In Whom College Teachers Trust? On the Role of Specific Trust Referents and Basic Psychological Needs in Optimal Functioning at Work

Louise Clément [1*], Claude Fernet [2], Alexandre J.S. Morin [3], Stéphanie Austin [2]

[1] Département des fondements et pratiques en éducation, Faculté des sciences de l'éducation, Université Laval, 2320 rue des Bibliothèques, Québec (Québec), Canada
[2] École de gestion, Département de gestion des ressources humaines, Université du Québec à Trois-Rivières (UQTR), 3351, boul. des Forges, C.P. 500, Trois-Rivières (Québec), Canada
[3] Departement of Psychology, Concordia University, 7141 Sherbrooke West, Montréal (Québec), Canada, H3B 1R6

*Corresponding author
Louise Clément
E-mail: Louise.Clement@fse.ulaval.ca

Abstract

This study examines the mediating role of the satisfaction of basic psychological needs (need for relatedness, need for competence, need for autonomy), as derived from self-determination theory, between college teachers' relational trust in three main referents (the administration, colleagues and students) and their optimal functioning (vigor, affective organizational commitment, job performance). The study was conducted among 422 teachers from French-language colleges in the province of Quebec (Canada). The results obtained using structural equations provide support for the proposed model, while identifying specific ways in which trust in the different referents is connected to the satisfaction of psychological needs, as well as to the studied indicators of functioning. Theoretical and practical implications, as well as directions for future research are discussed.

Keywords: relational trust; college teachers; basic psychological need satisfaction; vigor; organizational commitment; job performance.

Academic organizations are based on social relationships that fluctuate mainly in terms of number and quality, and are of capital importance. They comprise a complex network of interactions where members exchange with one another to optimize the way they work and function at work (Van Maele and Van Houtte, 2012). For this interdependence to be effective, relational trust (RT) must be present as a facilitator of relationships between members (Tschannen-Moran and Gareis, 2015). RT in an academic context constitutes a cornerstone of relationships between stakeholders as it allows collaboration between them. In its absence or when it is undermined, stakeholders may hesitate to collaborate closely on the educational mission (Tschannen-Moran, 2001).

For teachers, RT refers to their willingness to rely on an administrator, a colleague or a student, who will demonstrate benevolence, reliability, competence, honesty, and openness toward the teacher (Hoy and Tschannen-Moran, 2003). Revealing itself in teachers' interactions with three main referents (the administration, colleagues, and students; Hoy and Tschannen-Moran, 2003), RT is an important social binding agent of collaboration among stakeholders (Adams and Forsyth, 2009; Tschannen-Moran, 2009). It is thus not surprising that it contributes to different indicators of teachers' functioning. For example, a study by Van Maele and Van Houtte (2012) found that teachers' trust in administration, colleagues, and students is positively associated with teachers' job satisfaction. In addition, a study by Tschannen-Moran (2009) found that teachers' trust in administration is positively associated with teachers' organizational citizenship behavior.

Although researchers have recently made great strides in identifying the correlates of RT in an academic context, our understanding of this construct remains limited for three main reasons. First, most studies examine RT with only one of the referents from the academic context, rather than all of the proposed referents (e.g., Lee et al., 2011; Tschannen-Moran, 2009; Tschannen-Moran and Gareis, 2015). Given that college teachers interact with more than one referent as part of their daily work, a simultaneous study of RT in relation to these three main referents (administration, colleagues, students) is important to better reflect the reality of the context, while helping to distinguish the relative contribution of trust in each referent in our understanding of college teachers' functioning.

Second, despite evidence that RT is associated with various indicators of functioning in teachers (Forsyth et al., 2011; Tschannen-Moran, 2014; Van Maele and Van Houtte, 2012, 2015), their psychological well-being, attitudes and behaviors are not necessarily studied concurrently. Such analysis limits our understanding of the differentiated or simultaneous effect of RT on different aspects of functioning.

Third, few theoretical articulations or empirical evidence currently account for the psychological mechanisms that might explain the relation between RT and functioning in college teachers. However, different perspectives, including those derived from needs-based motivational theory, offer a theoretical rationale that is relevant to this understanding. By reason of their connections with one another, RT should enrich the psychological experience of college teachers, particularly by facilitating the satisfaction of their basic psychological needs (BPNs). According to Ryan (1995), BPNs are essential for development, growth, and well-being. To our knowledge, only one study has examined the relation between RT and BPNs of teachers revealing a positive association for trust in district administration, principal, and colleagues. Although these findings shed light on the energized nature of trust in the teachers' social environment, this study fails to account for the possibility that these relations differ for specific psychological needs and for the

differential impact of each need on optimal functioning at work (Fernet, et al., 2013; Kovjanic et al., 2012; Trépanier et al., 2013). As Dirks (2006) points out, studying the psychological mechanisms associated with RT is crucial to the understanding of why and how it carries over into various work-related outcomes.

