Title: Positivity and Behaviour: the Mediating Role of Self-Efficacy in Organisational and

Educational Settings

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Abstract

Positivity is an evaluative disposition capturing what self-esteem, life satisfaction and optimism have in common. Self-efficacy refers to specific beliefs aimed at exercising control over the events through self-regulation. This paper examines in two studies whether the effect of positivity on performance is mediated by self-efficacy beliefs. The first examines the role of task and empathic self-efficacy in mediating the relationship of positivity with respect to in-role and extra-role behaviours in a sample of 829 Italian adult employees. The second examines the role of academic self-efficacy in mediating the relationship of positivity with respect to academic grades and academic citizenship behaviour on a sample of 223 Italian university students. Structural Equation Models results revealed that: (1) the relationship between positivity and both in-role and extra-role behaviours was substantially mediated by self-efficacy beliefs; (2) the relationship between positivity and both school grades and citizenship behaviours was completely mediated by self-efficacy beliefs.

1. Introduction

Positivity is a recently developed personality construct referring to a basic and pervasive *evaluative* disposition that leads individuals to look at their own life under a positive light (Caprara et al., 2009). It refers to "an individual propensity to positively evaluate or to be positively oriented toward various life domains including oneself, and one's future and past experiences" (Caprara et al., 2009, p. 277). Positivity has been conceived as a higher-order dimension explaining the commonalities among individual's judgments about: oneself as captured by self-esteem (Rosenberg, 1965); one's own future as captured by dispositional optimism (Scheier & Carver, 1987); one's own life as captured by life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985).

Several contributions have highlighted the importance of positivity in promoting health, well-being and hindering maladjustment (Alessandri, Vecchione, et al., 2012; Caprara, Alessandi, Eisenberg, et al., 2012; Caprara, Castellani, et al., 2016; Caprara, Eisenberg, & Alessandri, 2016). However, little attention has been paid to the impact of positivity on organisational and academic performance and behaviour. Indeed, this relationship has been examined only in a limited number of studies in the work context (Alessandri, Vecchione, et al., 2012; Livi, Alessandri, Caprara, & Pierro, 2015), while in educational settings it has never been investigated explicitly. Notwithstanding this limited evidence, the idea that positivity directly fosters better performance and positive behaviour may seem quite straightforward. However, a significant body of research focusing on the specific components of positivity (i.e. self-esteem, optimism and life satisfaction), in both the organisational and educational context, challenges the obviousness of this relationship. In particular, while several studies evidenced a positive relationship, other studies were less conclusive (e.g., see Tenney, Poole & Diener, 2016). Thus, there is scope to further investigate the impact of positivity on organisational and academic performance and behaviour, with a specific focus on the factors mediating this relationship.

We considered self-regulatory mechanisms that are expected to play a relevant role in mediating the relationship between positivity and behavioural outcomes. Indeed, according to

Bandura's Social Cognitive theory (1986, 1991), self-regulation is the individual's capability to set goals and to evaluate one's behaviours vis-a-vis internal standards of performance. Specifically, through self-regulation, people motivate themselves, evaluate activities in which they can invest and react positively or negatively to their own performance. Thus, it is expected that self-regulation might be facilitated by *positive* dimensions, and allow individuals to put into action the positive evaluation they may have about themselves (Tenney et al., 2016). We hypothesise that a positive outlook would influence performance through individuals' beliefs of being able to effectively exercise some measure of control over one's functioning or/and over environmental events.

Self-efficacy (henceforth SE) is one of the most relevant and pervasive self-regulatory mechanisms in Bandura's theory (Bandura, 1991). It refers to beliefs that are the expression of the self-system aimed at exercising control over the events through self-regulation. SE beliefs' core elements include perceived capabilities to execute a course of action and to master tasks, emotions, and situations to pursue one's own goals. SE beliefs differ from: self-esteem, not being a general judgment of self-worth; locus of control, not being related to the judgment about internal or external control on events; outcome expectations, not being a set of beliefs about the anticipated outcomes of certain behaviours. SE beliefs affect the type of activities people will engage in, the amount of effort they will put in pursuing them, the perseverance when facing obstacles and failures, and the causal attributions people make for their successes and failures. Bandura considered SE beliefs as dynamic factors, rather than general and static personality traits. Indeed, SE beliefs are malleable and can be boosted through four different processes: personal mastery experience (through direct experience of success), vicarious experience (through observing peers performing successfully), social persuasion (through encouragement from significant others); physical and emotional arousal (through monitoring physiological reactions while facing tasks).

The value of SE has been extensively recognised in a variety of realms of life, including work and educational contexts. In particular, within work settings SE has been examined

especially in relation to performance (Judge, Jackson, Shaw, Scott, & Rich, 2007; Stajkovic & Luthans, 1998), while in educational settings it has been investigated in relation to a variety of academic outcomes, including but not limited to achievement (e.g., Pajares & Urdan, 2006), continuance (Britner & Pajares, 2006), college performance and persistence (Gore, 2006; Robbins et al., 2004), GPA (Robbins et al., 2004), and academic aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). **In addition, SE also influences individuals' emotional experience and wellbeing and exerts a protective role by contrasting antisocial behaviours and promoting prosocial behaviours (Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Fida et al., 2015).**

Based on these premises, in this paper we present two independent studies that have been conducted to explore the mediation role of SE in relation to positivity and organisational and academic performance and behaviour. Specifically, the first cross-sectional study examines the posited relationship in the work context, considering in-role and extra-role behaviour as dependent variables. The second study is aimed at cross-validating the findings in the educational setting, including an objective indicator of academic achievement (academic grades obtained seven months after the measurement of self-report variables) and a self-reported measure of academic citizenship behaviour. **The choice of the work and academic settings is motivated by the fact that these are the two contexts in which, in different phases of the life span, people spend the great majority of their time. In addition, it is well known that these settings are crucial for individuals' well-being and adaptation. Finally, these are two contexts in which the capability to perform and delivering goal directed behavior is central.**

There are several theoretical reasons to hypothesise the relationship between positivity and performance through the mediating action of SE. As noted by several authors, a positive or optimistic outlook may contribute towards orientating the approach that people have in goal oriented situations, such that they feel empowered to act and work towards them, instead of withdrawing to avoid a failure (e.g., Lyubomirsky, King, & Diener, 2005 and Wrosch, Scheier, et

al., 2003). Accordingly, during the course of actions that an individual purposively and deliberatively decides to follow for the attainment of a goal, this positive outlook is focused on performance and "may be more useful for marshalling efficacious action" (Tenney et al., 2015, p. 378). Thus, SE beliefs may be enforced or primed by positivity in order to sustain and reinforce the behaviours that may be conducive to goal attainment and to effective performance. For instance, when faced with the goal of passing an examination and/or obtaining good grades, students with a high level of positivity may focus more of their attention and their thoughts on prior positive experience of success and of effective performance. If students have the capability to self-regulate their academic behaviour and achievement, then SE beliefs related to this domain may be *further* enforced or primed by these positive thoughts. Hence, students may be ready to self-motivate, to plan and organise their academic activities (such as using strategies to understand and remember material, resisting distractions, being persistent in front of failures, etc.) consistently with the goal of passing examinations and obtaining good grades. In this regard, it may be plausible to suggest that positivity, being partly comprehensive of the history of a person's successes and achievements, may be a further source of SE beliefs, which are grounded on a person's performance attainments (Bandura, 1997). **Although some authors have provided evidence for the opposite path, from SE to positivity (Caprara & Steca, 2005), more recently, by adopting a longitudinal perspective, they have showed that, over time, positivity and SE reinforce one another (Caprara, Alessandri, & Barbaranelli, 2010). These results have been confirmed in a study focused on SE and only the self-esteem component of positivity, in which the authors showed that while self-esteem has a moderately high effect on SE, the opposite path although significant was only weak (Caprara et al., 2013). Hence, given all this literature and considering that further studies attested the strong genetic component of positivity dimensions highlighting the limited influence of the environment on them (Caprara et al., 2009), we hypothesise that positivity would influence performance and behaviour through self-regulatory mechanisms, namely SE beliefs.**

1.1 The posited model

Overall, in our research we examined the role of positivity and SE on performance and behaviour considering that, although both dimensions are related to self-evaluative processes, they operate at different levels in the self-system. Indeed, positivity is expected to operate at a basic level by orienting individuals' attention on resources rather than weaknesses, on external opportunities rather than on difficulties, on successful rather than negative outcomes. SE is expected to operate at an intermediate level by allowing individuals to transform their positive orientation in concrete and specific actions. SE is then anticipated to be a self-regulatory mediator that may contribute to turning an individual's potentiality, such as global self-evaluative structures like positivity, into specific behaviours. Figure 1 summarises the conceptual model.

