronologically divided the integral system of one gratitude experience into the (a) input, (b) process, and (c) output stages, which constitute a dynamic system similar to a positive loop based on the broaden-and-build theory. In the next section, we provide a detailed literature review and elaborate our research focus.

Gratitude in the Broaden-and-Build Theory

An integral system of a gratitude experience is dismantled into the input, process, and output stages. Grateful emotions, which are part of the whole gratitude experience, observably materialize during the process of a concrete gratitude experience. For example, a grateful emotion is produced in the beneficiary after some turning point, but not at the beginning of the gratitude experience. As an emotion, gratitude is a feeling of happiness that comes from appreciation after receiving aid (Wood, Maltby, Stewart, Linley, & Joseph, 2008). Similar to other positive emotions, grateful emotions broaden and build (Fredrickson, 2004); thus, the broaden-and-build theory serves as an interpretation system to conceptualize and analyze the narrative data collected through in-depth interviews of elite athletes. This theory suggests that positive emotions (e.g., joy, interest, contentment, and gratitude) broaden an individual's momentary thought-action repertoire, which, in turn, builds the individual's enduring personal resources. The latter served the ancestral function that promoted survival (Fredrickson, 2000), and gratitude operates in a similar manner. For example, gratitude could serve to build social bonds, which would then become an additional resource for the person (Fredrickson, 2004).

We thus adopt the broaden-and-build theory as our major analytical framework for three reasons. First, regarding positive outcomes, the broaden-and-build theory (Fredrickson, 1998) concentrates on individual and psy-

chological well-being and collective functioning. Second, this theory presents a clear psychological mechanism of an integral system of a gratitude experience, and an individual builds enduring interpersonal relationships and social resources by broadening his or her momentary repertoire of thought-action. Finally, the operation of an integral gratitude experience, including input, process and output stages, is a set of dynamic systems that is similar to an upward spiral that reinforces the power of effect via continuous circles. The “continuous circulation” and “reinforcement” constructs of an upward spiral system are adopted in this study; this cycle similar to a positive loop in the participants’ actual gratitude experience with an integral system.

The Input Stage of Gratitude

The first stage of a gratitude experience is named the “input stage” by the authors and begins with the appearance of an external stimulus known as a benefactor and ends before the grateful emotions arise. Notably, the grateful emotions may not arise the first meeting between the beneficiary and his/her benefactors. The input stage of a grateful experience has been noted in previous studies, in which the external stimulus is called benefactor who the beneficiary appreciates (McCullough, Kilpatrick, Emmons, & Larson, 2001). Grateful emotions can be triggered by different stimuli designated “benefactors”, which are divided into two main categories: humans and non-human agents (McCullough et al., 2001). In the sports domain, two independent studies were conducted showing that gratitude accounts for the increased explained variance in athletes’ well-being indicators after controlling for general gratitude (Author, 2017). Accordingly, these studies imply that sports-related benefactors are more influential for athletes; thus, an examination of these human and nonhuman stimuli or benefactors and the identification of specific benefactors in the sports domain are worthwhile.

The Process Stage of Gratitude

Following the input stage, the process stage begins when grateful emotions arise at the turning point and are divided into the broaden and build steps. The turning point is the point at which grateful emotions arise and the beneficiary begins to feel grateful to the benefactor (Algoe, 2012; Emmons & McCullough, 2003). The beneficiary may not feel grateful toward the benefactor when they meet for the first time. Rather, the beneficiary may not

be grateful until he or she empathizes with the benefactor's intention by producing attribution-dependent emotions and compares the benefactor with other people; at this turning point, the beneficiary realizes the benefactor's extra contributions beyond his or her obligations and social expectations (Emmons & McCullough, 2003). The beneficiary may also feel grateful to the benefactor when he or she acknowledges the benefactor as the source of their unexpected good fortune (Algoe, 2012). Even when the beneficiary has negative emotions or thoughts towards his or her benefactor at their first meeting, the beneficiary may turn negative emotions into grateful emotions for their benefactor through positive reframing, which refers to the cognitive process of perceiving something in a positive light that was previously viewed as negative (Lambert, Graham, Fincham, & Stillman, 2009). Positive reframing means that the influence of the grateful emotion may not occur at the beginning of a gratitude experience, and the turning point occurs when the grateful emotions take effect or the negative emotions become grateful emotions.