To enrich this understanding, this study proposes and tests a motivational model for RT in an academic context. Rooted in self-determination theory (SDT; Deci and Ryan, 2000), this model predicts that RT in administrators, colleagues, and students improves different work outcomes in college teachers through satisfaction of their BPNs. The proposed model is illustrated in Figure 1.

This study contributes to the advancement of knowledge by demonstrating that psychological needs play a mediating role in the connection between RT and work outcomes in college teachers, as well as by identifying the distinctive contribution of each RT referent, as well as that of each psychological need. This study thus offers a unique theoretical perspective on RT for college teachers, one of the emerging topics in educational research. The concepts of RT and optimal functioning as well as the BPNs on which our research hypothesis are based, are presented below.

Theory and Hypotheses

Relational Trust (RT)

Although RT is cultivated and maintained mostly by administrators, who have a key role to play in this regard, it is often through teachers' self-perceptions that researchers assess its presence or absence within educational institutions (Tschannen-Moran, 2009; Tschannen-Moran and Gareis, 2017). College teachers' RT can be observed with respect to administrators (trust in administration), because administrators promote the cohesion and coordination of teaching staff in order to respond to the educational mission of their institution (Adams, 2008; Hoy et al., 2006; Tschannen-Moran, 2009). It can also be observed with respect to colleagues (trust in colleagues) since teachers need to collaborate with one another to meet the demands for cooperation and handle the complexity inherent in the teaching task (Adams and Forsyth, 2009; Hoy et al., 2006; Lee et al., 2011; Tschannen-Moran, 2009). In this regard, college education is characterized by the development and evaluation of programs that are covered and managed by a number of teachers working together. All college teachers are thus involved in these programs and share the responsibility of implementing them. It is thus crucial that their relationship with one another be positive, strong, and healthy (Tschannen-Moran, 2001). Lastly, RT can also be observed with respect to teachers' students, since college teachers interact with them on a regular basis, not only as guides in their learning, but also as evaluators of their academic progress (Hoy et al., 2006; Tschannen-Moran, 2009; Van Maele and Van Houtte, 2012).

Optimal Functioning in College Teachers

As part of a eudemonic perspective (Ryan and Deci, 2001), the concept of optimal functioning refers to signs that individuals are able to flourish and reach their full potential. Several authors have attempted to refine the operationalization of the construct (e.g., Ryff and Keyes, 1995). Despite conceptual differences, the various conceptions share the common thread of proposing a multidimensional view of optimal functioning. In the education sector, this multidimensionality essentially hinges on three dimensions: psychological (i.e., a state of well-being), attitudinal (i.e., how college teachers identify with their work), and behavioral (i.e., actions to achieve objectives) (Fernet, et al., 2016).

As RT is defined as one party's willingness to be vulnerable to another, this suggests

that "trusting another party" gives rise to positive expectations with regard to the latter's intentions (Dirks and Ferrin, 2001). Moreover, since the organizational reality invites employees to be proactive, to assume responsibilities and to meet the demands of the job (Bakker et al., 2008), it seems all the more relevant to take an interest in the positive relations that foster such a state (Seligman and Csikszentmihalyi, 2000). For this reason, we focus on the following indicators of optimal functioning in college teachers: vigor (a psychological well-being outcome), affective organizational commitment (an attitudinal outcome), and job performance (a behavioral outcome).

First, vigor refers to a high level of energy at work, characterized by mental resilience and persistence in the face of difficulties (Schaufeli et al., 2006). In a study of 673 primary school teachers (Van Maele and Van Houtte, 2015), trust in administrators, colleagues, and students was found to be negatively associated with teachers' emotional exhaustion. Vigor is the positive counterpart of emotional exhaustion, which is typically considered to be the main component of burnout (Bakker et al., 2008). It is thus expected that the more college teachers perceive trust at work, the more vigor they will have.