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This is in line with personality literature attesting the mediation role of SE between general traits and specific behaviours or behavioural outcomes**. In particular, Judge and colleagues (2007) provided evidence suggesting that the relationship of both Big Five and General Mental Ability with work-performance is mediated by SE. Similarly, Brown and colleagues (2006) highlighted that the relationship of conscientiousness, proactive personality, and self-esteem with job-search behaviour and its outcomes is mediated by SE.**

It is plausible that positivity sets the basis for a positive evaluation of the self, independently from the domain under consideration, and that SE beliefs allow individuals to transform a positive thought into effective actions. In this sense, SE beliefs represent a domain specific knowledge that informs people if they have the self-regulatory capabilities that lead them to behave successfully in different realms of life.

To the best of our knowledge, there are no previous studies specifically investigating the mediation role of SE with respect to positivity and performance or behaviour. However, there are a few studies (summarised in details further below) that examine the mediation role of SE beliefs with respect to the specific component of positivity and relevant organisational and educational outcomes.

2. Study 1: Positivity, Self-Efficacy and Organisational Behaviour

The relationship between positivity and work-related outcomes has been investigated only in two studies where positivity was a predictor of both job performance and organisational citizenship behaviour (Alessandri, Vecchione et al., 2012; Livi et al., 2015). However, a larger number of studies have specifically investigated positivity components in relation to different organisational outcomes. For instance, self-esteem was related to job performance (Judge & Bono, 2001) and to helping behaviour at work (Van Dyne, Vandewalle, et al., 2000). Furthermore, optimism, satisfaction with one's own life, and happiness were positively associated with extra-role behaviour (Lyubomirsky, King, & Diener, 2005; Munyon, Hochwarter, Perrewé, & Ferris, 2010; Niranjana & Pattanayak, 2005). **Finally, a study of Bockerman and Ilmakunnas (2012) identified a positive association between objective measures of productivity and job satisfaction, a narrower but important measure of subjective well-being .**

As noted above, to understand how positivity influences work-related outcomes, it is important to also consider the role played by SE. Indeed, the relevance of this dimension in work settings has been largely confirmed (e.g., Judge et al., 2007). In particular, SE was positively associated to job performance (Bandura, 1997; Stajkovic & Luthans, 1998) and organisational citizenship behaviour (Chen & Kao, 2011; Reizer & Hetsroni, 2015), and negatively associated with deviant behaviour at work (Fida et al., 2015). Indeed, SE influences the amount of effort individuals put in their activities, the perseverance when faced with setbacks and failures and the causal attributions people make about successes and failures (Bandura, 1997).

As noted above, SE is considered to be one of the most proximal determinants of behaviour due to its role in regulating cognitive, motivational, and emotional processes (Bandura, 1986). Thus, it is plausible that distal personality constructs, such as positivity, may affect work behaviour through SE. While this mediation hypothesis was not examined in relation to positivity, there are a few studies that examined it considering its components. As an example, Brown and colleagues (2006) showed the mediating role of SE beliefs with respect to self-esteem and job search behaviours and outcomes.

2.1 Aims and Hypotheses

The present study aims to examine the role of two specific work SE dimensions (task and empathic) in mediating the relationship between positivity and both in-role and extra-role behaviours. These two dimensions refer to self-regulatory processes that have been addressed by several theoretical models. Task SE refers to employees' perceived capabilities in managing their performance and work activities oriented toward the achievement of goals. Literature extensively attested the role of this SE dimension in positively influencing job performance and achievement (e.g. Judge et al., 2007; Richardson et al., 2012). Empathic SE refers to employees' perceived capabilities to understand others' states and needs. Contrary to task management, in this case the focus is not limited on one's own intentions and desires in relation to goals, but takes into account also needs, goals and beliefs of others. Previous literature on empathic SE provides evidence for its role in promoting prosocial behaviour and positive adjustment (Bandura et al., 2003).

Our interest is based on the fact that a positive orientation, representing a personal resource that may benignly colour individuals' appraisal of their working conditions (Hobfoll, 1989), may also foster in-role and extra-role behaviours through the enhancement of the individuals' specific beliefs about their capability to master work activities and relationships. In other words, and consistently with what we have discussed in the introduction, positivity may operate as a primary

cognitive instance, setting the basis for a better evaluation of the mastery experiences at work through the action of SE beliefs.

Overall, we hypothesised that (see Figure 2):

H1: SE is positively associated with both in-role and extra-role behaviours. Specifically, while task SE is expected to be mostly associated with in-role behaviour (Judge et al., 2007; Stajkovic & Luthans, 1998), empathic SE is expected to be mostly associated with extra-role behaviour (Chen & Kao, 2011; Reizer & Hetstroni, 2015).

H2: Positivity is positively associated with both task and empathic work SE.

H3: SE mediates the relationship between positivity and both extra-role and in-role behaviours. According to this hypothesis, SE may represent a mediator that significantly contributes to turning positivity into behaviour. In particular, we are formulating a hypothesis of *total mediation*, since we posit that all the influence that positivity may have on the outcome variables is through SE.

-----------Figure 2------------

2.2. Methods

2.2.1 Participants and procedure

A convenience sample of 829 working adults took part in the study. Most participants are female (55%), married (53%), with at least a high school education (59%) and with a mean age of 40 years (SD=12). They work in different private (64.4%) or public (35.6%) sectors, including health care (15.7%), education (9.6%), finance (9.4%), hotel (8%), communication (7.6%) or business (7.3%). They have an average job tenure of 17 years (SD=12) and they have been working on average 11 years (SD=10) in their actual organisation. The majority of the sample comprises permanent employees (66.3%) with executive functions (36.5%). Participants did not receive any form of compensation for filling in the questionnaires. Overall, a total of 10 research assistants

individually administered the questionnaires to each participant, after explaining that their responses

are absolutely confidential and that the study was not commissioned by the organisation they were

working for. Participants completed the questionnaire individually and returned it the same day.

The ethics committee of the university to which the first author is affiliated approved the study.

2.2.2 Measures

Positivity was measured by 7 items from the Positivity scale (Caprara et al., 2012). Participants

were asked to indicate their level of agreement (from 1=*strongly disagree* to 5=*strongly agree*) with

statements related to self-esteem ('I generally feel confident in myself'), life satisfaction ('I am

satisfied with my life') and optimism ('I look forward to the future with hope and enthusiasm').

Work SE was measured by 12 items (Fida et al., 2015) assessing two specific dimensions.

Specifically, 8 items measured task SE, referring to perceived capabilities to manage tasks (e.g.

'respecting schedules and work deadlines'); and 4 items measured empathic SE, referring to

perceived capabilities to recognise others' states (e.g. 'understanding the mood of work

colleagues'). Responses were rated on a 7-point scale (from 1=*not at all* to 7=*completely*).

In-role and extra-role behaviours were measured, respectively, by 5 and 6 items from the scale by

Williams and Anderson (1991). Participants were asked to indicate how often (from 1=*never* to

5=*very often*) they engaged in behaviours that are recognised by a formal reward system, namely in-

role behaviour (e.g. 'adequately completing assigned duties') and in behaviours beyond the formal

reward system, namely extra-role behaviour (e.g. 'helping others who have heavy workloads').

2.2.3 Data Analysis

First, the measurement model for the full set of data was examined using Confirmatory

Factor Analysis (CFA, Kline, 2015). In this analysis, to avoid overlapping between dependent and

independent variables of the posited model, all cross loadings were fixed at zero. In addition, since

two pairs of items have a similar wording, we allowed those items residuals to correlate: a) item 1

('I have great faith in the future') and 4 ('I look forward to the future with hope and enthusiasm') of

the positivity scale, a correlation that was also estimated in the scale validation paper (Caprara et al., 2012); b) item 8 ('Helps other who have been absent') and 9 ('Helps other who have heavy workloads') of the extra-role factor. In order to verify the discriminant validity of the constructs' measures, a model with each item loading into a unique single factor was also tested and compared with the measurement model in which all constructs were posited as different factors.

The model presented in Figure 2 has then been tested within a Structural Equation Modeling (SEM) approach. Specifically, in this 'total mediation' model the direct path between positivity and in-role and extra-role behaviour was fixed at zero. An alternative model where the same paths were free was also estimated, in order to test the presence of a partial mediation where positivity is associated with both in-role and extra-role behaviours in the presence of the mediators.

To examine model fit, several goodness-of-fit indices were used: the Comparative Fit Index (CFI), the Tucker and Lewis Index (TLI), the Standardized Root Mean Square Residual (SRMR), and the Root Mean Square Error of Approximation (RMSEA). To test the mediation hypotheses, specific indirect effects tests as implemented in "Model Indirect" Mplus 7.4 procedure were used.

