

Gratitude in Life-span Development: An Overview of Comparative Studies between Different Age Groups¹

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The purpose of the current study is to examine and interpret findings on gratitude in the context of different stages of human development. A hypothetical framework of life span development was created for reviewing and interpreting the results of the studies conducted between 1900 to 2018. The topics that we discussed in the developmental phases were about gratitude routines, gratitude in exploring identity, and gratitude for life integrity, which were supposed to be developmental tasks in childhood, adolescence, adulthood, and old age respectively. These developmental tasks need to be achieved or resolved, for the promoting adaptation in their lives, and for successive development in the life cycles. We reviewed the studies that have compared gratitude between different age groups under these themes. In addition, some studies that explored age-specific phenomena of gratitude were reviewed for supplementary purposes. This review shows that there exist both qualitative and quantitative changes of gratitude in a life span, and in general, confirms the utility and the need to interpret findings on gratitude in the context of each developmental phase, which include cognitive resources, modes of social interactions, developmental tasks and so on. Furthermore, the interpretation in developmental contexts could lead to relevant educational and clinical treatments for each developmental phase.

Keywords: gratitude, life-span development, developmental task

Although gratitude is a core value among some of the major religions, including Buddhism, Christianity, and Islam, only a few psychological studies on gratitude had been conducted until the beginning of the 21st century. Subsequently, a large number of studies have been conducted in the current decade. The increase in gratitude research has allowed reviews and meta-analyses on the findings (e.g., Nelson, & Lyubomirsky, 2016; Watkins, 2014). Moreover, certain meta-analyses of specific topics such as the relationship of gratitude to well-being and prosocial behaviors have been undertaken (Davis, et al., 2016; Ma, Tunney, & Ferguson, 2017; Wood, Froh, & Geraghty, 2010). In a review of a large number of current studies on gratitude, Nelson, and Lyubomirsky (2016) stated that most studies show a positive relationship between gratitude and well-being and that the studies have suggested that gratitude helps people to develop good-functioning relationships.

In the current psychology of emotion, gratitude may be defined as a “positive emotional reaction to the receipt of a benefit that is perceived to have resulted from the good intention of another person” based on the literature on gratitude studies (Tsang, 2006, p. 139). However, it should be noted that certain Eastern psychologists prefer to define gratitude as a set of feelings that include both positive feelings of gratitude and aversive

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feelings such as indebtedness, which is often experienced concurrently (e.g., Naito, Wangwan, and Tani, 2005; Washizu & Naito, 2015).

Although a large number of studies on gratitude have been published in this decade, developmental aspects of gratitude or developmental contexts for gratitude have been insufficiently focused. We mean by the words “developmental contexts”- cognitive limitations, and socio-cultural determinants including, developmental tasks for gratitude in each developmental phase. The *developmental contexts* construct the bases or frameworks for gratitude and gratitude development. The ultimate goal of our study was to construct a framework to understand gratitude in the context of life span development. Hence, the purpose of the current paper is to suggest the utility and the need to interpret findings on gratitude in the context of each developmental phase by reviewing and interpreting the results of the current studies on gratitude from a hypothetical framework of life span development.

To complete the purpose of the current paper, we focused mainly on studies that have examined age differences of gratitude using two or more different age groups with studies that suggest age-specific phenomena of gratitude. We first collected literatures by Google Scholars and some other internet databases using the words, “gratitude, development” “gratitude, childhood, adolescence, adults, elder” as search key words in October of 2018; and then selected the literatures that compared gratitude across different age groups from them. Finally, we selected the related studies among them that match our themes. Based on the distribution of the sort of studies on gratitude, we will review the studies under the titles, “gratitude in childhood”, “gratitude in adolescence and adulthood”, and “gratitude in the elderly”.

Table 1

Significant themes (developmental tasks) of gratitude in life-span development

Aspect/Period (significant others)	Behavioristic	Cognitive	Social-Moral	Metaphysical
Children (peer and parents)	Acquisition of gratitude routines	Learning conceptions of gratitude		
Adolescents and Adults (peer, family, and societies)			Integration of interpersonal gratitude with a societal point of view	
Elderly (peer, family, societies, and universe)				Gratitude in ego integrity

Development and Gratitude

Table 1 shows our hypothetical scheme about significant aspects or themes related to gratitude in each developmental phase. We adopted two ways to construct the scheme from a pool of the comparative studies between different ages. In the first way, supposing that the

themes of these studies reflected on the developmental themes, we made a list of the themes in each developmental phase, then, categorized these themes. In the second way, we deliberated the developmental themes in each developmental phase with reference to developmental theories such as Erikson's developmental scheme (Erikson, 1950). Finally, we integrated these lists of categories.