Second, affective organizational commitment reflects employee's willingness to remain a member of an organization by reason of emotional attachment (Meyer et al., 1993). In their study, Chughtai and Zafar (2006) showed a positive relation between the RT of university professors (n=125) and their affective organizational commitment. As an attitudinal outcome, the more teachers perceive trust at work, the more they are likely to be affectively committed to their college.

Third, job performance ensures the achievement of the educational mission of educational institutions. Performance concerns the attainment of organizational objectives prescribed to employees (Motowidlo and Van Scotter, 1994). Despite the lack of studies establishing a connection between college teachers' RT and their job performance, other studies demonstrate a positive relation between teachers' job performance and students' academic performance (Stronge et al., 2011). Hence, RT in the academic context should facilitate teachers' job performance.

Despite the importance of the positive associations of RT with distinct psychological, attitudinal, and behavioral indicators of optimal functioning in college teachers, this study's contribution goes beyond the validation of direct connections with RT. Indeed, it also seeks to gain insights into the psychological mechanisms involved in these relations.

Self-Determination Theory (SDT)

SDT is based on the premise that human beings need "innate psychological nutriments that are essential for ongoing psychological growth, integrity and well-being" (Deci and Ryan, 2000, p.229). These BPNs encompass feelings of relatedness, competence, and autonomy, and are seen as necessary to optimal functioning. The need for relatedness (Baumeister and Leary, 1995) refers to the individual's desire to feel connected to their environment and to establish reciprocal relationships with others (Deci and Ryan, 2000). The need for competence refers to the desire to interact effectively with one's environment in order to achieve desired goals (White, 1959). Finally, the need for autonomy corresponds to feelings of being the origin of one's own behaviors, to act according to one's own volition, and to possess freedom of action in an environment that supports it (de Charms, 1968).

RT and BPNs

The findings of a recent meta-analysis by Van den Broeck et al. (2016) attest to the

importance of all three BPNs at work, while highlighting the importance of evaluating them separately. Although studies have associated BPNs satisfaction with various dimensions of employees' social environment, none has yet focused on the notion of RT. This finding may seem surprising, considering that Deci et al. (1989), in a seminal organizational study, specifically argued that employees who experience trust should be more active in satisfying their BPNs. Given that the academic context is characterized by numerous interactions between the different stakeholders (the administration, colleagues, and students) it seems plausible to assume that each of these referents would have an impact on BPNs satisfaction for colleague teachers, leading to the following hypotheses:

H1. College teachers' perceived trust in their administration will be positively related to their need for relatedness*(H1a)*, competence*(H1b)*, and autonomy*(H1c)*.

H2. College teachers' perceived trust in their colleagues will be positively related to their need for relatedness*(H2a)*, competence*(H2b)*, and autonomy*(H2c)*.

H3. College teachers' perceived trust in their students will be positively related to their need for relatedness*(H3a)*, competence*(H3b)*, and autonomy*(H3c)*.

BPNs and Teachers' Optimal Functioning

Empirical studies carried out in organizational and academic contexts show that BPNs satisfaction contributes to different indicators of psychological functioning in teachers and other types of employees. For instance, BPNs satisfaction has been positively associated with: (1) psychological well-being, as reflected by vigor (Van den Broeck et al., 2010); (2) work attitudes, as reflected by affective organizational commitment (Van den Broeck et al., 2010, 2016); and (3) adaptive work behaviors, as reflected by job performance (Brien et al., 2012; Van den Broeck et al., 2010).

As the simultaneous study of optimal functioning indicators in teachers would contribute to a better deployment of target-specific strategies within a framework of human resources management (Tschannen-Moran and Gareis, 2017), we propose hypotheses aimed at a better understanding the role of RT for college teachers' BPNs fulfillment, as well as the role of BPN satisfaction in relation to teachers vigor, affective organizational commitment, and job performance:

H4. College teachers' relatedness need satisfaction will be positively related to their vigor*(H4a)*, affective organizational commitment*(H4b)*, and job performance*(H4c)*.

H5. College teachers' competence need satisfaction will be positively related to their vigor*(H5a)*, affective organizational commitment*(H5b)*, and job performance*(H5c)*.

H6. College teachers' autonomy need satisfaction will be positively related to their vigor*(H6a)*, affective organizational commitment*(H6b)*, and job performance*(H6c)*.