Furthermore, in the process stage of a gratitude experience, positive emotions momentarily broaden the thought-action repertoires and build enduring personal resources. Thus, the interaction and exchange between the momentary broadening of thought-action resources and building enduring resources over the intrapersonal and interpersonal social network domains have been observed during the process stage (Fredrickson, 1998, 2001). In the broaden step, positive emotions, such as gratitude, can broaden an individual's recognition resources (Fredrickson, 1998, 2000, 2001; Fredrickson & Joiner, 2002), including increased creativity and resilience to stress and adversity (Fredrickson, Mancuso, Branigan, & Tugade, 2000; Tugade & Fredrickson, 2002).

In the build step, grateful emotions may promote relationship formation and maintenance by building enduring interpersonal resources (Algoe, 2012; Algoe, Haidt, & Gable, 2008) because grateful emotions create the urge to consider new and creative ways to be kind and generous. These durable resources that accrue when people act on this urge represent new skills for expressing kindness and care to others. Moreover, at the social network level, a review paper has provided strong physiological evidence (Kok et al., 2013) supporting the prosocial function of grateful emotions in improving prosocial behaviors (Ma, Tunney, & Ferguson, 2017).

The Output Stage of the Dynamic System of Gratitude

Finally, the output stage begins with the production of a positive outcome, such as well-being. According to the broaden-and-build theory (Fredrickson,

1998), the positive outcome produced by grateful emotions in the output stage is well-being, which is defined by various concepts, including general emotional functioning, existential functioning, and humanistic conceptions (Wood, Froh, & Geraghty, 2010). Therefore, well-being is a general term for all positive outcomes that make the beneficiary a better person or a person who leads his or her life in a good way. Notably, well-being is not the endpoint of a gratitude experience. At the output stage, a gratitude experience continues to operate with a self-sustaining upward spiral dynamic connection that reinforces the power of the gratitude effect in circles instead of having a one-way or static effect (Fredrickson, 1998). The operation of a dynamic 'upward spiral' system could demonstrate the power of gratitude, and at least two noteworthy system characteristics manifest the power of grateful emotions.

First, the length of the influence of grateful emotions may prove the power of a gratitude system. Previous studies have indicated that the influence of grateful emotions could last for weeks or months. Priming thoughts of gratitude daily over a period of weeks measurably improved people's sense of health and well-being (Emmons & McCullough, 2003). The influence of gratitude interventions (e.g., writing in a gratitude diary and listing gratitude-inspiring events) has even continued for three months (Seligman, Steen, Park, & Peterson, 2005), and predicted long-term goals, plans, and psychological well-being at bereavement have been sustained for one year (Stein, Folkman, Trabasso, & Richards, 1997). Overall, previous studies have implied that the effects of grateful emotions may be sustained for a long period. Accordingly, the duration of the effects of gratitude emotions are further investigated in this study.

The other evidence of the power of grateful emotions is the range of its effects. The range of effects of grateful emotions is extended by paying gratitude forward, which means that the experience of expressing gratitude is similar to the creation of an endless cycle of giving and receiving and even involves giving to people other than the original giver. Previous experimental studies have reported the expanding coverage of grateful emotions (Bartlett & DeSteno, 2006; Chang et al., 2012; Tsang, 2006). The effects of grateful emotions are also observed on the beneficiary himself, his benefactors, and strangers. The final stage does not end at well-being. Instead, in the output stage, the dynamic 'upward spiral' system of gratitude demonstrates the power of grateful emotions.

The research on an integral system of a gratitude experience in sports is in its infancy, although survey studies have supported a positive relation between gratitude and athletes' well-being (Author, 2013; Author, 2008; Author, 2015). Using the retrospective recall method, the present study explores the

integral system of a gratitude experience, which includes the following three stages, to investigate the long-term and expanding influence of the dynamic ‘upward spiral’ system of a gratitude experience: (a) the input stage at which the benefactor appears; (b) the process stage beginning with the turning point when grateful emotions arise and comprising the broaden and build steps; and (c) the output stage, which results in positive function overall and is a dynamic system similar to a positive loop (Fredrickson, 1998, 2001, 2003, 2004). In this way, we show how the power of gratitude is manifested through a dynamic spiral system similar to a positive loop.

Method

PARTICIPANTS

We chose elite athletes who have been in their athletic fields for a long time as participants to investigate an integral system of a gratitude experience focusing on long-term and expansion effects, particularly on the public or junior generation in sport fields. We interviewed elite athletes who had competed in the Olympic Games at least once and who had remained in sports as representative figures of elite athletes. Based on the recommendation that six interviews is the minimum sample size for a thematic analysis (Smith & Sparkes, 2016), we interviewed nine elite athletes (4 female/5 male) from six different sports (i.e., swimming, taekwondo, judo, track and field, archery, and baseball) (Table 1) to obtain information-rich cases. The ages of the participants at the time of the interviews were between 25 and 41 years. Regarding the participants’ athletic careers, all the participants had been engaged in their sports for at least 17 years.