To take into account the potential heterogeneity in the estimated effects and the possible bias in parameter estimates due to a non-random assignment of employees to workplaces, the model was replicated adopting a multiple group SEM approach (Kline, 2015) with gender as a grouping variable and including employees' work history, operationalised in terms of job tenure, as a covariate influencing all the latent variables (all the paths from job tenure were constrained to be equal across gender).

2.3. Results

A preliminary check of missing data was performed on all measures considered in this study. While 95.3% of the sample has no missing data, 4.3% has only 1 item missing, and the remainder 0.4% from 2 to 6 items missing. By further exploring the non-responses, it was highlighted that missing were not specific to some scales but spread across all measures. In

addition, to analyse in much depth missing values 5 one-way ANOVAs were performed considering as grouping variable having no missing (N=790) vs. having at least one missing (N=39), and as dependent variables the total scores on the 5 variables included in the model. None of these 5 tests were significant (p values ranged from .20 to .90). Given these results we have no theoretical or methodological reasons to suspect that our data were missing not at random, with a consequent bias introduced by the estimation process due to non-response. Accordingly, the use of Full Information Maximum Likelihood to handle missing data (FIML) implemented in Mplus assures that parameter estimates of the SEM are unbiased.

2.3.1 Measurement Model

The items presented a moderate although non-negligible negative skewness. Accordingly, CFA was implemented using MLR estimator that produces standard maximum likelihood parameter estimates with corrected standard errors and chi-square statistic robust to non-normality (Muthén & Muthén, 1998-2015). This model showed an adequate fit to the data: χ^2(393, N=829)=949.41, p<.001, CFI=.94, TLI=.93, RMSEA=.041 (90% CI=.038-.045) p=1.00, SRMR=.042. The 5 factors were significantly loaded by the intended variables, confirming the correspondence with the five theoretical constructs. Factor loadings ranged from .42 to .89 with a median of .71. Results of the one-factor CFA model showed a poor fit to the data: χ^2(403, N=829)=4290.79, p<.001, CFI=.59, TLI=.55, RMSEA=.11(95% CI=.105-.111) p<.001, SRMR=.11 attesting to the discriminant validity of the constructs' measures, as reflected also by the significant chi-square difference test between the five- and one- factor models Δ_{chi}(10)=1716, p<.0001.

The correlation matrix among the study variables is presented in Table 1, along with descriptive statistics and Cronbach's alphas. Overall, all the variables were reliable and positively correlated.

------------------Table 1--------------

2.3.2. Mediation model

The model in Figure 3, hypothesising a total mediation of SE, showed an adequate fit to the data: $\chi^2(395, N=829)=973.8$, $p<.001$, CFI=.94, TLI=.93, RMSEA=.042 (90% CI=.039-.045) p=1.00, SRMR=.048. Overall, in line with H2, positivity was associated with both task (.40) and empathic (.36) SE. Furthermore, in line with H1, while task SE was mostly related to in-role behaviour (.63), empathic SE was only related to extra-role behaviours (.33). In addition, task SE was also moderately associated with extra-role behaviour (.14), while the association of empathic SE with in-role behaviour was not statistically significant. The percentages of variance explained were 16% for task SE, 13% for empathic SE, 33% for in-role behaviours and 17% for extra-role. Task and empathic efficacies were positively correlated (.59), as well as in-role and extra-role behaviours (.30).

-----------Figure 3------------

In line with H3, SE mediates the effect of positivity on both in-role and extra-role behaviours. The total indirect effect was .22 on in-role behaviours and .17 on extra-role. In the presence of multiple mediators, it is possible to examine the specific indirect effects. This decomposition evidenced that the effect of positivity on in-role behaviours was significantly mediated only by task SE (.25, $p<.001$) while the mediation through empathic efficacy was not significant (-.03, $p>.05$). The effect of positivity on extra-role was significantly mediated both by task SE (.05, $p<.05$) and empathic SE (.12, $p<.001$).

The alternative model positing the direct effect of positivity on in-role and extra-role behaviour fitted the data as well: $\chi^2(393, N=829)=949.4$, $p<.001$, CFI=.94, TLI=.93, RMSEA=.041 (90% CI=.038-.045) p=1.00, SRMR=.042. The chi-square difference test comparing the two nested models (the posited one and the alternative) was significant, $\Delta_{chi}(2)=23$, $p<.0001$, so the presence of a partial mediation seems to be confirmed. However, the impact of positivity on both in-role (.19) and extra-role (.13) behaviour was marginal, although statistically significant. As noted by Ferguson (2009), to consider an effect of practical significance, the value of regression coefficients must be at least equal to .20. It is noteworthy that the direct effects of positivity on the outcomes are

lower than this suggested cut-off. This confirms that the direct effect of positivity is negligible and that its impact on the organisational outcomes considered here is largely mediated by SE. It is important to note that the same criteria applied for the evaluation of effect size (i.e., of practical relevance) of direct effects are not applicable to indirect effects (see Hayes, 2013). Unfortunately, to date there are no reliable indices that can be applied for the evaluation of effect size of indirect effects in the presence of multiple mediators and of latent variables, as in this study (Hayes, 2013). Considering these results, since the fit of the two alternative models is practically (although not statistically) the same and since the direct effects of positivity on the outcomes are substantially of negligible practical relevance, the model positing a total mediation of SE seems to be a more parsimonious picture of the data.

2.3.3 Multiple group SEM

Results of the multiple group SEM fits the data well: χ^2(877, N=802)=1598, p<.001, CFI=.92, TLI=.92, RMSEA=.045 (90% CI=.042-.049) p=.99, SRMR=.061. Results mostly replicated those presented in Figure 3: positivity was associated with both task (males = .39, females = .38) and empathic (males =.34, females=.35) SE. Again, while task SE was mostly related to in-role behaviour (males =.60, females =.62), empathic SE was only related to extra-role behaviours (males = .31, females = .33). While the association of empathic SE with in-role behaviour was again not statistically significant in both males and females (being -.09 in both groups), the effect of task SE on extra-role behaviour now was not statistically significant (.05<p<.06) in both groups (males =.12, females = .13). We must notice however that this effect was low, although significant, also in the model in Figure 3. Task and empathic SEs were positively correlated (males =.55, females = .61), as well as in-role and extra-role behaviours (males = .27, females = .34). All across-group constraints were tenable with the exception of covariance between in-role and extra-role behaviours. Finally, job tenure effect was significant only on extra-role behaviours (β =.11 in both males and females). The effect of positivity on in-role behaviours was significantly mediated only by task SE (males = .23,

females = .24) while the mediation through empathic efficacy was not significant (-.03 for both groups). The effect of positivity on extra-role behaviour was significantly mediated by empathic SE (.11 in both groups), while the mediation through task SE was only marginally significant (males =.04, females = .05, p<.07). Overall, these results confirm that neither job tenure nor gender have effect in biasing results of the model.

2.4. Discussion

Results suggest interesting insights on the process through which positivity may result in productive performance at work, such as in-role and extra-role behaviour. Indeed, this study represents the first empirical contribution exploring and attesting to the mediation role of two specific SE dimensions. Overall, the results of this study showed that the relationship between positivity and both in-role and extra-role behaviours was *only marginally* direct but mostly indirect, through the mediation of SE beliefs. More specifically, positivity was significantly associated with task SE, related to workers' perceived capability to regulate their working conduct in the execution of specific tasks, which in turn was significantly associated mostly with in-role behaviour. In addition, positivity was associated with empathic SE, related to workers' perceived capability to understand emotions and mental states of their colleagues, which in turn was associated with extra-role behaviour.

In other words, the influence of positivity on task SE results in the promotion of performance-related outcomes largely through the mediation of task SE: the more workers are inclined to have a positive attitude towards their life, the more they perceived themselves as able to manage challenges and tasks at work and, consequently, the better they perform. Similarly, the influence of positivity on empathic SE results in the promotion of extra-role behaviour largely through the mediation of empathic SE: the more workers are inclined to have a positive attitude toward their life, the more they perceived themselves as able to understand others' states and, consequently, the more they engage in citizenship work behaviour.

Overall, results attested that the contribution of positivity was mostly mediated by work task SE in the case of in-role behaviour, consistent with the literature proving the relevance of the perceived capability to manage challenges and tasks at work in relation to performance (Stajkovic & Luthans, 1998), while it was mediated mainly by empathic SE in the case of extra-role behaviour, consistent with the literature attesting to the relevance of the perceived capability to understand others' point of view on prosocial behaviour (Alessandri, Caprara, Eisenberg, & Steca, 2009). Thus, these findings seem to confirm the domain specificity of SE in line with Bandura theorisation (1997).

