Routledge
Taylor & Francis Group

Identity
An International Journal of Theory and Research

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/hidn20

The Relation between Self-Esteem and Regulatory Emotional Self-Efficacy in Daily Life: A Study among University Students

Antonio Zuffianò, Stefania Sette, Lucia Manfredi, Fulvio Gregori, Belén Lopéz-Pérez, Shayne Polias, Manuel Marti-Vilar, Cristina Di Giusto Valle, Tamara Benito-Ambrona & Concetta Pastorelli

To cite this article: Antonio Zuffianò, Stefania Sette, Lucia Manfredi, Fulvio Gregori, Belén Lopéz-Pérez, Shayne Polias, Manuel Marti-Vilar, Cristina Di Giusto Valle, Tamara Benito-Ambrona & Concetta Pastorelli (2023) The Relation between Self-Esteem and Regulatory Emotional Self-Efficacy in Daily Life: A Study among University Students, Identity, 23:1, 36-49, DOI: 10.1080/15283488.2022.2108427

To link to this article: https://doi.org/10.1080/15283488.2022.2108427

IDENTITY
2023, VOL. 23, NO. 1, 36–49
https://doi.org/10.1080/15283488.2022.2108427

Routledge
Taylor & Francis Group

The Relation between Self-Esteem and Regulatory Emotional Self-Efficacy in Daily Life: A Study among University Students

Antonio Zuffianò[a], Stefania Sette[b], Lucia Manfredi[a], Fulvio Gregori[a], Belén López-Pérez[c], Shayne Polias[c], Manuel Marti-Vilar[d], Cristina Di Giusto Valle[e], Tamara Benito-Ambrona[f], and Concetta Pastorelli[a]

[a]Department of Psychology, Sapienza University of Rome, Rome, Italy; [b]Department of Developmental and Social Psychology, Sapienza University of Rome, Rome, Italy; [c]Department of Psychology, Liverpool Hope University, Liverpool, UK; [d]Departament de Psicologia Bàsica, Facultat de Psicologia, Universitat de València, Valencia, Spain; [e]Department of Education Sciences, Universidad de Burgos, Spain; [f]Faculty of Education and Teacher Training, Universidad Autonoma de Madrid, Madrid, Spain

ABSTRACT

In the present study, we aimed to explore the dynamic relationships among self-esteem, self-efficacy in managing negative emotions (SRN), and expressing positive emotions (SEP) in a short-term, daily framework. We used data collected over 10 days from 101 Italian and 237 Spanish young adults. Results from a Random-Intercept Cross-Lagged Panel Model indicated that the relationships were mostly at the trait-level, since the positive correlations among the latent random intercepts of self-esteem, SRN, and SEP were medium-to-large in size. At the state-level, we found a similar pattern of correlations (although their size was smaller than the correlations at the trait-level) in which higher-than-expected levels of self-esteem on a given day (e.g., Monday) were related to higher-than-expected levels of SRN and SEP at the same day. Interestingly, we also found that higher-than-expected levels of SRN on a given day predicted slightly higher-than-expected levels of self-esteem the next day (but not vice-versa). These results did not change when the effects of country, age, gender, and daily events were included in the RI-CLPM. The theoretical, methodological, and practical implications of our findings for informing clinical and personality psychologists about the daily dynamics between emotion regulatory processes and self-esteem are discussed.

KEYWORDS

Self-esteem; self-efficacy beliefs in emotion regulation; random-intercept cross-lagged panel model; longitudinal data

Self-esteem (i.e., a general evaluation of personal worth; Rosenberg, 1965) is a key construct in the research agenda of many personality and clinical psychologists given its importance for individuals' mental health (Sowislo & Orth, 2013). People with a good appreciation of themselves, indeed, tend to be happy (Coffey & Warren, 2020) and experience lower negative emotions (Sowislo & Orth, 2013). Hence, it is not surprising that several scholars have devoted their efforts to clarify the factors that could affect people's self-esteem. For instance, Leary and Baumeister (2000) stressed the social nature of self-esteem by highlighting how being socially excluded could hurt one's evaluation of personal value. Other authors, instead, focused on individual characteristics such as the (dis)satisfaction with one's body image as an important predictor of people's self-esteem (e.g., Morin et al., 2011). Interestingly, despite their different nature, many predictors of self-esteem share an emphasis on the *emotional valence* of such evaluations as a possible threat (e.g., feelings of social rejection and/or dissatisfaction with one's body) or protection (e.g., feelings of social acceptance and/or satisfaction

CONTACT Antonio Zuffianò antonio.zuffiano@uniroma1.it Department of Psychology, Sapienza University of Rome, Via dei Marsi 78, Rome 00185, Italy

Supplemental data for this article can be accessed online at https://doi.org/10.1080/15283488.2022.2108427

with one's body) for people's perceptions of their value. Accordingly, the capacity to efficaciously manage one's negative and positive emotions appears to be a key factor in helping people have a good evaluation of themselves. For instance, Caprara et al. (2013) found longitudinal reciprocal positive associations between self-esteem and their perceived self-efficacy beliefs in regulating their negative emotions (SRN) and expressing their positive ones (SEP) over eight years. Interestingly, as highlighted by the authors, self-esteem had the strongest predictive effect, thereby suggesting that the primary role was played by one's general evaluation of personal worth in predicting more specific self-efficacy beliefs (Caprara et al., 2013).

However, less is known whether the positive relations among these two core components of the self-system also operate in a shorter temporal framework when individuals routinely face events that could challenge their self-esteem and emotional self-efficacy on a daily basis (e.g., possible conflicts at work and/or at home). In the present study, we aimed to contribute to this line of research by examining the day-to-day associations among individuals' self-esteem, SRN, and SEP as they unraveled in the normal life of a sample of young adults followed over ten days. Importantly, we also aimed to identify the level(s) at which these relationships could occur by analyzing the association among self-esteem and the two emotional self-efficacy beliefs both at the between-person level (i.e., trait-like, stable individual differences) and the within-person level (i.e., state-like, momentary deviations from the trait-level). Ascertaining whether the relation between self-esteem and emotional self-efficacy involves their stable components (i.e., their general baseline level) and/or their temporary fluctuations is important to clarify the possible paths through which adults build their perceptions of value and emotional capability in their daily life.

Self-esteem and emotional regulatory self-efficacy

Although both self-esteem (Kernis, 1995) and self-efficacy (Bandura, 2008) are two core aspects of the broader self-system, they have distinct conceptual characteristics. While self-esteem represents a general self-evaluation of worth across several domains of functioning, self-efficacy reflects people's perceived capabilities in specific spheres relevant to their life (Bandura, 2008). In an attempt to clarify the relations between these two self-evaluations, in the last years, several personality psychologists have focused on understanding how self-esteem and domain-specific self-efficacy beliefs could influence each other.

Given the relevance of emotion regulation for the maintenance of positive self-esteem (Brown, 1993, 1998; Brown et al., 2001; Kernis et al., 2000), individuals' self-efficacy in the emotional domain (i.e., the perceived capability to manage one's emotions) likely reflects an important self-belief for their satisfaction with themselves. Several studies, indeed, have shown that individuals with low or blurred/unstable self-acceptance are more prone to fluctuate in their mood (Santangelo et al., 2017; Zeigler–Hill & Abraham, 2006) and experience a wide array of negative emotions, ranging from anger/hostility (Santangelo et al., 2020) to sadness (Wood et al., 2009). Hence, the construct of regulatory emotional self-efficacy (Bandura et al., 2003) in managing negative emotion and expressing positive emotion has received particular attention in relation to self-esteem. More in detail, SRN refers to the beliefs regarding the perceived capability to control one's unpleasant emotions once they are experienced in response to negative events (e.g., the capability to manage quickly feelings of anger/irritation after being treated unfairly), whereas SEP refers to the perceived capability to effectively express one's pleasant emotions in response to positive events (e.g., the capability to share feelings of joy/happiness after succeeding in an important goal; Caprara et al., 2008).