PROCEDURE AND DATA COLLECTION

We used interview aiming to create a conversation that invited the participants to tell their stories or describe their experiences, emotions and behaviors (Smith & Sparkes, 2016) in accordance with the purpose of our study. We designed an interview guide to efficiently

TABLE I
Basic Information of Participants

Code	Gender	Sports	Age	Sport experience	Current position
A	Male	Taekwondo	32	20 years	Assistant professor
B	Female	Swim	25	20 years	Graduate student
C	Male	Marathon	31	18 years	Coach
D	Male	Archery	33	21 years	Associate professor
E	Male	Judo	41	34 years	Assistant professor
F	Female	Judo	33	24 years	Fitness center manager
G	Male	Baseball	35	25 years	Professional athlete
H	Female	Swim	26	18 years	PE teacher/Coach
I	Female	Taekwondo	33	22 years	Sales

explore and capture the athletes' experiences of gratitude. Semi-structured interviews, which are considered an appropriate way to obtain information (Patton, 2002), were used to collect the research data. Based on Mayan (2009), the open-ended questions consisted of three main parts: the introduction, the formal section, and the closing section.

In the formal section, the interviewer asked a series of specific questions regarding personal experiences of gratitude to obtain more information and insight into the athlete's experiences of gratitude in the context of sports. A sample question was, "Within your sports career, can you recall people you met, events you experienced, or situations you encountered for which you were grateful?" Finally, in the closing section, the interviewer asked the participant to provide both supplementary information and conclusive statements. A sample question was, "Is there anything else in relation to your experiences of gratitude in sports that you did not mention yet but that you would like to talk about?" Each formal interview lasted approximately 90-120 minutes, was conducted face-to-face by the first author and was recorded using voice-recording equipment. The contents were transcribed verbatim.

DATA ANALYSIS

To fulfill our research aim of exploring elite athletes' experiences of gratitude based on the broaden-and-build theory (Fredrickson, 1998), we used thematic analysis to analyze the descriptive data. Thematic analysis (Braun & Clarke, 2006) has been widely used in psychological research (Gershgoren et al., 2015) and has been applied to research on the experience of gratitude among people with traumatic injury in everyday life (Chun & Lee, 2013).

Arising from a qualitative approach, thematic analysis enables researchers to identify and interpret patterns through the analysis of personal experiences (ideas, attitudes, and actions) (Kao & Haung, 2014) regarding an issue or the factors and processes involved in a specific phenomenon. The flexibility of a thematic analysis allows the analysis to be performed within different theoretical frameworks (Braun & Clarke, 2006), research designs, and data-collection methods, such as the use of semi-structured interviews to collect people's experiences (Braun, Clarke, & Weate, 2016). Our narrative data were analyzed based on the thematic analysis approach of identifying central themes. We also identified participants' special or unique perspectives within the central themes to underline the important characteristics of the research theme (Phoenix & Orr, 2017). This method produced a more diverse and comprehensive picture of the findings.

TRUSTWORTHINESS

Several strategies were used to enhance the methodological rigor based on Lincoln and Guba (1985). We adopted three reflexive methods to increase the authenticity. First, as previously mentioned, the authors used field notes to record non-linguistic information regarding the interviewees' actions, the interactions between the interviewer and the interviewees, and the interview conditions in each interview. This approach provided additional evidence relevant to the data and was used to increase the thickness of the descriptions. In addition to the field notes, reflexive journaling was used to reduce the potential influence of the researcher's subjectivities. Finally, during the data analysis, peer debriefing was conducted to verify the themes and sub-themes. Specifically, the data were discussed and confirmed seriatim by the four researchers to ensure that consensus was reached regarding the results.

Results

The results are presented according to the athletes' retrospective recollections, which include the following three stages: (a) the input stage that begins with the appearance of an external stimulus called the benefactor; (b) the process stage that begins when grateful emotions arise at the turning point and are divided into the broaden and build steps; and (c) the output stage when positive outcomes are produced and reveal the dynamic system of a gratitude experience with an upward spiraling circle similar to a positive loop. The power of gratitude is represented by the characteristics of long-term, expanding, hand-changing and positive rumination powers. We present an overview of the results in Figure 1, and the themes and their subthemes are described in detail in Table 2.