3. Study 2: Positivity, Self-Efficacy and Academic Behaviour

While the relationship between positivity and educational outcomes has been never tested, several studies have specifically investigated positivity components in relation to different academic outcomes. In particular, *self-esteem* has been the positivity component more studied regarding academic achievement and performance (e.g., Baumeister, Campbell, Krueger, & Vohs, 2003; Di Giunta, Alessandri, et al., 2013; Trautwein, Lüdtke, Köller, & Baumert, 2006). However, while some studies evidenced a significant impact of this dimension on academic achievement (Marsh & Craven, 1997), others showed the opposite effect (Baumeister et al., 2003), or no effect at all when controlling for variables such as personality traits, locus of control and perceived SE beliefs (e.g., Lane, Lane & Kyprianou, 2004; Mone, Baker, & Jeffries, 1995; Ross & Broh, 2000).

Few studies investigated the relationship between *life-satisfaction* and academic achievement/performance. Specifically, while some studies reported marginal correlations between the two variables (e.g., Chow, 2005; Gilman and Huebner 2006; Rode et al., 2005; Salmela-Aro and Tynkkynen, 2010) others found no relationships between them (Ayyash-Abdo & Sánchez-Ruiz, 2012; Bradley & Corwyn, 2004). Moreover, research evidenced significant associations of life satisfaction with key school outcomes such as classroom behaviour and academic self-concepts

(Huebner et al., 2014), academic efficacy (Diseth, Danielsen, & Samdal, 2012; Suldo et al., 2006) and student engagement in school (Lewis, Huebner, Malone, & Valois, 2011).

Finally, a limited number of studies addressed the relationship between *optimism* and academic outcomes with contradictory results. Rand (2009) evidenced that this dimension did not have a direct association to academic achievement: however when the second order variable of 'goal attitude' capturing the shared aspect of optimism and hope was considered, a significant direct effect on academic performance emerged. Rand and colleagues (2011) confirmed that the effects of optimism on academic performance disappeared when considering hope as another independent variable. In a more recent study, Feldman and Kutoba (2015) further confirmed these results, also evidencing that the effect of general hope on GPA is mediated both by academic hope and academic SE.

As noted in the case of organisational behaviour, we believe that for a better understanding of how positivity influences academic-related outcomes, it is pivotal to examine the role played by SE. Indeed, the relevance of this dimension in academic settings has been largely confirmed. Several studies evidenced that academic SE influenced several academic outcomes, such as academic achievement (Caprara et al., 2008, Pajares & Urdan, 2006), college performance and persistence (Gore, 2006), GPA (Robbins et al., 2004) and academic aspirations (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). In addition, research highlighted that SE in self-regulated learning allows students to transform knowledge and cognitive competencies into effective academic action by promoting efforts and managing the demands implied by academic tasks (Zimmerman & Martinez-Pons, 1988). Indeed, there is a difference between having self-regulatory skills and being able to act them into behaviour. As noted by Caprara and colleagues (2008) 'self-regulatory skills will not contribute much if students cannot get themselves to apply them persistently in the face of difficulties, stressors, and competing attractions' (p. 526).

3.1 Aims and Hypotheses

As per study 1, SE as the most proximal determinant of academic behaviour should mediate the influence that distal personality constructs, such as positivity, may have on academic behaviour (Brown et al., 2006; Kanfer, 1992). Thus, we hypothesised that (see Figure 4):

H1: Academic SE is positively associated with both academic grades and academic citizenship behaviours.

H2: Positivity is positively associated with academic SE.

H3: SE mediates the relationship between positivity and both academic grades and citizenship behaviours.

-----------Figure 4------------

3.2. Methods

3.2.1 Participants and procedure

A sample of 223 undergraduate psychology students took part in the study. Most participants were female (68%), with a mean age of 22 years (SD=3.6). In terms of students' family educational level, 53% of their mothers and their fathers completed senior high school, and 36% of their mothers and 31% of their fathers have a university degree.

Participants received course credits for the participation in the research. They completed the paper and pencil questionnaire individually in a collective administration during a class after having signed the informed consent.

Participants were asked to report the students' numbers in order to make it possible to match the questionnaire with the actual academic grades. Students were informed that participation was voluntary and that the research was not commissioned by the university they were enrolled in. In addition, the research team member clarified that students' responses would be kept confidential and anonymous. Finally, students were informed that individuals' data would not be shared with anyone for any reason and that data would always be reported in aggregate form. The ethics committee of the university to which the first author is affiliated approved the study.

3.2.2 Measures

Positivity was measured by 7 items from the Positivity scale (Caprara et al., 2012) as in study 1.

Academic SE was measured by 6 items assessing perceived efficacy for self-regulated learning (Bandura, 1990). They were adapted from items developed by Artino (2013) and Muris (2001) and refers to "students' perceived capability to use a variety of self-regulated learning strategies such as planning and organising their academic activities" (Zimmerman, Bandura & Martinez-Pons, 1992, p. 665). Sample items are "Taking well-organised notes during a lecture", "Listening carefully during a lecture on a difficult topic" and "Studying enough to understand content thoroughly". Responses were rated on a 7-point scale (from 1=*not at all* to 7=*completely*).

Academic Citizenship Behaviours were measured by 3 items from the scale by Gore and colleagues (2012). Participants were asked to indicate how often (from 1=*never* to 5=*very often*) they engaged in the following behaviours: "help colleagues with heavy workloads", "volunteer in helping colleagues who have study problems" and "help colleagues who have been absent".

Academic Grades were taken from the university archives as the average of the modules' marks (in the Italian system the pass mark ranges from 18 to 30) obtained by the students in the exams they undertook. This measure has been collected 7 months later with respect to the administration of the self-report measures.

3.2.3 Data Analysis

First, the measurement model for the full set of data was examined using a CFA. Then, the posited model specified in Figure 4 was tested within a full SEM approach: as in the case of study 1, we tested a *total mediation* model where the direct path between positivity and both academic grade and citizenship behaviour was fixed at zero. An alternative *partial mediation* model was also tested, where the same paths were freely estimated. To examine model fit, the same goodness-of-fit

indices of study 1 were used. To test the mediation hypotheses, the same Mplus procedure used in study 1 was applied.

As in study 1, to take into account the potential heterogeneity in the estimated effects and relationships among variables due to the effect of gender, a multiple group SEM was also conducted considering gender as a grouping variable.

3.3. Results

A preliminary check of missing data was performed on all the measures considered in this study. While 98% of the sample has no missing data, the remainder 2% has only 1 variable missing. In addition, to analyse in much depth missing values, 4 one-way ANOVAs were performed considering as grouping variable having no missing (N=218) vs. having one missing value (N=5), and as dependent variables the total scores on the 4 variables included in the model. None of these 4 tests were significant (p values ranged from .26 to .83). As in study 1, given these results we have no theoretical or methodological reasons to suspect that our data were missing not at random, with a consequent bias introduced by the estimation process due to non-response. Accordingly, we used the FIML approach implemented in Mplus to handle missing data.

3.3.1 Measurement Model

The items presented a moderate although non-negligible negative skewness. Accordingly, the CFA was implemented using a MLR estimator method. This model showed an adequate fit to the data: χ^2 (100, N=223)=180, p<.001, CFI=.93, TLI=.92, RMSEA=.06 (90% CI =.046-.074) p=0.12, SRMR=.058.The 3 factors were univocally loaded by the intended variables, confirming the almost perfect correspondence with the three theoretical constructs. The loadings ranged from .36 to .91 with a median of .61. Results of the one-factor model showed a poor fit to the data:

χ^2(103, N=223)=551, p<.001, CFI=.62, TLI=.56, RMSEA=.14 (95% CI=.13-.15) p<.001,

SRMR=.12, attesting to the discriminant validity of the constructs' measures as reflected also by the

significant chi-square difference test between the three- and one- factor models Δ_{chi}(3)=349,

p<.0001.

The correlation matrix among the study variables is presented in Table 2, along with

descriptive statistics and Cronbach's alphas. Overall, all the variables were reliable and positively

correlated (p<.001).

------------------Table 2--------------

3.3.2. Mediation model

The model in Figure 5, positing a total mediation of SE, showed an adequate fit to the data:

χ^2 (115, N=223)=189, p<.001, CFI=.94, TLI=.93, RMSEA=.054 (90% CI=.04-.067) p=1.00,

SRMR=.046. Overall, in line with H2, positivity was positively associated with academic SE (.42).

Furthermore, in line with H1, academic SE was related to both grades (.37) and academic

citizenship behaviour (.26). The percentages of variance explained were 18% for academic SE, 14%

for academic grades and 7% citizenship behaviour. Grades and academic citizenship behaviour

were slightly correlated (.20).

