mathematics

MDPI

Correction

Correction: Singh, Y. Mahendra; Khan, Mohammad Saeed; Kang, Shin Min. *F*-Convex Contraction via Admissible Mapping and Related Fixed Point Theorems with an Application. *Mathematics* 2018, 6, 105

Y. Mahendra Singh [1,*], Mohammad Saeed Khan [2] and Shin Min Kang [3,4]

1 Department of Humanities and Basic Sciences, Manipur Institute of Technology, Takyelpat 795004, India
2 Department of Mathematics and Statistics, Sultan Qaboos University, P.O. Box 36, 123 Al-Khod, Muscat, Oman; mohammad@squ.edu.om
3 Department of Mathematics and RINS, Gyeongsang National University, Jinju 52828, Korea; smkang@gnu.ac.kr
4 Center for General Education, China Medical University, Taichung 40402, Taiwan
* Correspondence: ymahenmit@rediffmail.com

Received: 25 March 2019; Accepted: 27 March 2019; Published: 8 April 2019

check for updates

We found some errors in Lemma 1 of our paper [1], thus, we would like to make the following corrections:

Instead of the following Lemma 1 [1]:

Lemma 1. *Let (X, d) be a metric space and $T : X \to X$ be an α-F-convex contraction satisfying the following conditions:*

(i) T is α-admissible;
(ii) there exists $x_0 \in X$ such that $\alpha(x_0, Tx_0) \geq 1$.

Define a sequence $\{x_n\}$ in X by $x_{n+1} = Tx_n = T^{n+1}x_0$ for all $n \geq 0$. Then $\{d^p(x_n, x_{n+1})\}$ is strictly non-increasing sequence in X.

It should read:

Lemma 2. *Let (X, d) be a metric space and $T : X \to X$ be an $\alpha - F$-convex contraction satisfying the conditions:*

(i) T is α-admissible;
(ii) there exists $x_0 \in X$ such that $\alpha(x_0, Tx_0) \geq 1$.

Define a sequence $\{x_n\}$ in X by $x_{n+1} = Tx_n = T^{n+1}x_0$ for all $n \geq 0$, then $F\Big(d^p(x_n, x_{n+1})\Big) \leq F(v) - l\tau$, whenever $n = 2l$ or $n = 2l + 1$ for $l \geq 1$.

Proof. Following the same steps as in Lemma 1, the last paragraph was replaced with the following: Therefore, $v > d^p(x_2, x_3)$ and hence $F\Big(d^p(x_2, x_3)\Big) \leq F(v) - \tau$. By a similar argument, we obtain $F\Big(d^p(x_3, x_4)\Big) \leq F(v) - \tau$; continuing in these way, we arrive at $F\Big(d^p(x_n, x_{n+1})\Big) \leq F(v) - l\tau$, whenever $n = 2l$ or $n = 2l + 1$ for $l \geq 1$. □

In the proof of the Theorem 2 [1], instead of the following:
"By Lemma 1, $\{d^p(x_n, x_{n+1})\}$ is strictly non-increasing sequence. Therefore,

$$F\left(d^p(x_n, x_{n+1})\right) \leq F\left(d^p(x_{n-2}, x_{n-1})\right) - \tau \leq ... \leq F(v) - l\tau \tag{7}$$

whenever $n = 2l$ or $n = 2l + 1$ for $l \geq 1$".

It should be: By Lemma 1, we obtain:

$$F\left(d^p(x_n, x_{n+1})\right) \leq F(v) - l\tau, \tag{7}$$

whenever $n = 2l$ or $n = 2l + 1$ for $l \geq 1$. The rest of the proof is unaltered.

The authors apologize to all the readers for any inconvenience this may have caused.

Reference

1. Singh, Y.M.; Khan, M.S.; Kang, S.M. On interpolative F-convex contraction and fixed point theorems with and application. *Mathematics* **2018**, *6*, 105.