The scheme stems from the ideas of developmental task and developmental scheme, but is simplified and generalized to fit our purpose of review. The themes in the table are also developmental tasks, which are expected in societies to achieve or to acquire in each developmental phase. However, these themes may continue to develop throughout life. For example, the acquisition of gratitude routines could be a significant aspect of gratitude in childhood, but these routines continue to be sophisticated and differentiated throughout life. In addition, these themes can be related each other. For example, the practice of gratitude routines might influence the acquisition of the concept of gratitude, among others.

Gratitude in Childhood: Learning and Acquisition of Gratitude

Learning gratitude routines

Gratitude includes the behavioral routines. The simple form of gratitude routine might be saying "thank you" immediately after receiving favors from others, but the forms of gratitude routines are developed to the complex ones. Gratitude routines can be differentiated to correspond with the variations of gratitude situations.

Children might begin to learn the simple behavioral routines of gratitude. Acquiring gratitude routines might require an extended period of experience in childhood. For example, Gleason and Weintraub (1976) recorded exchanges between 115 children aged 2 to 16 years on Halloween night in USA. They reported that only 21% of children before six years of age thanked adults for giving them candy, whereas 83% of ten-year-old children did so. It is plausible that expressions of gratitude are influenced by the complexity of gratitude routines, the presence of prompts, and the similarity of situations to already acquired routines of gratitude, among others. For example, Greif and Gleason (1980) found differences in gratitude behaviors between familiar and unfamiliar situations.

The acquisition of behavioral routines of gratitude is important in the sense that they may prepare for acquiring the concept of gratitude in the future and enhance adaptive interactions with other children. However, it should be noted that the significance of acquiring gratitude routines could also be identical to other developmental periods.

Development of mode of gratitude in social interactions: from gratitude of reciprocity to gratitude of mutual relationships

As children develop a variety of behavioral routines related to gratitude, they begin to understand the different modes of gratitude. Baumgarten-Tramer (1938) conducted a pioneering study on acquiring the concept of gratitude. In her study, Swiss students aged 7–15 years were asked two main questions: What is your greatest wish? And what would you do for the person that granted you this wish? She reported four types of responses: "Verbal gratefulness",

Concrete gratefulness”, “Connective gratitude”, and “Finalistic gratefulness”. (See Table 2 for examples of responses and results of the four types of gratitude.)

Table 2

Four types of Gratitude by Baumgarten-Tramer (1938) with Kohlberg’s moral stages (1984)

Category	Key terms	Example	Age	Moral stages (Kohlberg,1984)
<i>Verbal gratefulness</i>	“Verbal responses to benefactors”	“I should thank him or her”	Nearly the same frequency in children of different ages (an average of 30 and 48 % of responses).	
<i>Concrete gratefulness</i>	“To give an object to the benefactor in return for the benefit”	“I should give him or her a book, a bow, a pocket knife”	Most frequent in 8 year-olds (51%) and most rare in 12 year-olds and 15 year-olds (6%).	Individualistic, instrumental (stage 2)*
<i>Connective gratitude</i>	“An attempt by the beneficiary to create a spiritual relationship with the benefactor”	“I would help him or her in case of need”	Most frequent in the 11 year-olds and 12 year-olds (60%).	Interpersonally normative (stage 3)
<i>Finalistic gratefulness</i>	Social perspective of the whole society on the relationship between beneficiary and benefactor	"I would always be punctual and honest in my work"	Data not reported.	Social system (stage 4)

Note: * Kohlberg’s stages of moral development consist of six stages. There are some important differences between *concrete gratitude* and stage 2. *Concrete gratitude* implies difficulty of taking another’s (benefactor’s) perspective, but stage2 children have an ability of concrete and sequential perspective taking of others. Only relevant moral stages to our paper (from stage 2 to 4) are shown in the table.