In line with H3, SE mediates the effect of positivity on both grades and academic citizenship

behaviour. The indirect effect was .16 on grades and .11 on academic citizenship behaviour. The

alternative model positing the direct effect of positivity on grade and citizenship behaviour fitted the

data well: χ^2(113, N=223)=189.12, p<.001, CFI=.94, TLI=.93, RMSEA=.055 (90% CI= .041-.068)

p=.056, SRMR=.056. The chi-square difference test comparing the two nested model (the posited

one and the alternative) was, however, not significant, Δ_{chi}(2)=0.12, p=1, so the hypothesis of a

partial mediation was not confirmed. Moreover, the impact of positivity on both grades (.05) and

academic citizenship behaviour (.05) was not significant. Hence, we can conclude that the influence

of positivity on outcomes is totally mediated by SE.

3.3.3 Multiple group SEM

Results supported the model: χ^2(246, N=223)=333, p<.001, CFI=.93, TLI=.92, RMSEA=.056 (90% CI=.04-.071) p=.24, SRMR=.087 and replicated those presented in Figure 5: positivity was associated with academic SE (males=.47, females=.43), academic SE was related to grades (males = .57, females = .35) and academic citizenship behaviour (males =.27, females = .29). Grades and academic citizenship behaviour were not correlated (r=.12 both in males and females). All across-group constraints were tenable with the exception of the effect of academic SE on grades that was higher in males than in females. SE mediates the effect of positivity on both grades and academic citizenship behaviour. In particular, the indirect effect on grades was .25 for males and .15 for females, while the indirect effect on academic citizenship behaviour was .13 for both males and females. Overall, these results confirm that gender has no effect in biasing results of the model.

3.4. Discussion

As in the case of study 1, results showed for the first time that the process through which positivity influences academic performance and prosocial behaviour in higher education is fully mediated by SE beliefs. Specifically, the more students have a positive personal outlook, the more they perceived themselves as capable of planning their educational activities, and in turn the more they achieve higher grades in their exams as well as behaving prosocially with their peers. **In sum, positivity tends to promote successful academic behaviours possibly by enhancing students' perceptions of themselves as able to manage challenges and tasks in the academic domain.**

4. General discussion and Conclusions

This paper addressed the relationship of positivity and SE with behavioural outcomes at work and in the academic context. In particular, in two independent studies, conducted in different contexts, we hypothesised that successful behaviours in terms of performance and citizenship

behaviour cannot be achieved unless one's positive outlook of the world is not transformed into behaviour through SE beliefs. Overall, results suggest that positivity may predispose individuals to work/academic optimal performance only if this potentiality *comes into action* through the influence it exerts on SE beliefs. Specifically, while positivity represents the expression of a global evaluative component of the self, affecting the way people evaluate experiences and anticipate future events, SE beliefs reflect highly contextualised knowledge structures guiding appraisal processes that, in turn, orient actions (see in this regard Hair & Graziano, 2003). SE beliefs allow individuals to translate this general positive proneness into operative beliefs that take into account both the specificity of external requests (e.g., helping a colleague who is struggling, finalising a task in a short time) and the self-regulative abilities needed to deal with those requests (e.g., social skills, attentive skills, concentration and persistence).

As discussed in the introduction, it is plausible that, once positivity has set the basis for a positive evaluation across different domains, SE allows for the transformation of these positive thoughts into actions in specific realms of life. More in depth, when facing and evaluating any situations, positivity can orient individuals on the positive side of the experience, for example by recalling prior successful experiences or focusing them on their resources and capabilities rather than on their weaknesses that can undermine the action. These elements may then act to marshal domain-specific SE beliefs which, in their turn, may guide goal directed behaviours. Specifically, SE beliefs are the self-regulatory mediator that can transform the individual's positive orientation into concrete and specific actions that lead to successful performance.

When examining the findings on the influence of positivity on SE, it needs to be considered that the present study included a sample of adults and a sample of university students. It is likely that during adulthood positivity has become a quite stable evaluative disposition, resulting from (more or less) successful past interactions between the individual and their environment. Hence, positivity may represent a solid pillar upon which SE beliefs may rest. In other words, positively oriented individuals may more easily recall memories of successful experiences (in the work as well

as in the academic domain), useful to self-regulate their behaviour in the different domains of functioning, including managing interpersonal relationships and managing tasks autonomously. **However, although the model posited in the present contribution is theoretically grounded and is consistent with the literature supporting the role of positivity in influencing individual resources (Caprara, Eisenberg & Alessandri, 2016; Orkibi & Brandt, 2015), we must acknowledge that the reverse path of influence, where SE is posited as a source of positive orientation, has been suggested in previous studies adopting a cross-sectional perspective (e.g. Caprara & Steca, 2005). Indeed, a recent contribution adopting a longitudinal perspective suggested that positivity at 17 years influenced SE at 19 years that in turn influenced positivity at 21 years (Caprara et al. 2010). Future studies should follow up this longitudinal approach** to examine the reciprocal interplay between positivity and SE. This possible reciprocal influence may indeed establish a virtuous circle, in which positivity represents a source of SE, which in turn further increases positivity through the consolidation of successful experiences.

In addition to the need of overcoming the cross-sectional approach, we acknowledge further limits that future studies should address to strengthen current results. First, most of the measures, with the exception of academic grades, were self-reported, thus social desirability bias cannot be excluded. For instance in the work context, it would be relevant to include objective indicators to assess in-role behaviour. **Second,** especially in relation to **the academic context**, it would be relevant to also include other forms of SE (like the empathic efficacy considered in study 1) in order to enhance the capacity of the model to explain the variance of academic citizenship behaviours. Third, a multi-informant approach would be an important added value, considering both in-role and extra-role behaviour. **Finally, we were unable to explore the additional impact of personality traits on work and academic behaviours. Although previous studies exploring positivity and Big Five in relation to academic (Caprara et al., 2011), and to work performance and OCB (Alessandri, Vecchione, Tisak, et al., 2012), as well as studies investigating SE and Big Five in relation to academic achievement (Di Giunta, et al.,**

2013) showed that both positivity and SE have a significant contribution above and beyond personality traits, future studies should explore their concurrent role.

Notwithstanding these elements requiring additional investigation, the theoretical contribution of the present study, attesting the mediation role of SE in the relationship between positivity and behavioural outcomes, is innovative and potential practical relevance can be envisaged as well. Indeed, a large number of studies provide evidence for the importance of considering individual resources when designing and planning interventions aimed at promoting well-being and performance, as well as hindering stress, depression and other undesirable outcomes (for an overview see Meyers, van Woerkom, & Bakker, 2013; Shoshani, & Steinmetz, 2014). In particular, findings from the present contribution suggest monitoring not only positivity but also SE beliefs in order to promote success and positive behaviour in both academic and work context. The mediation of SE in the relationship between positivity and behaviours evidences the pivotal role of beliefs related to the *self-regulatory strategies* in the behaviour generation process. Positivity, in fact, represents the basis for good adaptation: however, results suggested that this is not sufficient to allow individuals to 'walk the talk' and succeed**. To this end, managers, in the working context, as well as lecturers and supervisors, in the academic context, may play a key role in promoting and supporting individuals' SE through an empowering leadership (Srivastava, Bartol, & Locke, 2006).**

From a practical perspective, this research suggests the importance of assessing and monitoring, both in the academic and work context, not only personal inclinations and attitudes but also individuals' self-regulatory beliefs related to their capabilities of setting challenging goals, planning the series of actions to achieve them and modulating their own behaviour on the basis of events and contextual characteristics and circumstances. **In doing this, it is central to consider a range of specific SEs, including task-oriented, interpersonal, and emotional domains that may have different impacts on individuals' behaviour and adjustment (Paciello, Ghezzi, et al. 2016). Overall, a nuanced assessment providing information on individuals' self-regulatory**

strengths and weakness may, in turn, inform the design of tailored intervention and training

allowing individuals to adequately respond to the different demands and achieve successful

outcomes.

References

Alessandri, G., Caprara, G. V., Eisenberg, N., & Steca, P. (2009). Reciprocal relations among self-efficacy beliefs and prosociality across time. *Journal of Personality,77*(4),1229-1259.

Alessandri, G., Vecchione, M., Tisak, J., Deiana, G., Caria, S., & Caprara, G. V. (2012). The utility of positive orientation in predicting job performance and organisational citizenship behaviors. *Applied Psychology,61*(4),669-698.