RT, BPNs and College Teachers' Optimal Functioning

In order to better understand the psychological mechanisms involved in these associations (Fernet, 2013), our proposed model also focus on the mediating role (indirect relations) of BPN satisfaction in explaining the association between RT and optimal functioning outcomes. SDT (Deci and Ryan, 2000) explicitly proposes that the impact of social environment contexts on employee optimal functioning should be largely mediated by this set of BPNs (Deci et al., 2017). Thus, and following from previous organizational (e.g., Trépanier et al., 2013, 2015) and educational (Fernet, et al., 2013) studies, BPNs satisfaction is expected to act as a mediating variable in the relations between teachers' perceived trust in administration (*H7-H8-H9*), colleagues (*H10-H11-H12*), and students (*H13-H14-H15*) and the optimal functioning indicators. As we have no theoretical reasons,

based on SDT, to expect residual direct effects between RT and optimal functioning, our proposed a priori predictive model thus assumes full mediation.

H7. College teachers' need for relatedness will mediate the relations between their perceived trust in administration and their vigor*(H7a)*, affective organizational commitment*(H7b)*, and job performance*(H7c)*.

H8. College teachers' need for competence will mediate the relations between their perceived trust in administration and their vigor*(H8a)*, affective organizational commitment*(H8b)*, and job performance*(H8c)*.

H9. College teachers' need for autonomy will mediate the relations between their perceived trust in administration and their vigor*(H9a)*, affective organizational commitment*(H9b)*, and job performance*(H9c)*.

H10. College teachers' need for relatedness acts as a mediating variable in the relations between their perceived trust in colleagues and their vigor*(H10a)*, their affective organizational commitment*(H10b)*, and their job performance*(H10c)*.

H11. College teachers' need for competence will mediate the relations between their perceived trust in colleagues and their vigor*(H11a)*, affective organizational commitment*(H11b)*, and job performance*(H11c)*.

H12. College teachers' need for autonomy will mediate the relations between their perceived trust in colleagues and their vigor*(H12a)*, affective organizational commitment*(H12b)*, and job performance*(H12c)*.

H13. College teachers' need for relatedness will mediate the relations between their perceived trust in students and their vigor*(H13a)*, affective organizational commitment*(H13b)*, and job performance*(H13c)*.

H14. College teachers' need for competence will mediate the relations between their perceived trust in students and their vigor*(H14a)*, affective organizational commitment*(H14b)*, and job performance*(H14c)*.

H15. College teachers' need for autonomy will mediate the relations between their perceived trust in students and their vigor*(H15a)*, affective organizational commitment*(H15b)*, and job performance*(H15c)*.

================Figure1=================

Method
Procedure

Public colleges (*N*=36) located in the Canadian province of Quebec were solicited to participate in this study. Of those, eight agreed to participate, corresponding to a potential sample of 2369 participants, each of whom received an email invitation, as well as two reminders. Participation was entirely voluntary, and no incentive was offered. Public colleges located in the Canadian province of Quebec are distinct from US colleges. In these institutions, students are generally 17 to 24 years old and are either pursuing a technical program leading directly to the labor market (roughly 50%) or a pre-university program (roughly 50%). However, the nature of teacher's work remains essentially the same, and involves the same type of shared responsibility, across these two types of programs and when compared to their US counterparts.

Participants

A total of 422 participants agreed to participate in this study and responded to the online questionnaire, corresponding to a response rate of 17.8%. This final sample includes 62.6% of women, 66.2% of permanent employees with an average teaching experience of

11.0 (*SD*=8.0), and has an average age of 42.2 (*SD*=9.2). In terms of education, 45.0% of the participants have a bachelor's degree, 41.5% a master's, 6.6% a doctorate, and 6.9% a college diploma.

Measures

All measures were administered in French. More specifically, all scales were either developed or already validated in French, except for the measures of trust and work overload which were adapted to French using a standard translation back-translation technique (Brislin, 1970; Vallerand, 1989). Table 1 presents the number of items associated with each variable, the response range, the mean score, and the standard deviation. Also presented are latent variable correlations (estimated from a preliminary measurement model described below), scale score reliability estimates (Cronbach's alpha), and model based estimates of composite reliability (McDonald, 1970; omega coefficient).

================Table1=================

Trust. The perception of RT in relation to the three referents was measured using an instrument developed by Hoy and Tschannen-Moran (2003): (a) administration (8 items; α=.91; ω=.94; e.g., "The administration in this college typically acts in the best interests of the teachers"), (b) colleagues (8 items; α=.89; ω=.92; e.g., "Teachers in this college are open with each other"), and (c) students (5 items; α=.74; ω=.82; e.g., "Students in this college can be counted on to do their work"). These items were rated on a 1 ("Strongly disagree") to 6 ("Strongly agree") response scale.