From a theoretical perspective, it is reasonable to expect reciprocal effects among self-esteem, SRN, and SEP. Indeed, as noted by Caprara et al. (2013), higher levels of self-esteem could offer a positive, broad self-evaluation that could further strengthen more fine-grained efficacy beliefs in the regulatory emotional domain. At the same time, people's capability to efficaciously manage their negative emotions (e.g., sadness, anger) and successfully express their positive emotions (e.g., joy, happiness) could help them achieve a sense of emotional fulfillment and competence that could favor their

appreciation with themselves. Empirical findings confirmed the expected positive association between self-esteem and regulatory emotional self-efficacy both when self-esteem was the predictor of regulatory emotional self-efficacy (Wang et al., 2018) and vice versa (Dogan et al., 2013). Yet, these studies treated regulatory emotional self-efficacy as a single construct (i.e., there was no distinction between SRN and SEP) as well as their cross-sectional nature did not allow the researchers to properly test the direction of the effects between the two self-appraisals. To the best of our knowledge, only Caprara et al. (2013) investigated the effects among self-esteem, SRN, and SEP in a longitudinal framework. In their 8-year study, results from a cross-lagged panel model (CLPM) showed reciprocal positive influences among the three constructs from adolescence (16 years of age) to early adulthood (24 years of age). In line with their hypotheses assigning a primary role to self-esteem given its stable and partial genetically-based nature (e.g., Caprara et al., 2009), they found that self-esteem had a stronger effect on both SRN and SEP 2 years apart ($\beta \approx .20$) compared to the effects of SRN and SEP on self-esteem over the same time-lag ($\beta \approx .09$).

The present study

Although the positive relation between self-esteem and both types of regulatory emotional beliefs has been already established in previous studies, the extent to which their effects could operate on a day-to-day basis remains unexplored. We believe this is an important research gap since confirming whether self-esteem, SRN, and SEP could also reciprocally influence each other in a short time frame can help researchers understand how people dynamically build their perceptions of personal worth and emotional efficacy during their daily life when several events may threaten (e.g., possible conflicts at home) or boost (e.g., work-related success) their self-appraisals.

Moreover, we aim to clarify at which level(s) the effects among self-esteem, SRN, and SEP occur by clearly disentangling their relations at the between-person level (i.e., trait-like or stable/enduring dispositional differences in self-esteem, SRN, and SEP) and the within-person level (i.e., state-like or occasion-specific fluctuations in self-esteem, SRN, and SEP) using a Random-Intercept Cross-Lagged Panel Model (Hamaker et al., 2015). Methodologists have recently highlighted the importance of the RI-CLPM compared to the standard CLPM to obtain more precise estimates of the cross-lagged effects in the presence of stable trait factors (Mulder & Hamaker, 2021; Usami, 2021). Also, the RI-CLPM usually provides a better fit to the data compared to the CLPM, which confirms the relevance of considering both trait-like and state-like components in the analysis of longitudinal data (Hamaker et al., 2015). Additionally, from a conceptual perspective, the possibility to separate the within-person effects from the stable individual differences allows the researcher to access the intra-individual dynamics among the different variables of interest (i.e., the three self-beliefs, in our case) that, in the long run, could trigger more permanent changes at the trait level (Hamaker, 2012). To the best of our knowledge, the dynamic relations between self-esteem and regulatory emotional self-efficacy that occur at the within-person level have not been empirically investigated so far. In sum, we use the RI-CLPM approach to clarify three distinct research questions: (1) are stable, trait-like components of self-esteem, SRN, and SEP positively related to each other?; (2) are momentary peaks in self-esteem on a given day (e.g., Monday) associated with momentary peaks in SRN and/or SEP on the same day?; and (3) do momentary peaks in self-esteem on a given day (e.g., Monday) predict subsequent peaks in SRN and SEP the next day (e.g., Tuesday) and/or vice versa?.

To answer these research questions, we followed a sample of young adults from Italy and Spain over 10 days. Furthermore, to offer a more complete picture of the relation between self-esteem and regulatory emotional self-efficacy beliefs, we also took into account the daily events (both positive and negative) that could affect individuals' evaluation of their personal worth and regulatory emotional capabilities during their normal life. Previous studies, indeed, showed that daily fluctuations of self-esteem (Alessandri et al., 2016; Greenier et al., 1999) or, in general, its instability (Greenier et al.,

1999; Meier et al., 2011; Zeigler–Hill & Abraham, 2006), are susceptible to the influence of both positive and negative events (Alessandri et al., 2016) such as daily hassles (Greenier et al., 1999) and interpersonal stress (Zeigler–Hill & Abraham, 2006).

Finally, from a developmental perspective, we focus on the young adulthood phase since it is a period of challenges (e.g., the willingness to reach financial independence, the involvement in more stable romantic relationships, etc.; see, Arnett, 2007) that could easily cause momentary drops in one's sense of acceptance and competence.

Method

Sample and design

Participants were 338 young adults (age ranged from 18 to 35 years) enrolled in a University degree in Italy (n = 101, 91% women, M_{age} = 22.35, SD = 2.43) and Spain (n = 237, 77% women, M_{age} = 21.76, SD = 2.58). Data were collected during the academic years 2017–2018 and 2018–2019, and participants were compensated with partial course credit.

The ethical approval for this study was granted by the ethics committee at the author's institution. After providing informed consent, participants filled out an online daily diary across ten days (henceforth, T1-T10). Following previous studies (e.g., Alessandri et al., 2016), participants reported how they felt on that specific day about their self-esteem, SRN, SEP, and their daily events (each scale was adapted and preceded by the wording "Think about today . . . "). These reports were collected online at a 24-h interval (each day from 8:00 pm to 12:00 pm). The retention rate was relatively high with 73.1% of the participants providing data for at least six days (n = 247). In detail, 138 participants (40.8%%) provided data for all 10 days, 51 participants missed only one day (15.1%), 30 participants missed two days (8.9%), 17 participants missed three days (5%), and 11 participants missed four days (3.3%). Participants who answered 5 or fewer days were as follows: seven participants provided data for five days (2.1%), 10 participants for 4 days (3%), 19 participants for three days (5.6%), 18 participants for two days (5.3%), and 37 participants for 1 day only (10.9%). We handled missing data with full information maximum-likelihood estimation in M*Plus* 8.4 (Muthén & Muthén, 1998- 2019).

Instruments

The following instruments were administered each day.

Self-esteem

Participants rated their daily self-esteem (from 1 = *strongly disagree* to 4 = *strongly agree*) using the 10-item Rosenberg Self-Esteem Scale (1965; "On the whole, I was satisfied with myself"). Omega reliability coefficients were .67 and .94 at the within-person and between-person levels, respectively (Geldhof et al., 2014).