Artino Jr, A. R. (2013). Review of the motivated strategies for learning questionnaire. *University of Connecticut.* Retrieved from

http://www.sp.uconn.edu/~aja05001/comps/documents/MSLQ_Artino.pdf

Ayyash-Abdo, H., & Sánchez-Ruiz, M.J. (2012). Subjective wellbeing and its relationship with academic achievement and multilinguality among Lebanese university students. *International Journal of Psychology,47*(3),192-202.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. New York: Prentice-Hall, Inc.

Bandura, A. (1990). *Multidimensional scales of perceived academic efficacy.* Stanford, CA: Stanford University

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes,50*(2),248-287.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

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.doi: 10.1111/1467-8624.00567

Bandura, A., Barbaranelli, C., Caprara, G. V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development,72*(1),187-206.

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem

cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological

Science in the Public Interest,4*(1),1-44.

Böckerman, P., & Ilmakunnas, P. (2012). The job satisfaction-productivity nexus: A study using

matched survey and register data. *ILR Review,65*(2),244-262.

Bradley, R. H., & Corwyn, R. F. (2004). Life satisfaction among European American, African

American, Chinese American, Mexican American, and Dominican American adolescents.

International Journal of Behavioral Development,28(5),385-400.

Britner, S. L., & Pajares, F. (2006). Sources of science self-efficacy beliefs of middle school

students. *Journal of Research in Science Teaching,43*(5),485-499.

Brown, D. J., Cober, R. T., Kane, K., Levy, P. E., & Shalhoop, J. (2006). Proactive personality and

the successful job search: A field investigation with college graduates. *Journal of Applied

Psychology,91*(3),717-726.

Caprara, G. V., Alessandri, G., & Barbaranelli, C. (2010). Optimal functioning: Contribution of

self-efficacy beliefs to positive orientation. *Psychotherapy and Psychosomatics,79*(5),328-330.

Caprara, G. V., Alessandri, G., Eisenberg, N., Kupfer, A., Steca, P., Caprara, M. G., et al. (2012).

The positivity scale. *Psychological Assessment,24*(3),701-712.

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.

Caprara, G. V., Castellani, V., Alessandri, G., Mazzuca, F., La Torre, M., Barbaranelli, C., et al.

(2016). Being positive despite illness: The contribution of positivity to the quality of life of

cancer patients. *Psychology & Health,31*(5),524-534.

Caprara, G. V., Eisenberg, N., & Alessandri, G. (2016). Positivity: The dispositional basis of

happiness. *Journal of Happiness Studies,18*,1-19.

Caprara, G. V., Fagnani, C., Alessandri, G., Steca, P., Gigantesco, A., Sforza, L. L. C., et al. (2009). Human optimal functioning: The genetics of positive orientation towards self, life, and the future. *Behavior Genetics,39*(3),277-284.

Caprara, G. V., Fida, R., Vecchione, M., Del Bove, G., Vecchio, G. M., Barbaranelli, C., et al. (2008). Longitudinal analysis of the role of perceived self-efficacy for self-regulated learning in academic continuance and achievement. *Journal of Educational Psychology,100*(3),525-534.

Caprara, G. V., & Steca, P. (2005). Affective and social self-regulatory efficacy beliefs as determinants of positive thinking and happiness. *European Psychologist,10*(4),275-286.

Caprara, G. V., Vecchione, M., Alessandri, G., Gerbino, M., & Barbaranelli, C. (2011). The contribution of personality traits and self-efficacy beliefs to academic achievement: A longitudinal study. *British Journal of Educational Psychology,81*(1),78-96.

Chen, C.-H. V., & Kao, R.H. (2011). A multilevel study on the relationships between work characteristics, self-efficacy, collective efficacy, and organizational citizenship behavior: The case of Taiwanese police duty-executing organizations. *The Journal of Psychology,145*(4),361-390.

Chow, H. P. (2005). Life satisfaction among university students in a Canadian prairie city: A multivariate analysis. *Social Indicators Research,70*(2),139-150.

Di Giunta, L., Alessandri, G., Gerbino, M., Kanacri, P. L., Zuffianò, A., & Caprara, G. V. (2013). The determinants of scholastic achievement: The contribution of personality traits, self-esteem, and academic self-efficacy. *Learning and Individual Differences,27*,102-108.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment,49*(1),71-75.

Diseth, Å., Danielsen, A. G., & Samdal, O. (2012). A path analysis of basic need support, self-efficacy, achievement goals, life satisfaction and academic achievement level among secondary school students. *Educational Psychology,32*(3),335-354.

Feldman, D. B., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic achievement:

Distinguishing constructs and levels of specificity in predicting college grade-point average.

Learning and individual Differences,37,210-216.

Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional*

Psychology: Research and Practice,40(5),532.

Fida, R., Paciello, M., Tramontano, C., Barbaranelli, C., & Farnese, M. L. (2015). "Yes, I Can":

The protective role of personal self-efficacy in hindering counterproductive work behavior under

stressful conditions. *Anxiety, Stress, & Coping,28*(5),479-499.

Gilman, R., & Huebner, E. S. (2006). Characteristics of adolescents who report very high life

satisfaction. *Journal of Youth and Adolescence,35*(3),293-301.

Gore, J. S., Kiefner, A. E., & Combs, K. M. (2012). Personality traits that predict academic

citizenship behavior. *Journal of Applied Social Psychology,42*(10),2433-2456.

Gore, P. A. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental

validity studies. *Journal of Career Assessment,14*(1),92-115.

Hair, E. C., & Graziano, W. G. (2003). Self-esteem, personality and achievement in high school: A

prospective longitudinal study in Texas. *Journal of Personality,71*(6),971-994.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A*

regression-based approach. New York: Guilford Press.

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress.

American Psychologist,44(3),513-524.

Huebner, E. S., Hills, K. J., Siddall, J., & Gilman, R. (2014). Life satisfaction and schooling. In M.

J. Furlong, R. Gilman, & E. S., Huebner (Eds.), Handbook of positive psychology in the schools

(2nd ed., pp. 192–207). New York, NY: Routledge

Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem,

generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job

performance: A meta-analysis. *Journal of Applied Psychology,86*(1),80-92.

Judge, T. A., Jackson, C. L., Shaw, J. C., Scott, B. A., & Rich, B. L. (2007). Self-efficacy and work-related performance: The integral role of individual differences. *Journal of Applied Psychology,92*(1),107-127.

Kanfer, R. (1992). Work motivation: New directions in theory and research. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology*. London: John Wiley & Sons, Ltd.

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York, NY: Guilford Press.

Lane, J., Lane, A. M., & Kyprianou, A. (2004). Self-efficacy, self-esteem and their impact on academic performance. *Social Behavior and Personality: An international journal,32*(3),247-256.

Lewis, A. D., Huebner, E. S., Malone, P. S., & Valois, R. F. (2011). Life satisfaction and student engagement in adolescents. *Journal of Youth and Adolescence,40*(3),249-262.

Livi, S., Alessandri, G., Caprara, G. V., & Pierro, A. (2015). Positivity within teamwork: Cross-level effects of positivity on performance. *Personality and Individual Differences,85*,230-235.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin,131*(6),803.

Marsh, H. W., & Craven, R. G. (1997). Academic self-concept: Beyond the dustbowl. In G.Phye (Ed.), Handbook of classroom assessment: Learning, achievement and adjustment. Orlando, FL: Academic Press.

Meyers, M. C., van Woerkom, M., & Bakker, A. B. (2013). The added value of the positive: A literature review of positive psychology interventions in organizations. *European Journal of Work and Organizational Psychology,22*(5),618-632.

Mone, M. A., Baker, D. D., & Jeffries, F. (1995). Predictive validity and time dependency of self-efficacy, self-esteem, personal goals, and academic performance. *Educational and Psychological Measurement,55*(5),716-727.

Munyon, T. P., Hochwarter, W. A., Perrewé, P. L., & Ferris, G. R. (2010). Optimism and the nonlinear citizenship behavior—Job satisfaction relationship in three studies. *Journal of Management,36*(6),1505-1528.

Muris, P. (2001). A brief questionnaire for measuring self-efficacy in youths. *Journal of Psychopathology and Behavioral Assessment,23*(3),145-149.

Muthén, L. K., & Muthén, B. O. (1998-2015). *2014*. Los Angeles, CA: Muthén & Muthén.

Niranjana, P., & Pattanayak, B. (2005). Influence of learned optimism and organisational ethos on organisational citizenship behaviour: A study on Indian corporations. *International Journal of Human Resources Development and Management,5*(1),85-98.

Orkibi, H., & Brandt, Y. I. (2015). How positivity links with job satisfaction: Preliminary findings on the mediating role of work-life balance. *Europe's Journal of Psychology,11*(3),406-418.

