

Correction

Correction: Gürel Yılmaz, Ö., et al. On Some Formulas for the k -Analogue of Appell Functions and Generating Relations via k -Fractional Derivative. *Fractal Fract.* 2020, 4, 48

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The authors wish to make the following corrections to this paper [1]:

1. Reference Correction

In the original article [1], the year of the reference [2] was incorrectly written as 2017.

“Diaz, R.; Pariguan, E. On hypergeometric functions and Pochhammer k -symbol. *Divulg. Mat.* 2017, 15, 179–192.”

It should be 2007. The year is corrected in the reference.

“Diaz, R.; Pariguan, E. On hypergeometric functions and Pochhammer k -symbol. *Divulg. Mat.* 2007, 15, 179–192.”

2. Missing Citation Correction

In the original article [1], we missed citing the reference [3], hence we added it as a reference and we cited it in some parts of the original article accordingly.

(1) The citation has now been inserted in the abstract and should read as

“Our present investigation is mainly based on the k -hypergeometric functions which are constructed by making use of the Pochhammer k -symbol in Diaz et al. 2007, which are one of the vital generalizations of hypergeometric functions. In this study, we focus on the k -analogue of F_1 Appell function introduced by Mubeen et al. 2015 and the k -generalizations of F_2 and F_3 Appell functions indicated in Kıymaz et al. 2017. We present some important transformation formulas and some reduction formulas which show close relation not only with k -Appell functions but also with k -hypergeometric functions. Employing the theory of Riemann–Liouville k -fractional derivative from Rahman et al. 2020, and using the relations which we consider in this paper, we acquire linear and bilinear generating relations for k -analogue of hypergeometric functions and Appell functions.”

(2) The citation has now been inserted in the last paragraph of the Introduction and should read as

“Our present investigation is motivated by the fact that generalizations of hypergeometric functions have considerable importance due to their applications in many disciplines from different perspectives. Therefore, our study is generally based on the k -extension of hypergeometric functions. The structure of the paper is organized as follows: In Section 2, we briefly give some definitions and preliminary results which are essential in the following sections as noted in [13,23,26,27]. In Section 3, we prove some main properties such as transformation formulas, and some reduction formulas which enable us to have relations for k -hypergeometric functions and k -Appell functions. In the last

part of the paper, applying the theory of Riemann–Liouville k -fractional derivative [25] and using the relations which we consider in the previous sections, we gain linear and bilinear generating relations for k -analogue of hypergeometric functions and k -Appell functions.”

(3) The citation has now been inserted in Section 2, in the first paragraph of Section 2.2, and should read as

“In 2015, k -generalization of F_1 Appell function was introduced and contiguous function relations and integral representation of this function were shown by using the fundamental relations of the Pochhammer k -symbol [26]. In 2017, k -analogues of the F_2 , F_3 , and F_4 were explored by Kıymaz et al. in [27] and also in that study, they provided the relations between k -analogues of Appell functions and the classical ones. Here, we remind the definitions of k -analogue of F_1 , F_2 and F_3 which are the Appell functions, and integral representations which are satisfied by them [26,27].”

(4) A correction has been made to the place of Definition 7 and Theorem 8.

Since Definition 7 and Theorem 8 were given in the reference [3], we moved them from Section 3 to Sections 2 and 2.2. As a result, Definition 7 became Definition 5 and Theorem 8 became Theorem 4, accordingly.

Additionally, the citation has now been inserted in Definition 5 and Theorem 4, which were given in Section 2.2.

Definition 5. In [27], let $k \in \mathbb{R}^+$, $x, y \in \mathbb{C}$, $\alpha, \beta, \beta', \gamma, \gamma' \in \mathbb{C}$ and $m, n \in \mathbb{N}^+$. Then the Appell k -functions are defined by ...

Theorem 4. In [27], let $k \in \mathbb{R}^+$. Integral representations of $F_{2,k}$ and $F_{3,k}$ have the forms of ...