Regulatory emotional self-efficacy beliefs

Participants rated 12 items (from 1 = *not well at all* to 5 = *very well*) measuring their daily SRN and SEP (Bandura et al., 2003; Caprara et al., 2013). In detail, 8 items captured the participants' perceived capability to manage their negative emotions (e.g., anger, irritation, sadness, despondency; e.g., "Think about today, to what extent have you felt capable of getting over irritation quickly for wrongs you have experienced?) whereas 4 items tapped into participants' perceived ability to express their joy and satisfaction (e.g., "Think about today, to what extent have you felt capable of expressing joy when good things happened to you?"). Omega reliabilities were .80 (within-person) and .98 (between-person) for SRN, and .86 (within-person) and .98 (between-person) for SEP.

Daily life events

Participants were asked to complete (from 0 = *it did not happen* to 5 = *it happened and it was extremely important*) a 17-item checklist adapted from Gable et al. (2000) assessing the occurrence and relevance of daily social-related, achievement-related, financial-related, and health-related events. Nine events were negative (e.g., "heavy study/workload"; "conflict with friends") and 8 events were positive (e.g., "good interaction with my parents"; "good health"). Since both positive and negative events could occur in a daily life, in our analysis we used a difference score given by the subtraction of positive events minus negative events (i.e., higher scores meant that more positive events than negative ones happened on that day).

Data analytic plan

To clarify the nature of the relations among self-esteem, SRN, and SEP, we used a RI-CLPM (Hamaker et al., 2015). As detailed by Hamaker et al. (2015), the RI-CLPM decomposes the score of participant *i* at time *t* on the variable of interest (e.g., SRN) into three components: the group mean (μ_t) of *SRN* at a given time point (e.g., Monday); the stable, time-invariant trait-like deviation from the group-mean represented by the latent random intercept (κ_i); and the momentary deviation (ρ_{it}) of each participant at a given time point (i.e., $SRN_{it} = \mu_t + \kappa_i + \rho_{it}$).

Hence, the RI-CLPM was particularly suitable for our research goals as it allowed us to distinguish the effects: (1) at the trait-level or between-person (time-unspecific associations; e.g., did participants who, in general, had higher self-esteem across the ten days also reported higher SRN and/or SEP than their counterparts?); and (2) at the state-level or within-person (e.g., time-specific associations). Specifically, at the within-level, three different relations concerning the participants' deviations from their expected levels could be considered (Hamaker et al., 2015)[1]: (a) simultaneous, *time-specific covariations* (e.g., were higher/lower than expected levels of SRN related to higher/lower than expected levels of self-esteem/SEP at the same day?); (b) *carry-over effects* or *inertia* (e.g., did participants with higher/lower than expected levels of SRN on a given day [e.g., Monday] report higher/lower than expected levels of SRN at the next day [e.g., Tuesday]?); and (c) *spill-over effects* (did higher/lower than expected levels of SRN on a given day [e.g., Monday] predict higher/lower than expected levels of self-esteem at the next day [e.g., Tuesday] and/or vice-versa?). Moreover, we also tested whether each within-person effect was consistent over time by comparing the fit of the unconstrained RI-CLPM (in which the within-person effects were allowed to freely vary over time) to the fit of the constrained RI-CLPM in which the parameters were constrained to equality (e.g., $SRN_{T1} \rightarrow SEP_{T2} = SRN_{T2} \rightarrow SEP_{T3} = \ldots = SRN_{T9} \rightarrow SEP_{T10}$; Mulder & Hamaker, 2021) through the chi-square difference test for nested models ($\Delta\chi^2$). An example of the RI-CLPM is graphically displayed in Figure 1.

Finally, in additional RI-CLPMs, we followed the steps indicated by Mulder and Hamaker (2021) to check the robustness of the effects while controlling for both time-invariant covariates (i.e., age, gender, and country) and time-varying covariates (i.e., daily events). We evaluated the fit of our models using conventional criteria for structural equation modeling (Kline, 2010). In detail, beyond a nonsignificant χ^2, we also considered values of Comparative Fit index (CFI) and Tucker-Lewis index (TLI) higher than .95, and the Root-Mean-Square-Error-of-Approximation (RMSEA; with its 90% confidence interval) values lower than .08 as indicative of good model fit. All parameters were estimated with maximum-likelihood with robust standard errors (MLR) in Mplus 8.4 (Muthén & Muthén, 1998–2019).

Results

Zero-order correlations

As reported in the online supplemental materials (see Table S1), self-esteem, SRN, and SEP were all positively and moderately correlated both concurrently and over time. The anonymized dataset and outputs are available at the following link: https://osf.io/nhdzc/?view_only=ef8eeb030ae145aaa37cb18aab383007.

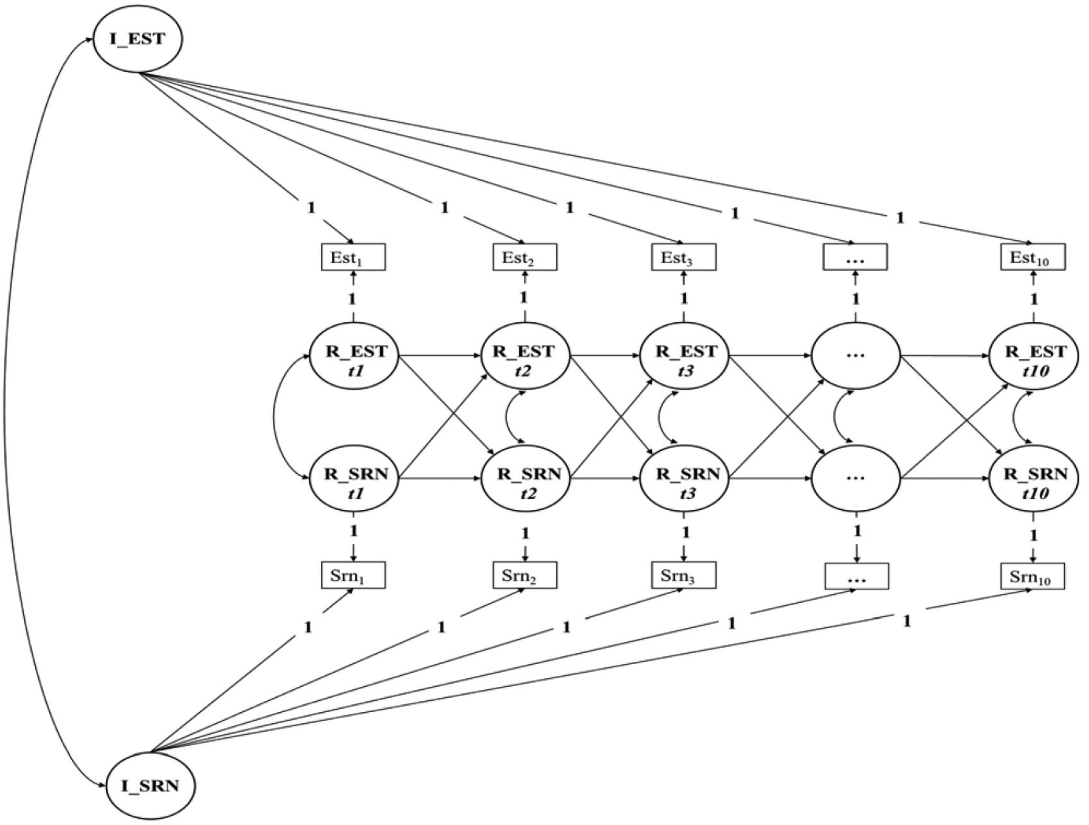

Figure 1. Illustrative Random Intercept Cross-Lagged Panel Model (RI-CLPM) for two Variables: Self-Esteem (EST) and Self-efficacy in Regulating Negative Emotion (SRN). Note. For the sake of simplicity, the figure only displays the RI-CLPM for EST and SRN. At the between-person level (trait-like), the depicted RI-CLPM estimates the correlation (↔) between the latent random intercepts (I) of I_EST and I_SRN. At the within-person level (state-like) the depicted RI-CLPM estimates the following parameters: Correlations (↔) between the residual components of EST (R_EST), and SRN (R_SRN), from time 1 (T1) to time 10 (T10); within-person carry-over effects (→) for R_EST and R_SRN; within-person spill-over effects (→) for R_EST and R_SRN.