Among the four types of responses, *concrete gratefulness* and *connective gratitude* indicated age-related changes in frequency such that the frequency of concrete gratitude decreased, and connective gratitude increased in eight- to fifteen-year-olds. This age-related tendency was investigated in Brazil (Freitas, Pieta, & Tudge, 2011; Palhares, Freitas, Merçon-Vargas, & Tudge, 2018), Guatemala (Poelker, & Gibbons, 2018), the US (O’Brien, Mendonça, & Price, 2018), South Korea (Leon, Liang, Lee, Kim, & Kiang, 2018), China (Liang, & Kiang, 2018), Russia (Mokrova, Merçon-Vargas, & Tudge, 2018), and Turkey (Payir, & Zeytinoglu, 2018) (age range, 7-14 years). The results supported the finding of Baumgarten-Tramer (1938) by replicating the significant age differences, with no significant age differences in the opposite direction to Baumgarten-Tramer. Moreover, the frequencies of connective gratitude had a significant positive relationship with age in Guatemala, the US, China, and Russia, whereas the

frequencies of concrete gratitude had a significant negative relationship with age in Brazil, the US, South Korea and Turkey (summarized by Mendonça, Merçon-Vargas, Payir, & Tudge, 2018).

We suggest that these two response types might somewhat correspond with Kohlberg's stages of moral development. Kohlberg's stages of moral development consist of six stages (from stage 1 to 6): heteronomous morality, individualistic, instrumental morality, interpersonally normative morality, social system morality, human rights and welfare morality, and morality of universalizable, reversible, and prescriptive general ethical principles. Among these stages, from the second stage to the fourth stage are in some degree corresponded to the types of gratitude by Baumgarten-Tramer (1938).

The response associated with *concrete gratefulness* is the desire to give an object to the benefactor in return for the realization of a desire. A response in this category would include the thought, "I should give him a book, a pink bow, or a pocket knife", for example. It is suggested that *concrete gratefulness*, to some degree, corresponds with the second stage of moral development, which is the morality that emphasize repayment as an equal exchange such as *give and take* (Kohlberg, 1984). This type of gratitude may be called as the *gratitude of reciprocity*. Gratitude may mean "receipts" in this type of gratitude, and implies "I acknowledge that I received favor from you and have an obligation to repay it".

Connective gratitude may correspond with the morality of interpersonal orientation, which is Kohlberg's third stage of moral development, in that this type of gratitude requires mutual perspective taking by taking the perspective of both the beneficiary and the benefactor into consideration. The responses of connective gratitude have the function of developing the relationship with the benefactor. A sample response could be the thought, "I will be his friend". This type of gratitude could be interpreted as strengthening interpersonal relationships and may be called as the *gratitude of mutual relationships*.

Finally, *finalistic gratefulness* described by Baumgarten-Tramer (1938) has not been investigated frequently in previous studies using response categories. However, this type of gratitude might correspond to the perspective of 'society-as a whole' (Stage 4 of moral stages) because it includes the understanding of gratitude from a societal perspective. As a result, this type of gratitude includes the decision to repay society as a whole instead of merely repaying benefactors. A sample response indicative of *finalistic gratefulness* would be "I would always be punctual and honest in my work".

Learning the conceptions of gratitude in societies

In the preceding section, we discussed the development of gratitude mainly in terms of general social interactions. However, gratitude has its specific cognitive features. Children, in particular seem to learn specific concepts of gratitude when they attain the concept of gratitude in mutual relationships.

Gratitude is a social emotion not only in the sense that it is directed at people and social objects but because it has several rules that are shared among people in a given society. For example, we share rules concerning the conditions of thanking other(s), and how people must thank others according to the situation, which were explored by Philosophers such as Kant (1797/1991) and Smith (1790/1976). These rules are referred to as the *gratitude concept* in this

paper. We listed certain rules based on the contentions of the above philosophers as an illustration. However, it should be noted that cultural differences in these rules remain to be investigated.

Table 3 illustrates the gratitude *concept* based on the ideas of selected philosophers and psychologists (Kant, 1797/1991; McCullough, Kilpatrick, Emmons, & Larson, 2001; Smith, 1790/1976; Tesser, 1968). Rules of the gratitude *concept* require cognitive elements. For example, we must have relevant *theory of mind* to understand the intentions of people that help us (Rule B). It is suggested that acquiring the gratitude *concept* is a long-term process that begins with the acquisition of simple behavioristic routines of gratitude and progressing to complex acts of gratitude that include sophisticated cognitive components.

Table 3

Examples of the conception of gratitude

When X thanks Y for Y's act or Y's attributes:	
A.	X attributes his/her welfare to Y.
B.	Y acted voluntarily in X's interests and happiness. (not for egocentric purposes and not because of external obligation, among others).
C.	Greater is the favor that X received from Y, the more X should thank Y.
D.	Greater is the cost incurred by Y, the more X should thank Y.
E.	X received a favor by Y's act, which is not an undesirable act.
F.	X feels certain feelings such as attachment and respect for Y.