(5) The citation has now been inserted in the last paragraph in the conclusions and should read as

“Hypergeometric functions play an important role in many disciplines from different perspectives. Therefore, generalizations of hypergeometric functions have considerable popularity in many fields of science. This work is generally based on the k -extension of hypergeometric functions. By making use of the concept of the [26,27], we focus on the generalization of the Appell functions and present some transformation and reduction formulas. Using the theory of Riemann–Liouville k -fractional derivative and combining this theory with the Appell functions, we derive some linear and bilinear generating functions.”

3. Main Body Paragraph Correction

There was a missing reference in the original article [1]. Because of the missing reference [3], we had to remove/add some sentences in some parts of the sections.

(1) A correction has been made to the sentence of the last paragraph of the Introduction:

“In Section 3, following [13,26] and using the same notion, we are concerned with the k -generalizations of F_2 and F_3 Appell hypergeometric functions.”

Actually, it was given in [3] and we missed this reference.

The correct sentence is given in the paragraph.

“Our present investigation is motivated by the fact that generalizations of hypergeometric functions have considerable importance due to their applications in many disciplines from different perspectives. Therefore, our study is generally based on the k -extension of hypergeometric functions. The structure of the paper is organized as follows: In Section 2, we briefly give some definitions and preliminary results which are essential in the following sections as noted in [13,23,26,27]. In Section 3, we prove some main properties such as transformation formulas, and some reduction formulas which enable us to have relations for k -hypergeometric functions and k -Appell functions. In the last part of the paper, applying the theory of Riemann–Liouville k -fractional derivative [25] and using the relations which we consider in the previous sections, we gain linear and bilinear generating relations for k -analogue of hypergeometric functions and k -Appell functions.”

(2) A correction has been made to the first paragraph of Section 2. We added the names of the functions F_2 and F_3 in the third sentence of the paragraph because of the reference [3].

The correct sentence is given in the paragraph.

“For the sake of completeness, it will be better to examine the preliminary section in three subsections by the reason of the number of theorems and definitions. In these subsections, we will present some definitions, properties, and results which we need in our investigation in further sections. We begin by introducing k -gamma, k -beta, and k -analogue of hypergeometric function and we continue definitions of k -generalized F_1 , F_2 and F_3 which are the classical Appell functions. We conclude this section with recalling Riemann–Liouville fractional derivative, k -generalization of this fractional derivative, and some important theorems which will be required in our studies.”

(3) A correction has been made to the name of Section 2.2 and the name of Section 3.

Since we replaced the definitions of k -generalizations of F_2 and F_3 functions in Section 2.2, we had to add the names of them to the title. Additionally, we removed these functions from Section 3; therefore, we deleted the name “ k -Generalizations of the Appell Functions” from the title.

The correct titles are given below:

Section 2.2. k -Generalizations of the Appell Functions F_1 , F_2 and F_3

Section 3. Transformation Formulas of k -Generalized Appell Functions

(4) A correction has been made to the first paragraph of Section 3.

Since k -generalizations of F_2, F_3 Appell functions were given in [3]; we removed the sentence which is below.

“The k -analogue of the F_1 was defined, but other Appell k -functions such as F_2, F_3 and F_4 have not yet been explored.”

The correct sentence is given in the paragraph:

“In this section, we derive some linear transformations of k -generalized Appell functions and give some reduction formulas involving the ${}_2F_{1,k}$ hypergeometric function which provide us with an opportunity to generalize widely used identities for Appell hypergeometric functions.”

The authors apologize for any inconvenience caused and state that the scientific conclusions are unaffected. The original article has been updated.

References

1. Gürel Yılmaz, Ö.; Aktaş, R.; Taşdelen, F. On some formulas for the k -analogue of Appell functions and generating relations via k -fractional derivative. *Fractal Fract.* **2020**, *4*, 48. [\[CrossRef\]](#)
2. Diaz, R.; Pariguan, E. On hypergeometric functions and Pochhammer k -symbol. *Divulg. Mat.* **2007**, *15*, 179–192.
3. Kıymaz, İ.O.; Çetinkaya, A.; Agarwal, P. A study on the k -generalizations of some known functions and fractional operators. *J. Inequal. Spec. Funct.* **2017**, *8*, 31–41.

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