RI-CLPM

The constrained RI-CLPM (Model 1) in which the unstandardized within-person parameters were constrained to equality over time showed a good fit, $\chi^2(414) = 533.880$, $p < .001$, CFI = .975, TLI = .974, RMSEA = .029 (90%CI: .021, .036) and was not statistically different, $\Delta\chi^2(96) = 107.324$, $p = .202$, from the unconstrained RI-CLPM. Hence, the size of the time-specific covariations, carry-over effects, and spill-over effects did not change across the 10 days. As reported in Table 1, the results from the constrained RI-CLPM indicated that the relations were mostly at the trait-level (between-person stable differences) since the positive correlations among the latent random intercept of self-esteem, SRN, and SEP were essentially medium-to-large in size (i.e., *rs* ranged from .483 to .620, *ps* <.001).

At the state-level (within-person), we found a similar pattern of positive time-specific correlations but their size was smaller than the correlations at the between-person level. More in detail, higher-than -expected levels of self-esteem on a given day (e.g., Monday) were related to higher-than-expected levels of SRN (*rs* ranged from .248 to .372, *ps* <.001) and SEP (*rs* ranged from .290 to .476, *ps* <.001) at the same day, as well as higher-than-expected levels of SRN were related to higher-than-expected levels of SEP (*rs* ranged from .279 to .518, *ps* <.001) on the same day. We also found positive and statistically significant day-to-day carry-over effects for self-esteem ($\beta \approx .16$, $p < .001$), SRN ($\beta \approx .25$, $p < .001$), and SEP ($\beta \approx .13$, $p < .01$). Hence, higher-than-expected levels of a given self-evaluation (e.g., self-esteem) on a given day (e.g., Monday) were consistently followed by higher-than-expected levels of the same

Table 1. Random Intercept Cross-Lagged Panel Model of Self-esteem (EST), Self-efficacy in Regulating Negative Emotion (SRN), and Expressing Positive Emotions (SEP).

Parameters	Std(Unst)	SE	p-value	Parameters	Std(Unst)	SE	p-value	Parameters	Std(Unst)	SE	p-value
Between-level				Between-level				Between-level			
I_EST ↔ I_SRN	.483(.139)	.056	<.001	I_EST ↔ I_SEP	.620(.200)	.049	<.001	I_SRN ↔ I_SEP	.537(.236)	.051	<.001
Within-level				Within-level				Within-level			
Correlations				*Correlations*				*Correlations*			
R_EST T1 ↔ R_SRN T1	.306(.068)	.073	<.001	R_EST T1 ↔ R_SEP T1	.290(.072)	.088	.001	R_SRN T1 ↔ R_SEP T1	.279(.116)	.077	<.001
R_EST T2 ↔ R_SRN T2	.248(.060)	.035	<.001	R_EST T2 ↔ R_SEP T2	.389(.085)	.037	<.001	R_SRN T2 ↔ R_SEP T2	.418(.175)	.039	<.001
R_EST T3 ↔ R_SRN T3	.286(.060)	.036	<.001	R_EST T3 ↔ R_SEP T3	.419(.085)	.038	<.001	R_SRN T3 ↔ R_SEP T3	.446(.175)	.035	<.001
R_EST T4 ↔ R_SRN T4	.349(.060)	.038	<.001	R_EST T4 ↔ R_SEP T4	.448(.085)	.040	<.001	R_SRN T4 ↔ R_SEP T4	.475(.175)	.038	<.001
R_EST T5 ↔ R_SRN T5	.286(.060)	.037	<.001	R_EST T5 ↔ R_SEP T5	.366(.085)	.040	<.001	R_SRN T5 ↔ R_SEP T5	.413(.175)	.037	<.001
R_EST T6 ↔ R_SRN T6	.328(.060)	.040	<.001	R_EST T6 ↔ R_SEP T6	.451(.085)	.048	<.001	R_SRN T6 ↔ R_SEP T6	.447(.175)	.036	<.001
R_EST T7 ↔ R_SRN T7	.329(.060)	.038	<.001	R_EST T7 ↔ R_SEP T7	.471(.085)	.036	<.001	R_SRN T7 ↔ R_SEP T7	.482(.175)	.040	<.001
R_EST T8 ↔ R_SRN T8	.372(.060)	.041	<.001	R_EST T8 ↔ R_SEP T8	.476(.085)	.035	<.001	R_SRN T8 ↔ R_SEP T8	.484(.175)	.038	<.001
R_EST T9 ↔ R_SRN T9	.299(.060)	.034	<.001	R_EST T9 ↔ R_SEP T9	.378(.085)	.032	<.001	R_SRN T9 ↔ R_SEP T9	.444(.175)	.038	<.001
R_EST T10 ↔ R_SRN T10	.343(.060)	.040	<.001	R_EST T10 ↔ R_SEP T10	.426(.085)	.039	<.001	R_SRN T10 ↔ R_SEP T10	.518(.175)	.042	<.001
Carry-over effects				*Carry-over effects*				*Carry-over effects*			
R_EST T1 → R_EST T2	.167(.166)	.037	<.001	R_SEP T1 → R_SEP T2	.145(.133)	.047	.002	R_SRN T1 → R_SRN T2	.227(.260)	.041	<.001
R_EST T2 → R_EST T3	.179(.166)	.038	<.001	R_SEP T2 → R_SEP T3	.132(.133)	.046	.004	R_SRN T2 → R_SRN T3	.275(.260)	.048	<.001
R_EST T3 → R_EST T4	.183(.166)	.042	<.001	R_SEP T3 → R_SEP T4	.128(.133)	.043	.003	R_SRN T3 → R_SRN T4	.286(.260)	.052	<.001
R_EST T4 → R_EST T5	.148(.166)	.034	<.001	R_SEP T4 → R_SEP T5	.124(.133)	.040	.002	R_SRN T4 → R_SRN T5	.246(.260)	.044	<.001
R_EST T5 → R_EST T6	.188(.166)	.039	<.001	R_SEP T5 → R_SEP T6	.142(.133)	.048	.003	R_SRN T5 → R_SRN T6	.260(.260)	.044	<.001
R_EST T6 → R_EST T7	.165(.166)	.040	<.001	R_SEP T6 → R_SEP T7	.140(.133)	.048	.003	R_SRN T6 → R_SRN T7	.265(.260)	.056	<.001
R_EST T7 → R_EST T8	.177(.166)	.037	<.001	R_SEP T7 → R_SEP T8	.126(.133)	.041	.002	R_SRN T7 → R_SRN T8	.275(.260)	.051	<.001
R_EST T8 → R_EST T9	.140(.166)	.033	<.001	R_SEP T8 → R_SEP T9	.127(.133)	.043	.003	R_SRN T8 → R_SRN T9	.252(.260)	.048	<.001
R_EST T9 → R_EST T10	.174(.166)	.040	<.001	R_SEP T9 → R_SEP T10	.141(.133)	.048	.003	R_SRN T9 → R_SRN T10	.281(.260)	.053	<.001
Spill-over effects				*Spill-over effects*				*Spill-over effects*			
R_EST T1 → R_SRN T2	.032(.061)	.033	.340	R_EST T1 → R_SEP T2	.063(.109)	.037	.089	R_SRN T1 → R_SEP T2	.069(.071)	.036	.056
R_EST T2 → R_SRN T3	.033(.061)	.034	.333	R_EST T2 → R_SEP T3	.063(.109)	.037	.085	R_SRN T2 → R_SEP T3	.079(.071)	.042	.060
R_EST T3 → R_SRN T4	.034(.061)	.035	.331	R_EST T3 → R_SEP T4	.057(.109)	.034	.093	R_SRN T3 → R_SEP T4	.073(.071)	.038	.056
R_EST T4 → R_SRN T5	.029(.061)	.031	.341	R_EST T4 → R_SEP T5	.048(.109)	.028	.090	R_SRN T4 → R_SEP T5	.062(.071)	.033	.065
R_EST T5 → R_SRN T6	.033(.061)	.035	.342	R_EST T5 → R_SEP T6	.058(.109)	.034	.091	R_SRN T5 → R_SEP T6	.070(.071)	.039	.072
R_EST T6 → R_SRN T7	.030(.061)	.031	.340	R_EST T6 → R_SEP T7	.054(.109)	.032	.085	R_SRN T6 → R_SEP T7	.074(.071)	.041	.072
R_EST T7 → R_SRN T8	.032(.061)	.033	.333	R_EST T7 → R_SEP T8	.052(.109)	.031	.092	R_SRN T7 → R_SEP T8	.069(.071)	.037	.058
R_EST T8 → R_SRN T9	.029(.061)	.030	.344	R_EST T8 → R_SEP T9	.047(.109)	.027	.088	R_SRN T8 → R_SEP T9	.063(.071)	.033	.060
R_EST T9 → R_SRN T10	.037(.061)	.038	.332	R_EST T9 → R_SEP T10	.059(.109)	.035	.088	R_SRN T9 → R_SEP T10	.069(.071)	.036	.057
R_SRN T1 → R_EST T2	.051(.030)	.026	.047	R_SEP T1 → R_EST T2	.039(.021)	.038	.300	R_SEP T1 → R_SRN T2	−.006(−.007)	.032	.841