INPUT STAGE OF GRATITUDE

The input stage begins with the appearance of external stimulus called the benefactor and ends before the grateful emotions arise. Notably, the gra-

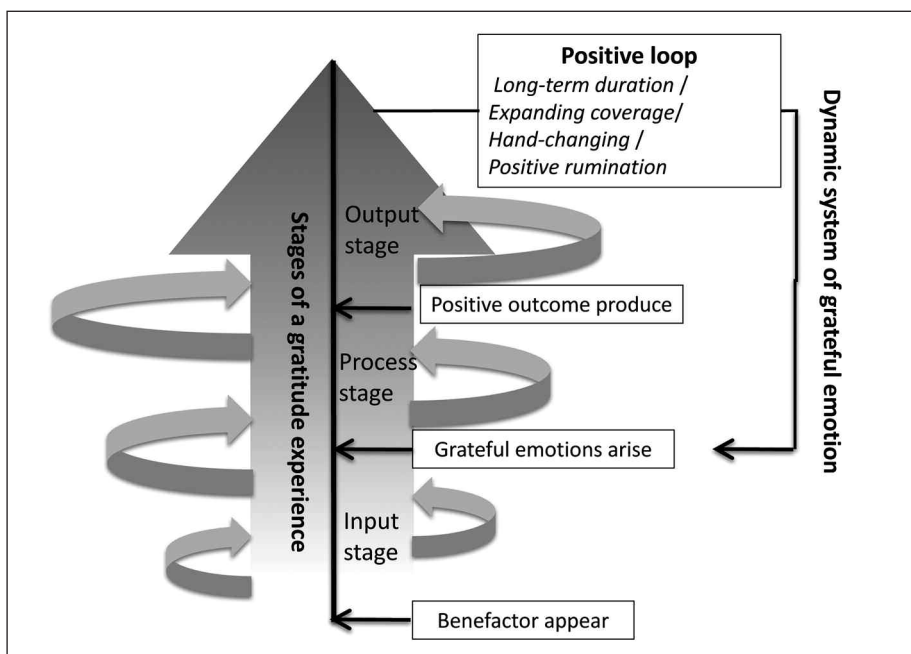


Fig. 1. - The psychological process of athletic experiences of gratitude.

TABLE II
Themes and sub-themes of Olympic athletes' gratitude experiences

Themes	Sub-themes
Input stage of gratitude	<ul style="list-style-type: none"> • Human benefactors • Nonhuman benefactors
Process stage of gratitude	<ul style="list-style-type: none"> • Turning point when grateful emotions arise • Broaden step • Build step
Output stage: dynamic system of gratitude	<ul style="list-style-type: none"> • Long-term power • Expansion power • Hand-changing power • Positive rumination power

teful emotions may not have arisen at the first meeting between the interviewed athletes and their benefactors. The interviewed athletes started to feel grateful to their benefactors even years after they met their benefactors.

Grateful emotions can be triggered by various stimuli called “benefactors”. All of these stimuli are critical parts of an athlete’s life. The benefactors that the interviewed athletes appreciate are classified into human and non-human objects.

HUMAN BENEFACTORS

Parents and family. When inquiring about what factors lead participants to perceive gratitude, generally, all participants primarily indicated that their parents and family constantly provide favors and are the individuals to whom they feel grateful. For example, participant I expressed “*I’m really thankful for my family; they are the most important people to me*”. Specifically, participant I further said “*I thank my father, my mother, my older sister, my older brother, and my grandparents, for they play different roles in completing my life*”.

Coach. All participants indicated that coaches were the most significant benefactors in the different stages of their sport careers. For instance, participant I stated that “*I am really grateful for every coach who ever came into my life and for being there for me*”. In fact, the coach, to some extent, was respected as a second parent in the interviewed athletes’ athletic careers, as one participant (participant F) stated “*I appreciated my coach; she is just like my mother because she always spent a lot of time on training or taking care of me much more than her children*”.

Teacher. Participants also feel grateful to their teachers. A significant example is participant G who stated, “*Without my teacher, I would never have the chance to continue my sports career and to play for the national team in the Olympic Games. He is the person I am really thankful for*”. Likewise,

participant G shared a more in-depth description of his gratitude experience toward his teacher: “*My teacher helped me not only in my sports domain but in every stage of my life. He is the person I appreciate most in my life*”.

Teammates/Friends. “*When I played on my professional team and coordinated with my teammate...we always trained and played together and I think he is the man who I really respect and appreciate in my professional career*” (participant G).