Need satisfaction. The scale developed by Van Den Broeck et al. (2010; Work-Related Basic Need Satisfaction scale; French version by Gillet et al., 2019b) was used to measure satisfaction of the need for relatedness (6 items; α=.82; ω=.88; e.g., "At work, I feel part of a group"), competence (6 items; α=.84; ω=.93; e.g., "I feel competent at my job), and autonomy (6 items; α=.85; ω=.90; e.g., "The tasks I have to do at work are in line with what I really want to do"). Items were rated on a 1 ("Totally disagree") to 5 ("Totally agree") response scale.

Vigor. Vigor was assessed using a 3-item subscale (α=.90; ω=.88; e.g., "When I get up in the morning, I feel like going to work") from the short form of the Utrecht Work Engagement Scale (Schaufeli et al., 2006; French version by Gillet et al., 2019a). These items were rated on a scale ranging from 0 ("Never") to 6 ("Always–Every day").

Affective organizational commitment. Affective organizational commitment was measured with a 6-item scale (α=.83; ω=.89; e.g., "I would be very happy to spend the rest of my career with this organization") developed by Meyer et al. (1993; French version by Vandenberghe et al., 2004). These items were rated on a scale ranging from 1 ("Completely disagree") to 7 ("Completely agree").

Job performance. Job performance was measured using an adapted French version (Fernet, et al., 2015) of Williams and Anderson's (1991) "in-role behavior" scale. The four items included in this scale (α=.94; ω=.97; e.g., "Adequately completes assigned duties") were rated 1 ("Completely disagree") to 7 ("Completely agree") response scale.

Control Variables. To achieve greater precision in the estimation of our predictive models, a series of four variables (gender, teaching experience, employment status, and work overload) were included as controls. First, participants self-reported their gender (coded 1 for females and 2 for males), employment status (coded 1 for temporary employees and 2 for permanent employees), and years of teaching experience (1- 0 to 5 years; 2- 6 to 10 years; 3- 11 to 15 years; 4- 16 to 20 years; 5- 21 years and over). The decision to incorporate these

variables as controls to the main analyses was predicated on the observation of statistically significant correlations (see Table 1) between these variables and measures of job performance (r=-.18 with gender and .21 with teaching experience), competence need satisfaction (r=.22 with employment status and .31 with teaching experience), trust in the administration (r=.15 with employment status), trust in colleagues (r=-.18 with employment status and -.14 with teaching experience), and trust in students (r=-.12 with employment status and -.17 with teaching experience).

Second, participants completed a 4-item measure of work overload (α=.74; ω=.78; "As a teacher, how great a source of stress are these factors to you?" e.g., "Too much work to do") developed by Boyle et al. (1995), and rated on a 1 ("No stress") to 9 ("Extreme stress") response scale. The decision to incorporate this additional control was predicated on the recognition of the inherently stressful nature of the teaching profession (Collie et al., 2012) and on the accumulated evidence for the role played by work overload as a key driver of teacher well-being (Aloe et al., 2014). This decision was further supported by the observation of statistically significant correlations between work overload and most of the main variables considered in the present study (r=-.11 to -.46, see Table 1), with the sole exception of trust in the administration (r=-.08).

Statistical Analysis

All analyses were conducted with the M*plus* (Muthén and Muthén, 2019) statistical software (Version 8.3) and using the robust weighted least square estimator (commonly referred to as WLSMV). This estimator does not assume multivariate normality of participants' responses, and has been shown to be optimal for ordinal rating scales following asymmetric response thresholds such as those used in the present study (for a review, see Finney and DiStefano, 2013).

We first estimated a preliminary measurement model, using confirmatory factor analyses (CFA), to verify the psychometric adequacy of the various measures utilized in this study. This model included a total of 10 correlated factors (three RT factors, three BPNs factors, three optimal functioning factors, and one work overload factor), with no cross-loading or correlated uniquenesses. This model also incorporated one orthogonal method factor to control for the methodological artifact caused by the negative wording of a total of five RT items, eight BPNs items, and three commitment items (Marsh et al., 2010). Non-latent controls (gender, teaching experience, and employment status) were also incorporated to this model in a saturated manner (i.e., simply allowed to correlate with all latent factors) in order to achieve a more accurate estimate of the correlations reported in Table 1.