(*Continued*)

Table 1. (Continued).

Parameters	Std(Unst)	SE	p-value	Parameters	Std(Unst)	SE	p-value	Parameters	Std(Unst)	SE	p-value
R_SRN T2 → R_EST T3	.063(.030)	.032	.049	R_SEP T2 → R_EST T3	.039(.021)	.038	.300	R_SEP T2 → R_SRN T3	−.006(−.007)	.031	.840
R_SRN T3 → R_EST T4	.066(.030)	.033	.044	R_SEP T3 → R_EST T4	.043(.021)	.041	.295	R_SEP T3 → R_SRN T4	−.007(−.007)	.034	.841
R_SRN T4 → R_EST T5	.053(.030)	.026	.045	R_SEP T4 → R_EST T5	.039(.021)	.038	.294	R_SEP T4 → R_SRN T5	−.007(−.007)	.034	.841
R_SRN T5 → R_EST T6	.063(.030)	.032	.048	R_SEP T5 → R_EST T6	.048(.021)	.046	.297	R_SEP T5 → R_SRN T6	−.007(−.007)	.036	.841
R_SRN T6 → R_EST T7	.063(.030)	.031	.043	R_SEP T6 → R_EST T7	.044(.021)	.041	.288	R_SEP T6 → R_SRN T7	−.007(−.007)	.034	.841
R_SRN T7 → R_EST T8	.066(.030)	.033	.045	R_SEP T7 → R_EST T8	.044(.021)	.042	.294	R_SEP T7 → R_SRN T8	−.007(−.007)	.034	.841
R_SRN T8 → R_EST T9	.052(.030)	.026	.043	R_SEP T8 → R_EST T9	.039(.021)	.038	.298	R_SEP T8 → R_SRN T9	−.007(−.007)	.035	.841
R_SRN T9 → R_EST T10	.057(.030)	.028	.042	R_SEP T9 → R_EST T10	.043(.021)	.041	.291	R_SEP T9 → R_SRN T10	−.008(−.007)	.039	.841

The following standardized (std) parameters, their standard errors (SE), and p-values are reported: Between-level correlation (↔) among the latent random intercepts (I) of I_EST, I_SRN, and I_SEP; within-level correlations (↔) among the residual components of EST (R_EST), SRN (R_SRN), and SEP (R_SEP) from time 1 (T1) to time 10 (T10); within-level carry-over effects (→) for R_EST, R_SRN, and R_SEP; within-level spill-over effects (→) for R_EST, R_SRN, and R_SEP. Unstandardized parameters (Unst) are reported in brackets.

attribute the day after (e.g., Tuesday). In terms of spill-over effects, we found that higher-than-expected levels of SRN on a given day predicted ($\beta \approx .05$, $p < .04$) slightly higher-than-expected levels of self-esteem the next day throughout the ten days of data collection. The results indicated neither statistically significant ($p < .05$) spill-over effects from self-esteem to SRN and SEP nor from SEP to SRN and self-esteem.

Finally, we checked the robustness of these effects while controlling for age, gender, country differences (Italy versus Spain), and daily events. Following Mulder and Hamaker's suggestion (Mulder & Hamaker, 2021), we included the effects of the time-varying daily life events by treating them as a further latent random intercept in the RI-CLPM (Model 2). Hence, the final RI-CLPM included 4 latent random intercepts (self-esteem, SRN, SEP, and daily life events), their interrelations at the within-person level, and the effects of the three time-invariant covariates (age, gender, and country) on the observed variables. The results from this RI-CLPM, $\chi^2(850) = 1168.084$, $p < .001$, CFI = .956, TLI = .953, RMSEA = .033 (90%CI: .029, .038), did not show any major change in the relations among self-esteem, SRN, and SEP (both at the between-person and the within-person level) obtained in the previous RI-CLPM (i.e., the RI-CLPM without control variables). In terms of time-invariant covariates, we found that participants who were older and from Spain (0 = *Spain*, 1 = *Italy*) consistently reported higher self-esteem (i.e., $\beta \approx .11$, $p < .05$ and $\beta \approx -.20$, $p < .001$, respectively) and SRN (i.e., $\beta \approx .11$, $p < .05$ and $\beta \approx -.17$, $p < .001$, respectively) compared to their counterparts. We also found that women reported higher SEP than men each day (i.e., $\beta \approx .09$, $p < .05$). Considering participants' daily events, we found positive and statistically correlations with self-esteem, SRN, and SEP both at the between-person (i.e., *r*s ranged from .269 to .554) and the within-person level (*r*s ranged from .180 to .445). At the within-person level, we also found a small, yet statistically, significant spill-over effect from daily events to SEP ($\beta \approx .06$, $p < .05$): If the participants had higher-than-expected *positive events over negative ones* on a given day (e.g., Monday) they also reported higher-than-expected levels of their SEP the next day (e.g., Tuesday).[2]