Sponsors. Participants found a great appreciation for their sponsors. For example, participant B indicated: “*I was really thankful that I had such a good sponsor...somehow I thought they just liked a charity [laughing] and were not in it for commercial profit*”, and participants F and G viewed their sponsors as the university where they studied and were thankful for their school.

NONHUMAN BENEFACTORSE

In the present study, we identified two elements that triggered athletes’ grateful experiences: the training system/education system and religion.

Training System/Education System. Specific social systems, including the training system and education system, were two crucial benefactors in athletes’ sports careers. The formal education system, such as a high school or university, was reported as a benefactor by several participants. For example, “*the newly established graduate school for athletics and coaching science was really helpful for me in continuing my sport career...I could not imagine if my university did not have this graduate institute*” (participant D).

Religion. Participant B, a Christian participant, argued that “*gratitude to God*” is the fundamental belief in her life, and she was apt to show her gratitude to God: “*I should acknowledge God the most...because I have my own religion...yeah... I am so thankful for God*”.

Thus, the benefactors are not limited to humans. The identified sources were various concrete or abstract objects that contributed to the participants’ grateful experiences in sport. Notably, all participants indicated that their coaches—who play multiple roles, such as parent, teacher, sponsor and director—are the most significant benefactors that they appreciate.

Process stage of gratitude

Following the input stage, the process stage begins when grateful emotions arise at the turning point and are sorted into the broaden and build steps.

Turning point when grateful emotions arise

The grateful emotions may not immediately arise when the benefactors appear in the input stage. The athletes were not aware (participants F and G) or even had negative impressions of (participant B) and emotions toward (participants G and H) their benefactors at their first meeting. Before the turning point, the athletes took for granted what their benefactors had done for them. Grateful emotions are primed after these athletes compared their benefactors with other people or when the athletes played a new role or were facing a low point in their career. In these moments, the athletes began to be aware that they received special gifts from their benefactors, and as a result, they felt grateful.

Comparison with others. *“Unlike coaches from foreign countries, my coach massaged my hands and feet (participant B). I was so surprised my Japanese coach took it upon himself to visit me and teach me how to run correctly...I have never had such an experience...Other coaches have never done such things for their players...I really appreciate him” (participant C).*

Playing a New Role. *“I did not realize how hard these cooks in the kitchen work until I became a coach...After you change your position, you observe what you have never seen. At that time, I started to thank all the people who had helped me, especially the cook who provided me food” (participant A).*

Facing a low point in one’s career. *“Frankly speaking, at that time, I was being down-graded because of continuous underperformance. But to my gratitude, they [sponsors] went on supporting me. I started to feel grateful” (participant B). “At the moment I was in trouble, he [senior classmate] took me to the doctor and I had an operation. I really felt thankful to him when I was injured” (participant G).*

BROADEN STEP

After feeling gratitude toward their benefactors, the interviewed athletes stated that they were conscious of explicit, instant and direct changes influenced by the grateful emotion in the broaden step.

“I felt grateful for my coach. After that, I gained more motivation and courage to challenge myself, and I desired to advance. I had a thirst to improve” (participant H). “The event of gratitude influenced me a lot. I began to learn to look on the bright side of things” (participant D). “After I felt grateful, I was conscious that my view had broadened, my mind had opened, and then I had the courage to enter the international sports field” (participant C).

BUILD STEP

Even after such a period, the grateful emotion continued to influence the interviewed athletes. Different from the broaden step, the delayed effects in the build step included learning skills to express gratitude and building relationships and social networks.

“After that, I became able to concentrate for everyone... I stayed thoughtful and considerate in my mind for a long time. After such a period of time, I traveled the long road to success” (participant A).

“After I started to feel thankful for my coach, I tried to learn how to express my gratitude to my coach. And I was aware my coach was more willing to help me than before. My coach and I had a better relationship” (participant D).

“After I felt grateful, I tried to contribute even to others I didn’t know” (participant H).

In this process stage after the grateful emotions were inspired, the interviewed athletes’ cognitions were broadened and their interpersonal networks were built.

OUTPUT STAGE: DYNAMIC SYSTEM OF GRATITUDE

Finally, in the output stage, the athletes were conscious of the positive functions that arose from the grateful emotions. Because of these gratitude experiences in their athletic lives, the athletes had a better life overall. For example, they have a thorough conviction of their own changes in many domains, such as their physical and mental health (participant D), becoming a thoughtful person (participants A and G), and becoming a contributing citizen (participants A, E, H, and I).