Children are expected to acquire the gratitude *concept* requiring complex cognitive skills. Table 3 shows that the acquisition of the gratitude *concept* requires certain cognitive operations such as perspective taking about others. Certain studies have suggested that children develop cognitive components of the gratitude *concept* in the primary school period. We have described two studies that illustrate the development the gratitude *concept* in childhood.

DeCooke (1992) reported suggestive findings on Rule D in Table 3, which states "Greater is the cost incurred by Y, the more X should thank Y". DeCooke examined age differences in children's understanding of indebtedness as a function of the helper's cost and relationships of 1st, 3rd, and 5th-grade students as participants. Results indicated that fifth graders showed a diminished obligation to repay the receipt of low-cost help than high-cost help. In contrast, 3rd and 1st graders showed nearly the same obligation to repay low-cost and high-cost help.

Concerning Rule B in Table 3, which states, "Y acted voluntarily in X's interests and happiness", Graham (1988) reported that 10-11-year olds differentially responded to the question, "To what degree would the target child express gratitude" when (1) the team captain voluntarily chose the child to show kindness to the new student in school, and (2) the team rules required the selection of the child. In contrast, 5-6 year-olds did not respond differentially to these conditions.

Adolescence and Adulthood: Gratitude in Exploring Identity with Societal

Perspective

Many studies on gratitude have been conducted on adolescents and/or adult participants. Therefore, most problems that have been investigated in the studies on gratitude and their conclusions are applicable to adolescents and adults. These include the positive relationship between gratitude and prosocial tendencies and well-being, the effects of gratuitous interventions on well-being, and the utility of gratuitous interventions such as counting blessings, among others. Based on these findings, we focused on age-related studies that have compared adolescent and /or adult participants with participants in other developmental periods or investigated gratuitous characteristics of adolescents and/or adults.

The adolescence has been characterized as a period of developing independence and identity (e.g., for the development of identity, Erikson, 1950) and adolescents are known to reflect on themselves in the context of childhood interpersonal relationships and reorganize their self-concept in the enlarged context of society. It is possible that the condition of ego development would influence the nature of gratitude in adolescents.

Firstly, adolescents may come to understand the relationships between beneficiaries and benefactors from a societal perspective as previously mentioned in relation to *finalistic gratefulness* (Baumgarten-Tramer, 1938). As a result, adolescents might reflect critically and ask questions from a societal perspective about the relevance of being thankful to their parents. In other words, adolescents begin to face with the conflicts between gratitude from interpersonal relations and gratitude that is mediated by social systems. The sort of conflicts may be experienced even in adolescents. Secondly, adolescents' ego might become unstable in the processes of seeking identity and because of the vulnerability to the evaluation by others. As a result, adolescents might develop special characteristics such as narcissism, which may influence the quantity and quality of gratitude.

Decrease of Gratitude in Adolescents

Studies exploring life-span changes in trait gratitude have demonstrated inconsistent results with certain studies showing a significant positive relationship between gratitude and chronological age (Allemand & Hill, 2016, Switzerland; Kern et al., 2014, USA), and other studies showing no significant relationship such as Kashdan, Mishra, Breen, and Froh (2009) in USA, Martinez-Marti & Ruch (2014) in Switzerland, Wood, Maltby, Stewart, & Joseph (2008) in England. Chopik, Newton, Ryan, Kashdan, and Jarden (2017) pointed out the need for studies with large samples and examined the relationship between gratitude and age in a large sample that included a sample ranging from adolescents to older people. They investigated 31,206 participants (age range 15 to 90 years) in three groups. In Group 1, gratitude was assessed using two items of the GQ6 (McCullough et al., 2002). GQ6 is a measure of trait gratitude consisting of a six-item scale developed by McCullough, Emmons, and Tsang (2002) for assessing individual differences in the tendency to experience thankfulness in daily life. The scale contains items such as the following: "I have so much in life to be thankful for", "If I had to list everything that I felt grateful for, it would be a very long list". In Group 2, gratitude was assessed by the 10-item gratitude subscale of the Values in Action Inventory of Strengths (VIA-IS), and in Group 3 gratitude was assessed with the total GQ6. Their results confirmed the positive relationship between trait gratitude and age; namely, the three samples consistently showed that the experience of gratitude was the highest among older adults and least among middle-aged and younger adults.