Additional analyses

As per the suggestions of an anonymous reviewer, we also conducted a multiple-group RI-CLPM to explore possible differences in the parameters of interest between Italy and Spain. The fully constrained RI-CLPM across countries showed a barely acceptable fit, $\chi^2(856) = 1332.761$, $p < .001$, CFI = .913, TLI = .912, RMSEA = .057 (90%CI: .051, .063) and was statistically different from the unconstrained model $\Delta\chi^2(210) = 308.350$, $p < .001$, thereby suggesting differences between Italy and Spain. A partially constrained RI-CLPM $\chi^2(849) = 1244.049$, $p < .001$, CFI = .928, TLI = .926, RMSEA = .052 (90%CI: .046, .059) showed a slightly better fit than the fully constrained model and, of note, was not statistically different from the unconstrained model $\Delta\chi^2(203) = 235.746$, $p = .057$. In this partially constrained RI-CLPM the following parameters were let to vary freely across countries: the covariance between the latent random intercepts of self-esteem and SEP (between-person); the covariances among the state-like residual components of self-esteem, SRN, and SEP, as well as the unstandardized spill-over effects from self-esteem to SRN and the carry-over effects of SEP (within-person). In terms of covariation, we found that the covariance between the random intercepts of self-esteem and SEP was slightly lower in Italy than in Spain (*cov*= .151, $p < .001$ and *cov*= .233, $p < .001$, respectively), as well as we found that the within-person covariations between self-esteem and SRN ($cov_{\text{Italy}} = .015$, $p = .034$ and $cov_{\text{Spain}} = .085$, $p < .001$), self-esteem and SEP ($cov_{\text{Italy}} = .044$, $p < .001$ and $cov_{\text{Spain}} = .107$, $p < .001$), and SRN and SEP ($cov_{\text{Italy}} = .085$, $p < .001$ and $cov_{\text{Spain}} = .217$, $p < .001$) were weaker in Italy compared to Spain. This RI-CLPM also showed that higher-than-expected levels of self-esteem consistently predicted higher-than-usual levels of SRN the day after in Italy (*b*= .184, $p = .035$) but not in Spain (*b*= .014, $p = .841$). The carry-over effect of SEP, instead, was only statistically significant in Spain (*b*= .141, $p = .001$) but not in Italy (*b*= .049, $p = .431$). Moreover, differently from the results obtained in the full

sample, the unstandardized spill-over effect from SRN to self-esteem was similar in size but no longer statistically significant (b= .030, p = .055 in both countries) in the multiple-group analysis. The full Mplus output of this RI-CLPM (see Model 4) is reported in the online supplementary materials.

Finally, we also repeated Model 2 while treating separately negative daily life events (Model 5 in the online supplementary materials) and positive daily events (Model 6 in the online supplementary materials). Overall, the relations (at both the between-person and within-person levels) among self-esteem, SRN, and SEP in these two RI-CLPMs were substantially identical to those obtained when the daily events were treated as a difference score.

Discussion

Personality and clinical psychologists have consistently highlighted how a scarce appreciation of one's value is linked to emotional difficulties (Sowislo & Orth, 2013). Hence, several authors pointed out how regulatory emotional self-efficacy, a fine-grained set of self-beliefs reflecting the perceived capability to manage negative emotions and express positive ones, could be important for individuals' self-esteem (e.g., Caprara et al., 2013; Dogan et al., 2013; Wang et al., 2018). Following previous long-term findings reporting positive reciprocal relations among self-esteem, SRN, and SEP (Caprara et al., 2013), in the present study we aimed to contribute to this line of research by adopting a shorter temporal framework (i.e., ten days) to unravel the dynamic interplay among self-esteem, SRN, and SEP. Differently from long-term longitudinal works, indeed, the collection of short-term longitudinal data, such as daily diaries, can help the researcher obtain a more ecologically-valid picture of how these different self-evaluative constructs could predict each other in people's everyday life. Of importance, the use of the RI-CLPM allowed us to have a clear understanding of the relations among self-esteem, SRN, and SEP by separating their effects at the between-person level (trait-like) and within-person level (state-like). Moreover, to offer a more stringent test of their relations, we also took into account the role that daily life events could exert on each self-appraisal.

In line with previous longitudinal evidence (Caprara et al., 2013), results from the present study confirmed the positive relations among self-esteem, SRN, and SEP in a short-term, daily framework. Our findings showed that the strongest relationships were at the trait level with the latent correlations being medium-to-large in size (Cohen, 1988). This finding suggests that there is a good level of coherence across these different stable components of the self-system: young adults who had a general higher self-esteem over 10 days also reported a general higher perceived regulatory emotional self-efficacy than their counterparts. Interestingly, the correlation between self-esteem and SEP (r = .62) was slightly stronger than the correlation between self-esteem and SRN (r = .48). Hence, although we cannot establish the direction of the effects at the between-person level (i.e., from self-esteem to SEP and/or vice versa), experiencing positive emotions and the individuals' stable perceived capability to effectively express them appear to be particularly important for a good, enduring appreciation of themselves. As suggested by Caprara et al. (2013), individuals who feel emotionally efficacious to share their happiness/joy likely have better relationships with significant others (e.g., friends; Demir & Orthel, 2011), which are an important source of one's self-esteem (e.g., Leary & Baumeister, 2000; Zuffianò et al., 2016).

Of importance, we also found similar correlational results at the within-person level, capturing the daily dynamics among self-esteem, SEP, and SRN. Momentary positive peaks in self-esteem on a given day (e.g., Monday) were consistently associated with parallel positive peaks in regulatory emotional self-efficacy on the same day, thereby suggesting a coherent co-movement of these higher-than-usual levels of self-appraisals across the ten days of the study. Namely, when individuals were perceiving unusually high (or low) levels of their capabilities in managing their emotions they were also reporting momentary boosts (or drops) in the satisfaction with their value as persons. Of note, the average within-person correlation coefficient across the 10 days between SEP and self-esteem ($r_{\text{within}} \approx .41$) was slightly stronger than the one for SRN ($r_{\text{within}} \approx .31$), mirroring the results obtained at the level of dispositional differences. Thus,

the relation between being capable to express one's positive emotions and self-esteem does not only concern how individuals think and feel generally about themselves but also their occasion-specific variations.

Yet, the analysis of the spill-over effects (i.e., the cross-construct predictions from one day to another) offered an additional piece of information about the dynamic interplay among self-esteem, SRN, and SEP. Indeed, while taking into account the simultaneous occurrence between regulatory emotional self-efficacy beliefs and self-esteem at the same time point and their day-to-day carry-over effects, we found that those days in which the participants felt particularly capable to regulate their negative emotions were followed by slightly higher-than-usual levels of self-esteem the next day. Although this result is exploratory and caution must be taken in generalizing it without further replication, it suggests that the perceived efficacy in regulating one's anger and despondency in daily life could be one of the mechanisms that may help individuals experience a higher self-worth. One may guess that, when individuals feel efficacious to control the unpleasant emotions associated with daily hassles/conflicts, the sense of success stemming from managing such emotionally challenging tasks could be so pervasive that does not only help people have a better consideration of themselves (i.e., higher-than-usual self-esteem) on the same day, but also the day after. Hence, differently from Caprara et al. (2013), in which the results of their long-term CLPM indicated that the general self-esteem had the primary role on SRN and SEP, our RI-CLPM enriched our understanding by showing that the daily dynamics underlying higher-than-usual levels of self-esteem may be partly driven by momentary enhanced SRN. We did not find the same spill-over effects for SEP. Since the experience of negative emotions is what challenges people's regulatory capabilities in daily life, it is plausible to assume that high SRN is more salient and enduring than SEP in enhancing individuals' self-esteem. Therefore, although SEP showed a slightly higher correlation with self-esteem than SRN at the cross-sectional level, the perceived capability to regulate one's negative emotions could be more pervasive by exerting its effect both concurrently and from one day to another. Future research is needed to replicate this effect in confirmatory studies.