“I think the thankful idea seems to make you change. I was conscious that I became happier and my physical and mental health improved after I felt grateful for teacher Hung” (participant D).

After grateful emotions were produced, the interviewed elite athletes were conscious of the positive outcome of a better life. In particular, they expressed that grateful emotions have a powerful influence. In the dynamic system of gratitude, the effects of gratitude are powerful because these effects spiral upward continuously similar to a positive loop. This power greatly affects the participants not once or transiently but frequently and enduringly. The power of gratitude includes long-term, expanding, hand-changing, and positive rumination characteristics.

LONG-TERM POWER

The effects of gratitude have lasted from when the participants were student athletes to currently, when they are adult athletes or coaches. Although the interviewed elite athletes who were filled with grateful emotions toward their benefactors desired to repay their benefactors, they had no chance to express their gratitude when they were not a recognized athlete. The only thing the interviewed athletes could do is to remember their grateful emotions; then, one day, even many years later, they could express their gratitude in public when they became an influential and famous elite athlete. The power of grateful emotions persists for a long period, even years.

"It has been over fifteen years; I never forgot my coach [Mr. Wang] for aiding me. Without him, my injured feet may not get well; without him, I cannot stand up to play baseball again. But 15 years ago, I was a nobody and had no chance to express my appreciation for him. Now, after 15 years, I am famous and have opportunities to express my grateful emotions in public or journalists' interviews. For 15 years, my mind is filled with grateful emotions for my coach" (participant G).

"Now, I have some influence in the sport field to express my gratitude for anyone who has helped me. I always remember those benefactors. Now, sometimes I go back my alma mater to visit some teachers or coaches on purpose. I expect they know their efforts to help their athletes will not be for naught, even though it may be many years before they are repaid, like me. I saw that these teachers and coaches had started to teach their athletes more seriously than before" (participant C).

The long-term power of gratitude still impacts the elite athletes. Notably, the effects of gratitude are so prolonged and powerful that gratitude seemed to influence the elite athletes continuously perhaps even after the interviews included in the present study.

EXPANSION POWER

Similar to paying it forward, the effect of gratitude has been transferred not only to the beneficiaries themselves and their benefactors but also to other people, such as the junior generation, students, or strangers, e.g., the TV audience or readers through mass media.

The participants who wanted to reward their benefactors for their gifts found opportunities to contribute. For example, one participant explained that he had displayed his gratitude in a media interview to express his deep appreciation for a coach. Notably, in this case, the coach found that the par-

ticipant's action of acknowledgment enhanced his work reputation (participants C and G). Additionally, the participants felt that acknowledgement was an essential way to express gratitude for what their coaches had done for them (participants A, D, and H).

"I was affected by the consultant that I appreciated and I would follow her instructions to make our sport environment better and better. So, I'd like to do some volunteering to help strangers and make contributions to society" (participant I).

"For the next generation, I want to do something like my teacher who had helped me. His enthusiastic teaching made me grateful and inspired me to follow him to pass skills on to the next generation" (participant C).

HAND-CHANGING POWER

We use books in the library that are transferred from one reader to another as a metaphor to describe the influence of gratitude that passes through changing hands. After paying their gratitude forward, the interviewed athletes did not give feedback directly to their benefactors themselves. The influence passed from one person to another person until the benefactor received the reward through several sets of changing hands.

"My coach told me that one day when he took out his wallet to pay the bill after a dinner, my fan jumped to pay the bill all of a sudden. He told my coach 'this dinner is on me today because you have helped him [participant G]. I know that he [participant G] appreciates you very much as I knew from watching him on TV. I thank you for him'. When I heard of this event, I was so surprised. I have no idea about this fan.... I am touched and astonished. Gratitude effects seem powerful, and the circle power ultimately reaches the benefactors in return through many hands" (participant G).

POSITIVE RUMINATION POWER

Similar to rumination about positive emotions (Johnson, McKenzie, & McMurrich, 2008), which is defined as the reliving of positive emotions by an individual (Kross, Ayduk, & Mischel, 2005), the participants stored their grateful emotions in their minds and continuously retrieve their grateful emotions to increase their mental energy with a "slow chew and savor", particularly when they are in trouble or must make a decision. This past gratitude is deeply rooted in their minds and is as vivid as a film. Sometimes, when they recall their grateful memories, the athletes are moved to tears; however, they enjoy these feelings and even smile involuntarily. By drawing positive rumination power, the effects of the grateful emotions that operate in circles come alive.