The decline of gratitude in adolescence requires explanation based on the characteristics of adolescents. One study indicated possible inhibitors of gratitude in adolescents. Solom, Watkins, McCurrach, and Scheibe (2017) reported that narcissism, cynicism, and materialism/envy were inhibitors of gratitude in participants with a mean age of 23.61 years (range 18 to 45 years). Narcissism has been regarded as one of the features of personality development during adolescence (Lapsley, & Stey, 2011). Moreover, one mechanism of narcissism includes superiority complex and ignorance of others. It is plausible that the nature of narcissism decreases the experience of gratitude. It is also possible that adolescents have higher scores for some of these three attributes and as a result experience less gratitude than adults and elderly people.

Qualitative changes in gratitude during adolescence

Some studies have failed to show significant quantitative changes in gratitude during adolescence. For example, Sood and Gupta (2012) in India did not find a significant difference in GQ6 scores between 12-15-year-olds and 16-19-year-olds. Moreover, Froh, Bono, and Emmons (2010) showed no significant association between gratitude measured by Gratitude Adjective Checklist (GAC; McCullough, et al. 2002) and age (age range=10-14 years) in the US. These results do not suggest the ideas about the processes of changes in gratitude during adolescence.

However, the quality of gratitude might change during adolescence. Ikeda (2006) focused on gratitude towards the mother, examined gratitude, and related feelings including indebtedness felt by adolescents when they receive help from others in a study of Junior high, senior high, and university student participants. They first conducted factor analysis of items selected by a preliminary survey, which identified four feelings of gratitude toward one's mother: (a) "Happiness about mother's help", (b) "Gratefulness to the mother for giving birth and raising", (c) "Sorrow for burdening the mother," and (d) "Thankfulness to the mother for giving life". This study did not find any significant age differences in (b) or (d), whereas it did find significant age differences in (a) and (c). University students felt happy about the mother's help more than senior- and junior high school students feel, and felt less sorrow for burdening the mother than senior-high school students. These results suggest that feelings accompanying gratitude are different in different phases of adolescence, even though the degree of gratitude is nearly identical throughout adolescence.

Gratitude in the Elderly: Gratitude for Achieving Integrity of Life

Erikson (1958) suggested that elderly people, who are in the last period of life, face the crisis of *integrity versus despair* as the developmental task and they resolve the crisis by reaching ego integrity during this period. As a result, they finally come to value their lives in a historical context and accept their death with placidness.

A study by Lau and Cheung (2011) suggested a relationship between gratitude and death anxiety among the elderly. They examined the effect of writing about events that caused gratitude in their minds by Chinese elders (age range = 55-85 years). Results indicated that writing inducing gratitude reduced death anxiety more than in the group that wrote about hassles, and the control group that wrote natural descriptions of life. It is interesting to note that another study with an identical design by Hirose, and Honda (2017) failed to find any effects of writing about gratitude on death anxiety in Japanese university students (Mean age =23.17 years).

These studies together suggest the differential effect of writing about gratitude between elders and adolescents, although in this comparison the age factor is combined with the cultural factor (Chinese vs. Japanese cultures). The studies that directly compare the effects of gratitude intervention are needed to examine the differential effect across the age groups.

Increased level of gratitude

As described above, Chopik et al. (2017) reported that the experience of gratitude is the highest among older adults and least among middle-aged and younger adults. Furthermore, age differences in gratitude have been suggested in elderly people aged 60 years and over. For example, Masui et al. (2013) compared Japanese elders in their 70's and 80's by using the Japanese Gerotranscendence Scale Revised (JGS-R), which includes eight subscales: "Awareness and appreciation", "introversion", "Transcendence from dualism", "Religious/Spiritual attitude", "Release from the social self", "Basic and innate affirmation", "Altruism", and "Letting it go". The participants included a 70-year-old group (N =1,000, age range = 69-71 years) and an 80-year-old group (N=973, age range=79-81 years). Results indicated that the 80-year-old group showed significantly higher scores on all seven subscales including the subscale of appreciation compared to the 70-year-old group.

If we accept that the experience of gratitude is highest among the elderly, the remaining question is, why do elderly people experience more gratitude than younger adults do? Two main explanations have been proposed in response to this question, the theory of socioemotional selectivity and the gerotranscendence theory.