Paciello, M., Ghezzi, V., Tramontano, C., Barbaranelli, C., & Fida, R. (2016). Self-efficacy configurations and wellbeing in the academic context: A person-centred approach. *Personality and Individual Differences,99*,16-21.

Pajares, F., & Urdan, T. C. (2006). *Self-efficacy beliefs of adolescents*. Greenwich, Connecticut: Information Age Publishing.

Rand, K. L. (2009). Hope and optimism: Latent structures and influences on grade expectancy and academic performance. *Journal of Personality,77*(1),231-260.

Rand, K. L., Martin, A. D., & Shea, A. M. (2011). Hope, but not optimism, predicts academic performance of law students beyond previous academic achievement. *Journal of Research in Personality,45*(6),683-686.

Reizer, A., & Hetsroni, A. (2015). Caregiving representations at work and the moderating role of job self-efficacy. *Psychological Reports,116*(1),60-73.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: a systematic review and meta-analysis. *Psychological Bulletin,138*(2),353-387. doi:10.1037/a0026838

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin,130*(2),261-288.

Rode, J. C., Arthaud-Day, M. L., Mooney, C. H., Near, J. P., Baldwin, T. T., Bommer, W. H., et al. (2005). Life satisfaction and student performance. *Academy of Management Learning & Education,4*(4),421-433.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press

Ross, C. E., & Broh, B. A. (2000). The roles of self-esteem and the sense of personal control in the academic achievement process. *Sociology of Education,73*(4),270-284.

Salmela-Aro, K., & Tynkkynen, L. (2010). Trajectories of life satisfaction across the transition to post-compulsory education: Do adolescents follow different pathways? *Journal of Youth and Adolescence,39*(8),870-881.

Scheier, M. E., & Carver, C. S. (1987). Dispositional optimism and physical well-being: The influence of generalized outcome expectancies on health. *Journal of Personality, 55*(2), 169-210.

Shoshani, A., & Steinmetz, S. (2014). Positive psychology at school: A school-based intervention to promote adolescents' mental health and well-being. *Journal of Happiness Studies,15(6),*1289-1311

Srivastava, A., Bartol, K. M., & Locke, E. A. (2006). Empowering leadership in management teams: Effects on knowledge sharing, efficacy, and performance. *Academy of management journal*,*49*(6),1239-1251.

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin,124*(2),240-261.

Suldo, S. M., Riley, K. N., & Shaffer, E. J. (2006). Academic correlates of children and adolescents' life satisfaction. *School Psychology International,27*(5),567-582.

Tenney, E. R., Logg, J. M., & Moore, D. A. (2015). (Too) optimistic about optimism: The belief that optimism improves performance. *Journal of Personality and Social Psychology,108*(3),377-399.

Tenney, E. R., Poole, J. M., & Diener, E. (2016). Does positivity enhance work performance? Why, when, and what we don't know. *Research in Organizational Behavior,36*,27-46.

Trautwein, U., Lüdtke, O., Köller, O., & Baumert, J. (2006). Self-esteem, academic self-concept, and achievement: How the learning environment moderates the dynamics of self-concept. *Journal of Personality and Social Psychology,90*(2),334-349.

Van Dyne, L., Vandewalle, D., Kostova, T., Latham, M. E., & Cummings, L. L. (2000). Collectivism, propensity to trust and self-esteem as predictors of organizational citizenship in a non-work setting. *Journal of Organizational Behavior,21*,3-23.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management,17*(3),601-617.

Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement in adaptive self-regulation: When giving up is beneficial. *Self and Identity,2,*1–20.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal,29*(3),663-676.

Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology,80*(3),284.

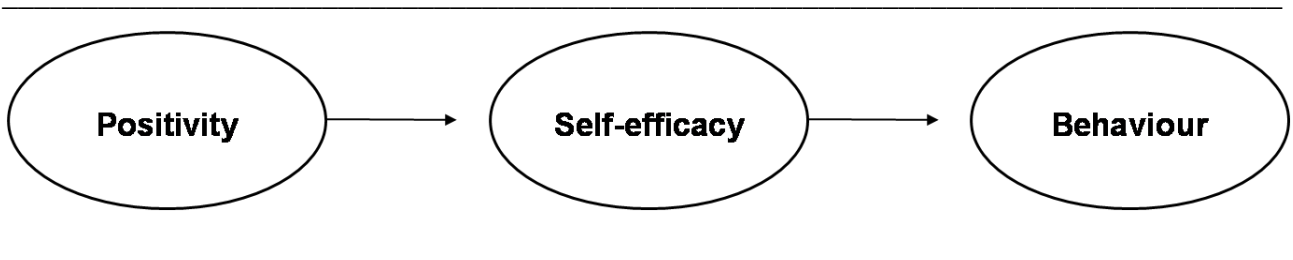Figure 1. Conceptual model specifying the mediation of Self-Efficacy with respect to Positivity and Behaviour