“At some moments, I often thought of someone I am really thankful for because they help me a lot in different periods of my sport life.... When I went to the hospital for a special foot treatment, I always recalled my teacher and senior classmate. Without them, I am nothing... Sometimes, when my feet were killing me, I thought of them [Mr. Chen and senior classmate] and encouraged myself to get over it. ... Once when I was filling out an entrance application, I remembered that he [coach] picked me up at the airport for a particular purpose and informed me I could go to college on his recommendation... At some moments, I always think of them and I smile unconsciously” (participant G).

The interviewed athletes indicate that they have appreciated many benefactors during different periods in their athletic career, such as their coaches, families, teachers and teammates. It is worth noting that until a turning point, the athletes did not feel thankful and were not affected by gratitude. In particular, the influence of gratitude is so powerful that it continues, even after several years, in an upward spiraling circle. The effects of thankful emotions flow over many objects including the benefactors, beneficiaries and strangers in a continuous loop. The integral process by which grateful emotions are produced in elite athletes was excavated from the retrospective interviews presented in this study using the broaden-and-build theory.

Discussion

This study explored the integral system of gratitude events in the athletic domain. Through a time-series, the elite athletes' integral grateful experiences came alive during the (a) input, (b) process, and (c) output stages. According to the three stages of gratitude experience, we detected different meanings in the different stages of gratitude and further observed the dynamic system of gratitude. This article concludes with significant implications for theory and practice.

INPUT STAGE OF GRATITUDE

At the input stage, the benefactor is the gratitude stimulus, and the turning point causes grateful emotions to occur. First, this study enhances previous findings on athletes by providing descriptive data to support that benefactors in sports can be divided into humans and nonhuman agents (McCullough et al., 2001). The athletes thanked many human and nonhuman benefactors. Without one of these benefactors, these remarkable elite athletes may not have performed well on the athletic field.

Upon serious consideration, this result illustrates that the starting time for observation of the influence of gratitude has been moved to the beginning of the gratitude event instead of to the time that the grateful emotions are produced. Through the retrospective method, the interviewed athletes revealed that the benefactors who acted at the very input of the gratitude events did not make a good impression on their beneficiaries, who were undergoing strict training. Positive grateful emotions were not produced until a turning point, when the beneficiaries felt that the benefactors had truly done them some good after these athletes compared their benefactors with other people, played a new role or faced a low point in their career.

Our results are consistent with some studies indicating that grateful emotions sometimes do not develop when a beneficiary first meets a benefactor (Algoe, 2012; Emmons & McCullough, 2003). In contrast to the broaden-and-build theory (Fredrickson, 1998), which claims that the effects begin when grateful emotions are inspired, this study showed that if attention is paid only when grateful emotions arise, the events that occur before the grateful emotions arise could be neglected.

PROCESS STAGE OF GRATITUDE

The broaden-and-build theory claims that positive emotions appear to momentarily broaden people's thought-action repertoires and to build enduring personal resources (Fredrickson, 1998, 2001). The momentarily broadened resources (Fredrickson, 1998, 2000, 2001; Fredrickson & Joiner, 2002) can become enduring resources (Algoe et al., 2008). This study has demonstrated that after grateful emotions are inspired by benefactors, the responses are distinguished between the broaden step (cognition-, attitude-, value-, and behavior-changing aspects) and the build step (which is inclusive of learning skills to express gratitude and build relationships and social networks). In particular, in this study, the contents of the broaden-and-build steps that are specific to athletes have been concretized.

In the broaden step, the participants were conscious that they became better athletes with more courage, determination, creativity and resilience—the core attributes for athletes. In the following build step, the athletes discovered that they had truly learned skills for interacting with people and conducting themselves in society. In the build step, the athletes left the ivory tower and entered society by building relationships and social networks and by becoming influential persons who contributed to the community.

Output stage: dynamic system of gratitude

This research enhances previous studies' findings by examining in more detail the idea that gratitude emotions deliver positive functions and the stages of grateful experiences for athletes (Seligman, Steen, Park, & Peterson, 2005). Inspiringly, the long-term duration, expanding coverage and recurring power demonstrate the power of a gratitude experience with a dynamic 'upward spiral' system that is similar to a positive loop.

LONG-TERM POWER

This study demonstrates the long-term impact of grateful experiences. This impact has not been revealed in previous quantitative research, suggesting that the effects of gratitude only last several weeks (Emmons & McCullough, 2003) to months (Stein et al., 1997). However, this study reveals that the gratitude effect has lasted in elite athletes for several years, and they even expressed that the influence may never end in their lives. This result suggests the power of gratitude in the real world and encourages an exploration of the process of long-term gratitude by using the life-history method in which a person narrates his entire life similar to a biography.