Two explanations of the gratitude concept: the socioemotional selectivity theory and the gerotranscendence theory

The socioemotional selectivity theory (Chopik et al., 2017; Killen, & Macaskill, 2015) explains the experience of increased gratitude in elderly people as follows: (a) As people age they become aware that their lifetime is limited; (b) this awareness leads people to select personally positive and meaningful events and pay more attention and better remember stimuli with positive-valence; (c) one way to ensure (b) is to invest in social interactions with close, significant, others and strive to maintain intimate, healthy, relationships; and (d) gratitude promotes these close and positive relationships with others.

The second explanation of increased gratitude in elderly people is the theory of *gerotranscendence*, which was proposed by Tornstam (1989, 2011) based on psychoanalytic theories including Erickson (1950), *Zen Buddhism*, and qualitative data on elderly people. This theory explains many essential aspects of elderly people. According to this theory, people in the process of aging transit from a materialistic and rationalistic perspective to a more cosmic and transcendental view of life. The theory suggests that people increase feelings of affinity with past generations and decrease interest in superficial social interactions. In contrast to the socioemotional selectivity theory, this theory proposes that people often feel a close empathic relationship with the universe, and redefine life and death in this context. It is inferred that these individuals come to feel gratitude towards the universe, which embraces everything.

The following issues concerning the above descriptions of the elderly have been pointed out. Firstly, it has been argued whether these two concepts are qualified as *types* of gratitude or sequential *stages* in the development of gratitude. For example, Erikson and Erikson (1997)

finally suggested new two stages to explain these two concepts. Namely, Erikson (1950) initially proposed eight stages of life-span psychological development. The eighth stage is the stage of “integrity versus despair”, at which point people have the tasks of valuing their lives in a historical context and finally accepting death with placidness. Later, Erikson and his collaborators speculated a possible stage after the eighth stage (Erikson & Erikson, 1997), when the physical power decreases and the scope of life become narrower, people come to feel an inner and outer loss. It was suggested that elderly people resolve this crisis by ego-transcendence.

Secondly, elderly people might be influenced by cultural factors. Cultural differences in selecting personally positive and meaningful events in the processes described in socioemotional selectivity theory were suggested in a cross-cultural study between the US and Japan (Grossmann, Karasawa, Kan, and Kitayama, 2014), which indicated that younger and older people in Japan report the same degree of negative emotions in unpleasant situations. In addition, older Japanese people reported more positive emotions in the same unpleasant situation. It is possible that people in countries where Buddhism has influenced on people’s minds might place negative emotions within the context of well-being, or treat them as necessary experiences in the process leading to well-being. The story of Buddha may illustrate the ideal life plan of elders, particularly in Buddhist countries. Namely, Gautama Buddha first became aware of four kinds of suffering (negative events, birth, old age, disease, and death) that lead to a lengthy and profound analysis about suffering, and finally resulted in attaining spiritual enlightenment (Lopez, 2004).

Final Remarks

We reviewed studies on gratitude from the perspective of life-span development. These studies generally reconfirmed the usefulness and necessity of interpreting the findings on gratitude in the context of developmental phases, which prepare cognitive resources, modes of social interactions, perspectives of societies, developmental tasks and so on. Generally, the current review could contribute to behavioral science by suggesting the significance of developmental contexts to interpret behaviors.

However, more studies in the future could be conducted to increase the understanding regarding gratitude in life-span development. Firstly, comparisons of relationships between gratitude and other variables in different age groups, as well as comparisons of the intensity of gratitude experiences in general are expected to be conducted, because the feelings that tend to accompany gratitude, such as indebtedness might be different in different developmental phases. Secondly, studies that have examined the differential effects of gratitude interventions among different age groups might suggest a developmental crisis in each developmental period. Thirdly, cultural factors may influence gratitude routines, gratitude concepts (Naito, and Washizu, 2015; Singh, 2015), and gratitude development (Tudge, Freitas, & O'Brien, 2016). Accordingly, the findings on gratitude should be interpreted both in the contexts of development and culture. Fourthly, there is a need for studies designed to clarify the developmental processes. For example, Froh, Bono, and Emmons, (2010) based on a longitudinal study (age range = 10–14 years) suggested an interactive model of gratitude and social integration.

Gratitude is considered to be a contributor to well-being during the lifespan. Nevertheless, the status of gratitude in the context of development could be different in each developmental phase.

It is expected that further research that explore relations between gratitude development and changes of developmental contexts would result in a better understanding of gratitude in life span development.

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