As a further check, we found the same set of results also while taking into account possible positive and negative events that could affect daily evaluations of self-esteem, SRN, and SEP. Interestingly, our findings also revealed a statistically significant spill-over effect from daily events to SEP, meaning that those days in which participants experienced more positive events over negative ones were followed by higher-than-usual SEP the day after. This result suggests when people experience positive events they likely maintain a positive focus that is beneficial for enhancing their SEP.

Our main results also showed country and age differences, with Spanish and older participants reporting slightly higher daily self-esteem and SRN compared to their counterparts. Although one may guess that the higher self-esteem and SRN among Spanish university students may derive from an optimal level of social and emotional vitality, this result should be confirmed in future *ad hoc* cross-cultural studies. From a developmental perspective, the positive effect of age on self-esteem is in line with previous works showing an expected normative increase in self-esteem during the transition from adolescence to adulthood (Orth & Robins, 2014). The effect of age on SRN seems to contradict previous studies reporting a decline in SRN from 14 to 25 years of age (Caprara et al., 2013). Yet, since our sample covered up to 35 years of age, this may suggest that moving toward adulthood could be associated with a rebound in one's capability to regulate negative emotions, which could reflect the notion of mature personality characterized by higher emotional stability (Roberts & Mroczek, 2008). Future developmental studies are warranted to identify the lifespan developmental trajectory of SRN. Lastly, we also found that women reported higher SEP than men. This result is in line with a large number of studies showing how women are more prone than men in expressing and sharing their positive emotions (e.g., LaFrance et al., 2003).

Limitations and conclusion

Despite several strengths, our study was not without limitations. First, although we used a recommended, stringent statistical approach for testing longitudinal effects (Hamaker et al., 2015), the nature of our data did not allow us to establish firm conclusions about possible causal relations. Future intensive longitudinal studies may benefit from the implementation of *instrumental variables* to test the presence of within-person causal effects (e.g., Schmiedek & Neubauer, 2020). Second, we believe it is important to further stress that we did not have a specific *a priori* hypothesis about the within-person effect from SRN to self-esteem. Hence, this effect should be confirmed in future studies. This call for replication is particularly important since this spill-over effect was quite small in size and the associated *p*-values were just below the conventional level of statistical significance of .05. Third, although self-reports are the best tool to obtain information about individuals' self-esteem and self-efficacy, the strength of the results could be inflated because of the same-informant method. Since previous studies reported a good degree of convergence between self- and friend-reports of self-esteem (Zuffianò et al., 2016), future research should consider adding another source of information to mitigate this possible bias in the results. Fourth, we only assessed the relationships among self-esteem, SRN, and SEP. Yet, other self-efficacy beliefs, such as those in the social domain, could be as relevant or even more relevant for individuals' self-esteem since may help them increase their chances of being accepted and valued by others (e.g., Leary & Baumeister, 2000). Fifth, we recognize that some of the situations reported in the items composing the RESE may not always apply to the everyday life of the participants (e.g., there might be days on which some participants may not experience any wrongs that could trigger their anger). Future daily studies may consider adding a further answer option such as "today, this item does not apply to me." Sixth, although our multiple-group analyses revealed possible intriguing differences between Italy and Spain in the relations among self-esteem, SRN, and SEP (e.g., the statistically significant spill-over effect from self-esteem to SRN in Italy), we urge future research to replicate these cross-countries differences with larger sample sizes in each group. Lastly, we only focused on the young adulthood period. Future research should explore whether the dynamic relations among self-esteem, SRN, and SEP could be different across younger and/or older age groups.

While recognizing these main limitations, we believe our results also have theoretical, methodological, and practical implications. At the theoretical level, the positive relations existing among self-esteem, SRN, and SEP suggest that there is a good level of coherence across these three components of the self-system, both in terms of dispositional differences and daily fluctuations. At the methodological level, the use of the RI-CLPM is a useful statistical tool to separate the within-person dynamics effects from stable, time-invariant factors that affect individuals' evaluations of their self-esteem and agentic beliefs. At the practical level, our findings may help psychologists design ecological interventions aimed at enhancing young adults' self-esteem in everyday life. Although the strongest effects were found at the between-person level, psychologists may rely on individuals' self-efficacy beliefs in the emotional domain to elicit daily boosts in their self-esteem that, in the long run, may trigger more permanent changes (i.e., at the trait-level) in their general evaluations of personal worth.

Notes

1. In the RI-CLPM the expected score consists of the time-specific group mean and the time-invariant trait-like score (see, Hamaker et al., 2015).
2. We also conducted a sensitivity analysis by re-estimating the models only considering those participants who provided at least data for five days (Model 3). The results were virtually identical. All the Mplus outputs (including the syntaxes) are reported in the online supplemental materials.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability of statement

The data and outputs that support the findings of this study are openly available in the Open Science Framework (OSF) at the following link: https://osf.io/nhdzc/?view_only=ef8eeb030ae145aaa37cb18aab383007

ORCID

Antonio Zuffianò http://orcid.org/0000-0002-8025-3184
Stefania Sette http://orcid.org/0000-0003-4953-0128
Belén Lopéz-Pérez http://orcid.org/0000-0002-8517-2236
Manuel Marti-Vilar http://orcid.org/0000-0002-3305-2996

References

Alessandri, G., Zuffianò, A., Vecchione, M., Donnellan, B. M., & Tisak, J. (2016). Evaluating the temporal structure and correlates of daily self-esteem using a trait state error framework (TSE). *Self and Identity*, *15*(4), 394–412. https://doi.org/10.1080/15298868.2015.1137223

Arnett, J. J. (2007). *Adolescence and emerging adulthood: A cultural approach*. Prentice Hall.

Bandura, A. (2008). Toward an agentic theory of the self. In H. W. Marsh, R. G. Craven, & D. M. Mcinerney (Eds.), *Self-process, learning and enabling human potential* (pp. 15–49). Information Age.

Bandura, A., Caprara, G. V., Barbaranelli, C., Gerbino, M., & Pastorelli, C. (2003). Role of affective self-regulatory efficacy in diverse spheres of psychosocial functioning. *Child Development*, *74*(3), 769–782. https://doi.org/10.1111/1467-8624.00567

Brown, J. D. (1993). Self-esteem and self-evaluation: Feeling is believing. In J. M. Suls (Ed.), *The self in social perspective* (pp. 27–58). Erlbaum.

Brown, J. D. (1998). *The self*. McGraw-Hill.