EXPANDING COVERAGE POWER

In contributing a new perspective, this study suggests that the intensity of the gratitude effect can be assessed with both the expanding effects and the duration of grateful emotions. Although previous studies have shown that the influence of gratitude has a greater reach than interpersonal influence (Algoe, 2012; Algoe et al., 2008; Author, 2012) and social networks (Bartlett & DeSteno, 2006; Kok et al., 2013; Ng et al., 2017; Tsang, 2006), the duration of this influence does not seem to have been fully considered or was only found to be brief.

To fill this gap, this study provides evidence of the power of gratitude by demonstrating the reach of its effects and their long-term duration. For example, this study explores one of the influences of grateful emotions, namely, "hand-changing power", in which after they had paid their gratitude forward, the interviewed athletes' feedback was not given directly to their benefactors but rather changed hands several times over several years. The both extensive and enduring power of grateful emotions is displayed in this study. The results of this study provide new insight into the power and

influence of grateful emotions in the interaction function combined with their expanding coverage and duration.

Positive rumination power

Based on the broaden-and-build theory (Fredrickson, 1998), one reason that grateful emotions have powerful output is their reduplicated and accumulated force with an upward spiral. Although previous studies have noted that the repeating circle could reinforce the intensity of positive grateful emotions (Kok et al., 2013), the repetitive frequency of occurrence has not been identified.

This study demonstrates that grateful emotions from the same gratitude-producing event have provided frequent and consecutive inspiration. For example, the participants repeatedly continued to retrieve the grateful emotions produced by the same grateful event in various situations in their subsequent life, similar to positive rumination in which individuals maintain positive emotions and then continuously retrieve these positive resources when they experience recurring hardship. The conditions in which beneficiaries retrieve grateful emotions that were produced even many years ago and the accumulated and compounded effects of grateful emotions are meaningful directions for future gratitude studies.

PRACTICAL APPLICATION

Our study highlights the need to cultivate positive reframing, which is perceiving something that was previously viewed as negative in a positive light (Lambert, Fincham, & Stillman, 2012; Lambert, Graham, Fincham, & Stillman, 2009), through gratitude interventions. Positive reframing would help athletes to reframe a seemingly negative experience, such as harsh training and demands by their coaches, as an opportunity to learn something or gain a new skill. Therefore, adopting gratitude interventions to promote positive reframing is worthwhile (Lambert, et al 2009).

Second, researchers have asked participants to list as many gratitude events as they could recall (Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008; Geraghty, Wood, & Hyland, 2010; Sheldon & Lyubomirsky, 2006; Watkins, Woodward, Stone, & Kolts, 2003). Interestingly, our study found that repeatedly retrieving grateful emotions produced by the same event could also broaden and build the athletes' resources, leading to improved well-being. Therefore, further research could compare the effectiveness of the two types of interventions.

Limitations and future research

Although this study offers a new avenue for the understanding of elite athletes' gratitude, our study has several limitations. First, we only recruited elite athletes in the top of their sport, which restricts the generalizability of our findings to all levels. Whether an athlete who fails in his or her sport still shows gratitude is unknown. Hence, comparing successful athletes with athletes who did not achieve their goals might provide new insight extending the gratitude literature. Second, our study did not specifically distinguish the difference in gratitude experiences between individual sports and team sports. Athletes in team sports have higher interdependence with teammates than those engaged in individual sports. Thus, the content of gratitude experiences might differ. Thus, comparing individual sports with team sports may also be of interest in future studies. Finally, given that sports teams are built and affected by various coaching and leadership styles, the content of grateful experiences might differ. Therefore, comparing differences between teams is worthy of further investigation.

Conclusion

Inspiring grateful emotions is an effective gateway to reinforce elite athletes' positive functions. This research has explored three stages of the gratitude experience, including the input and process stages and the output stage with a dynamic 'upward spiral' system, based on the broaden-and-build theory (Fredrickson, 1998). The present study opens a new avenue in understanding elite athletes' gratitude experience and demonstrates the power of gratitude, which occurs widely, frequently, and over long periods in athletes' lives. Although this study has significant implications for gratitude-relevant studies and sports psychology, our conclusions require further research to be verified. The conclusions in the present study are limited to elite athletes who have reached the top of their sport, and studies aiming to generalize these findings to all athletes will be the subject of future research.

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