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Figure 2. Posited model relating Self-Efficacy, Positivity and Organisational Behavioural outcomes
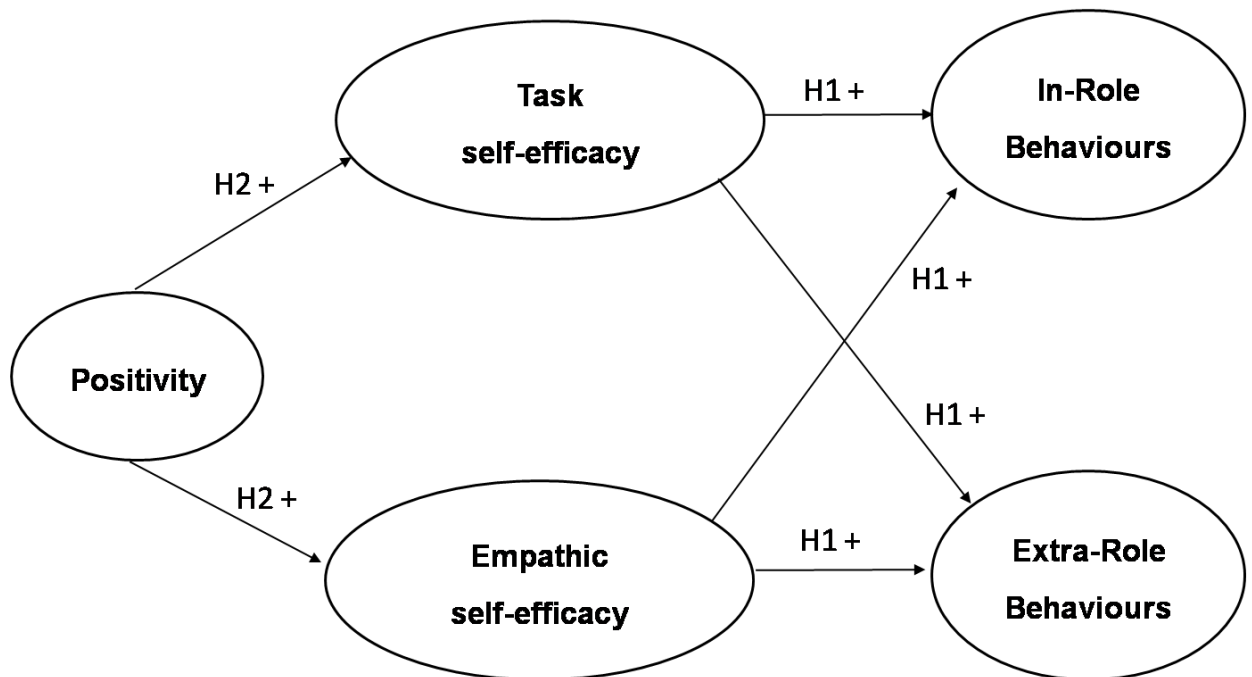
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Figure 3. Results of the Study 1 tested model: the mediation of Self-Efficacy
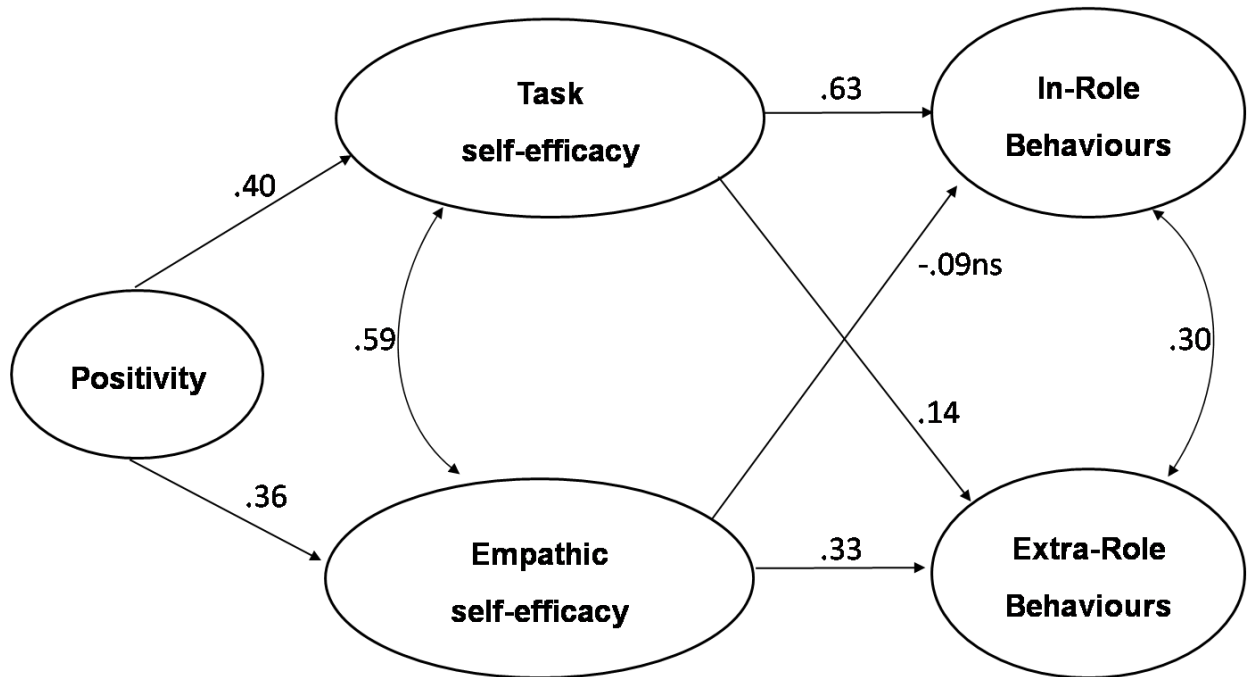
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Figure 4. Posited model relating Self-Efficacy, Positivity and Academic Behavioural outcomes
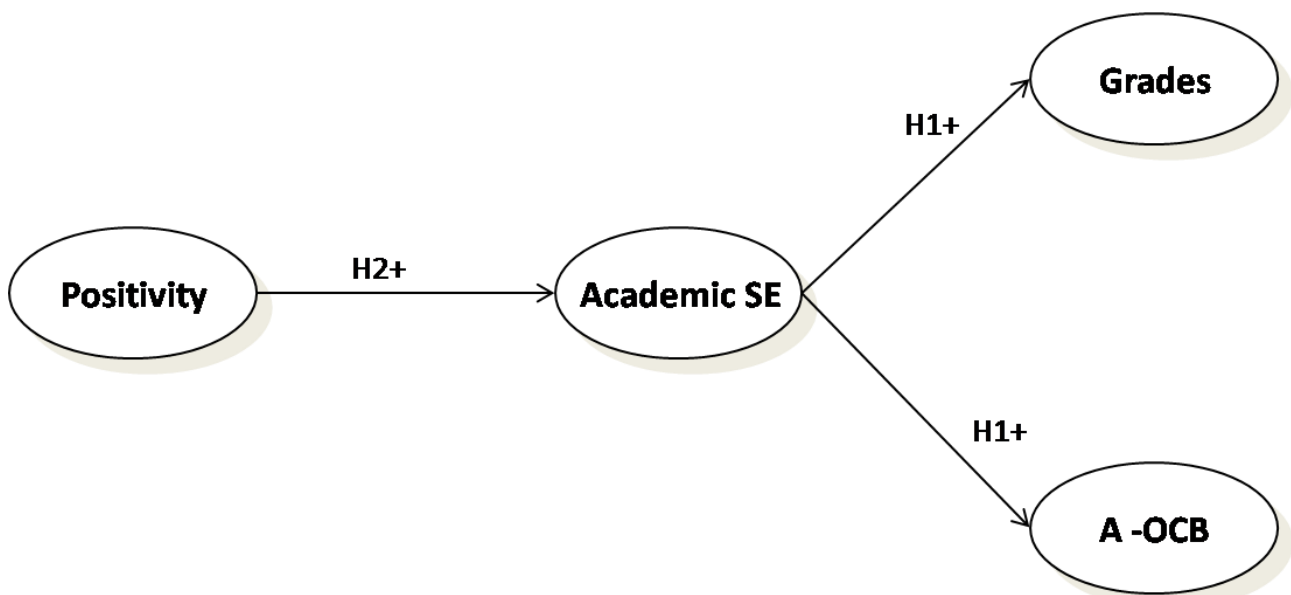
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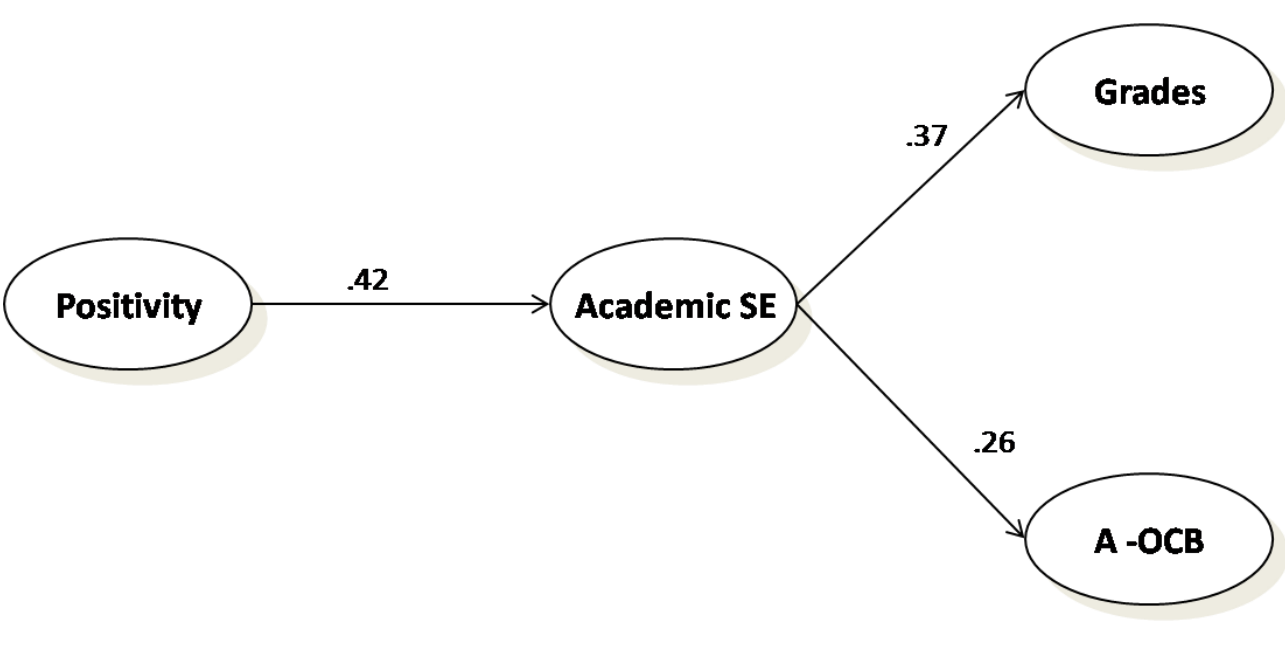Figure 5. Results of the Study 2 tested model: the mediation of Self-Efficacy

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Table 1. Descriptive statistics, reliabilities, and correlations for Study 1 variables

	M	SD	Skewness.	Kurtosis	1	2	3	4	5
1. Positivity	3.67	0.77	-0.64	0.36	0.83				
2. Empathic SE	5.13	1.01	-0.54	0.58	0.29	0.79			
3. Task SE	5.69	0.97	-1.09	1.81	0.31	0.55	0.91		
4. In-Role	4.14	0.63	-0.58	0.43	0.29	0.26	0.49	0.85	
5. Extra-Role	3.56	0.73	-0.31	0.11	0.21	0.31	0.30	0.36	0.78

Note. SE = self-efficacy; All correlations were significant, $p < .001$. Cronbach's alphas are on the diagonal

Table 2. Descriptive statistics, reliabilities, and correlations for Study 2 variables

	M	SD	Skewness.	Kurtosis	1	2	3	4
1. Grades	26.73	1.88	-0.54	-0.43	-			
2. Academic SE	3.62	0.40	-0.03	-0.21	0.31	0.73		
3. Academic OCB	3.28	0.87	-0.38	-0.21	0.26	0.19	0.79	
4. Positivity	3.61	0.70	-0.37	-0.05	0.20	0.39	0.16	0.85

Note. SE = self-efficacy; All correlations were significant, $p < .001$. Cronbach's alphas are on the diagonal