Brown, J. D., Dutton, K. A., & Cook, K. E. (2001). From the top down: Self-esteem and self-evaluation. *Cognition and Emotion*, *15*(5), 615–631. https://doi.org/10.1080/02699930143000004

Caprara, G. V., Alessandri, G., Barbaranelli, C., & Vecchione, M. (2013). The longitudinal relations between self-esteem and affective self-regulatory efficacy. *Journal of Research in Personality*, *47*(6), 859–870. https://doi.org/10.1016/j.jrp.2013.08.011

Caprara, G. V., Di Giunta, L., Eisenberg, N., Gerbino, M., Pastorelli, C., & Tramontano, C. (2008). Assessing regulatory emotional self efficacy in three countries. *Psychological Assessment*, *20*(3), 227–237. https://doi.org/10.1037/1040-3590.20.3.227

Caprara, G. V., Fagnani, C., Alessandri, G., Steca, P., Gigantesco, A., Sforza, L. L. C., & Stazi, M. A. (2009). Human optimal functioning: The genetics of positive orientation towards self, life, and the future. *Behavior Genetics*, *39*(3), 277–284. https://doi.org/10.1007/s10519-009-9267-y

Coffey, J. K., & Warren, M. T. (2020). Comparing adolescent positive affect and self-esteem as precursors to adult self-esteem and life satisfaction. *Motivation & Emotion*, *44*(5), 707–718. https://doi.org/10.1007/s11031-020-09825-7

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Erlbaum.

Demir, M., & Orthel, H. (2011). Friendship, real–ideal discrepancies, and well-being: Gender differences in college students. *The Journal of Psychology*, *145*(3), 173–193. https://doi.org/10.1007/s10902-010-9240-8

Dogan, T., Totan, T., & Sapmaz, F. (2013). The role of self-esteem, psychological well-being, emotional self-efficacy, and affect balance on happiness: A path model. *European Scientific Journal*, *9*(20), 31–42. https://doi.org/10.19044/esj.2013.v9n20p%25p

Gable, S. L., Reis, H. T., & Elliot, A. J. (2000). Behavioral activation and inhibition in everyday life. *Journal of Personality and Social Psychology*, *78*(6), 1135–1149. https://doi.org/10.1037/0022-3514.78.6.1135

Geldhof, G. J., Preacher, K. J., & Zyphur, M. J. (2014). Reliability estimation in a multilevel confirmatory factor analysis framework. *Psychological Methods*, *19*(1), 72–91. https://doi.org/10.1037/a0032138

Greenier, K. D., Kernis, M. H., McNamara, C. W., Waschull, S. B., Berry, A. J., Herlocker, C. E., & Abend, T. A. (1999). Individual differences in reactivity to daily events: Examining the roles of stability and level of self-esteem. *Journal of Personality*, *67*(1), 185–208. https://doi.org/10.1111/1467-6494.00052

Hamaker, E. L. (2012). Why researchers should think "within-person": A paradigmatic rationale. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (pp. 43–61). The Guilford Press.

Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, *20*(1), 102–116. https://doi.org/10.1037/a0038889

Kernis, M. H. (Ed.). (1995). *Efficacy, agency, and self-esteem*. Plenum.

Kernis, M. H., Paradise, A. W., Whitaker, D. J., Wheatman, S. R., & Goldman, B. N. (2000). Master of one's psychological domain? Not likely if one's self-esteem is unstable. *Personality and Social Psychology Bulletin*, *26*(10), 1297–1305. https://doi.org/10.1177/0146167200262010

Kline, R. B. (2010). *Principles and practices of structural equation modeling* (3rd ed.). Guilford.

LaFrance, M., Hecht, M. A., & Paluck, E. L. (2003). The contingent smile: A meta-analysis of sex differences in smiling. *Psychological Bulletin*, *129*(2), 305–334. https://doi.org/10.1037/0033-2909.129.2.305

Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 32, pp. 1–62). Academic Press.

Meier, L. L., Orth, U., Denissen, J. J. A., & Kühnel, A. (2011). Age differences in instability, contingency, and level of self-esteem across the life span. *Journal of Research in Personality*, *45*(6), 604–612. https://doi.org/10.1016/j.jrp.2011.08.008

Morin, A. J., Maïano, C., Marsh, H. W., Janosz, M., & Nagengast, B. (2011). The longitudinal interplay of adolescents' self-esteem and body image: A conditional autoregressive latent trajectory analysis. *Multivariate Behavioral Research*, *46*(2), 157–201. https://doi.org/10.1080/00273171.2010.546731

Mulder, J. D., & Hamaker, E. L. (2021). Three extensions of the random intercept cross-lagged panel model. *Structural Equation Modeling*, *28*(4), 638–648. https://doi.org/10.1080/10705511.2020.1784738

Muthén, L. K., & Muthén, B. O. (1998-2019). *MPlus user's guide* (8th ed.). Muthén & Muthén.

Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science*, *23*(5), 381–387. https://doi.org/10.1177/0963721414547414

Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions in Psychological Science*, *17*(1), 31–35. https://doi.org/10.1111/j.1467-8721.2008.00543.x

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press. https://doi.org/10.1515/9781400876136

Santangelo, P. S., Kockler, T. D., Zeitler, M. L., Knies, R., Kleindienst, N., Bohus, M., & Ebner-Priemer, U. W. (2020). Self-esteem instability and affective instability in everyday life after remission from borderline personality disorder. *Borderline Personality Disorder and Emotion Dysregulation*, *7*(1), 25. https://doi.org/10.1186/s40479-020-00140-8

Santangelo, P. S., Reinhard, I., Koudela-Hamila, S., Bohus, M., Holtmann, J., Eid, M., & Ebner-Priemer, U. W. (2017). The temporal interplay of self-esteem instability and affective instability in borderline personality disorder patients' everyday lives. *Journal of Abnormal Psychology*, *126*(8), 1057–1065. https://doi.org/10.1037/abn0000288

Schmiedek, F., & Neubauer, A. B. (2020). Experiments in the wild: Introducing the within-person encouragement design. *Multivariate Behavioral Research*, *55*(2), 256–276. https://doi.org/10.1080/00273171.2019.1627660

Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological Bulletin*, *139*(1), 213–240. https://doi.org/10.1037/a0028931

Usami, S. (2021). On the differences between general cross-lagged panel model and random-intercept cross-lagged panel model: Interpretation of cross-lagged parameters and model choice. *Structural Equation Modeling: A Multidisciplinary Journal*, *28*(3), 331–344. https://doi.org/10.1080/10705511.2020.1821690

Wang, X., Zhang, Y., Hui, Z., Bai, W., Terry, P. D., Ma, M., Li, Y., Cheng, L., Gu, W., & Wang, M. (2018). The mediating effect of regulatory emotional self-efficacy on the association between self-esteem and school bullying in middle school students: A cross-sectional study. *International Journal of Environmental Research and Public Health*, *15*(5), 991. https://doi.org/10.3390/ijerph15050991

Wood, J. V., Heimpel, S. A., Manwell, L. A., & Whittington, E. J. (2009). This mood is familiar and I don't deserve to feel better anyway: Mechanisms underlying self-esteem differences in motivation to repair sad moods. *Journal of Personality and Social Psychology*, *96*(2), 363–380. https://psycnet.apa.org/doi/10.1037/a0012881

Zeigler–Hill, V., & Abraham, J. (2006). Borderline personality features: Instability of self–esteem and affect. *Journal of Social and Clinical Psychology*, *25*(6), 668–687. https://doi.org/10.1521/jscp.2006.25.6.668

Zuffianò, A., Eisenberg, N., Alessandri, G., Luengo Kanacri, B. P., Pastorelli, C., Milioni, M., & Caprara, G. V. (2016). The relation of pro-sociality to self-esteem: The mediational role of quality of friendships. *Journal of Personality*, *84*(1), 59–70. https://doi.org/10.1111/jopy.12137