



## Correction

# Correction to: Regularity properties of some perturbations of non-densely defined operators with applications

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Correction to: J. Evol. Equ.

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The original publication of the article contains errors which need to be amended as mentioned below:

In Sect. 6.2. “Standard assumptions and main results”, line 9, the definition of  $\mathcal{A}$  is obviously wrong (since for  $\varphi \in D(\mathcal{B}_0)$  one must have  $\varphi(0) = 0$  which makes  $\mathcal{A}$  useless). Hence, the following lines 8–11:

Set  $X = E \times L^p((0, c), E)$ ,  $X_0 = \{0\} \times L^p((0, c), E)$ ,

$$\mathcal{A} : D(\mathcal{A}) = \{0\} \times D(\mathcal{B}_0) \rightarrow X : (0, \varphi) \mapsto (-\varphi(0), \mathcal{B}_0\varphi),$$

(here  $\mathcal{A}$  is well defined due to  $D(\mathcal{B}_0) \subset C([0, c), E)$ ) and

$$\mathcal{L} : X_0 \rightarrow X, (0, \varphi) \mapsto (L\varphi, 0), L\varphi = \int_0^c C(a)\varphi(a) da. \quad (6.3)$$

should be replaced with:

Set  $X = E \times L^p((0, c), E)$ ,  $X_0 = \{0\} \times L^p((0, c), E)$ , and

$$\mathcal{L} : X_0 \rightarrow X, (0, \varphi) \mapsto (L\varphi, 0), L\varphi = \int_0^c C(a)\varphi(a) da. \quad (6.3)$$

Moreover, there is a unique closed operator  $\mathcal{A}$  with  $\overline{D(\mathcal{A})} = X_0$  such that for all  $(y, f) \in X$  and  $\lambda \in \rho(\mathcal{B}_0)$ ,  $R(\lambda, \mathcal{A})(y, f) = (0, \varphi)$ , where

$$\varphi(a) = e^{-\lambda a} U(a, 0)y + (R(\lambda, \mathcal{B}_0)f)(a), a \in (0, c),$$

see [29, Lemma 6.2], [47] contains more descriptions of  $\mathcal{A}$ .

The original article can be found online at <https://doi.org/10.1007/s00028-019-00510-y>.

Now,  $\mathcal{A}_{X_0} = 0 \times \mathcal{B}_0$  (as  $R(\lambda, \mathcal{A}_{X_0}) = R(\lambda, \mathcal{A})|_{X_0} = R(\lambda, \mathcal{B}_0)$ ) and Eq. (6.4) are true, and so all the following results and proofs remain unchanged.

In Lemma 2.4, last line: “Others follow from (b) and Definition 2.3” should be “Others follow from (b) and Lemma 2.3”.

In Definition 6.3, line 2: “ $\mathcal{B}_0$  is an invertible closure of” should be “ $\mathcal{B}_0$  is a closure of”.

In Example 6.13, line 5: “with  $\sup_{0 < a < c} \{|A(a)|, |C(a)|\} < \infty$ ” should be “with  $\sup_{0 < a < c} \{|A(a)|\} < \infty$  and  $|C(\cdot)| \in L^{p'}(0, c)$  ( $1/p' + 1/p = 1$ )”.

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