Then, two alternative predictive structural equation models (SEM) were estimated from this model in order to test our a priori mediation models illustrated in Figure 1. We first estimated a model of total mediation, corresponding to the full arrows from Figure 1, and contrasted it with a model of partial mediation, adding the dotted arrows from Figure 1 in order to test for possible direct effects of RT on the optimal functioning outcomes over and above their effects on BPNs. The statistical significance of indirect (i.e., mediated) effects was finally verified using bias-corrected bootstrap (with 1000 bootstrap samples) 95% confidence intervals (CI), to account for the non-normality of the theoretical distribution of indirect effects (Preacher and Hayes, 2008). An indirect effect is significant at p<.05 when the 95% CI excludes 0 (Preacher and Hayes, 2008).

Model adequacy was verified using the WLSMV chi-square test of exact fit (χ^2), the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square error

of approximation (RMSEA) and its confidence interval (CI) (Hu and Bentler, 1999; Marsh et al., 2005). Due to the known oversensitivity of the χ^2 to sample size and minor sources of misfit (Marsh et al., 2005), we considered CFI and TLI values greater than .90 and .95, and RMSEA values lower than .08 and .06, to respectively reflect adequate and excellent model fit (Hu and Bentler, 1999; Yu, 2002).

Results

Preliminary Measurement Analysis

The results from the estimation of the preliminary analyses support the adequacy of the CFA measurement model underlying all constructs considered in the present study (χ^2=2400.621; df=1558; p≤.01; CFI=.972; TLI=.969; RMSEA=.036; CI=.033 to .039). The parameter estimates (factor loadings and uniquenesses) from this model are reported in Table 2 whereas the latent correlations are reported, as mentioned earlier, in Table 1. These results revealed well-defined latent factors (λ=.34 to .99; M=.77; SD=.14) sharing generally moderate associations generally matching our expectations.

================Table2=================

Main Analyses

The a priori model of total mediation was able to achieve a satisfactory level of fit to the data (χ^2=2396.343; df=1567; p≤.01; CFI=.972; TLI=.970; RMSEA=.035; CI=.033 to .038). Importantly, the alternative model in which direct associations between the RT dimensions and the optimal functioning outcomes resulted in an equivalent level of fit to the data (χ^2=2404.674; df=1558; p ≤.01; CFI=.972; TLI=.969; RMSEA=.036; CI=.033 to .039). This equivalent level of fit to the data suggests that the additional paths bring little explanatory power to the model, and that the most parsimonious a priori model (i.e., matching our hypotheses) should be retained. Examination of the parameter estimates from this alternative model of total mediation supports this decision, revealing that none of the additional direct paths estimated between RT and optimal functioning outcomes was statistically significant in this model. Our a priori model of total mediation was thus retained for interpretation.

The results from this model are reported in Figure 2. First, these results fail to support Hypothesis 1 (*H1a-H1b-H1c*) in revealing a complete lack of associations between teachers' trust in administration and the satisfaction of their BPNs. Second, the results provide partial support to Hypothesis 2 in showing a statistically significant positive association between teachers' trust in their colleagues and the satisfaction of their needs for relatedness (*H2a*) and autonomy (*H2c*), but not for competence (*H2b*). Likewise, the results partially support Hypothesis 3 in revealing a statistically significant positive association between teachers' trust in the students and the satisfaction of their need for competence (*H3b*), but not for relatedness (*H3a*) and autonomy (*H3c*).

Turning our attention to the associations between BPNs and the optimal functioning outcomes, the results first partially support Hypothesis 4 in revealing statistically significant positive associations between teachers' relatedness need satisfaction and their levels of vigor (*H4a*) and affective commitment (*H4b*), but not with their job performance (*H4c*). They also partially support Hypothesis 5 in revealing statistically significant positive associations between teachers' competence need satisfaction and their levels of vigor (*H5a*) and job performance (*H5c*), but not with their levels of organizational commitment (*H5b*). Finally, the results also partially support Hypothesis 6 in revealing statistically significant positive associations between teachers' autonomy need satisfaction

and their levels of vigor (*H6a*) and affective commitment (*H6b*), but not with their job performance (*H6c*).

Altogether, this model explains 44.0% of the variance in the satisfaction of the need for relatedness, 38.4% of the variance in the satisfaction of the need for competence, 33.9% of the variance in the satisfaction of the need for autonomy, 44.9% of the variance in vigor, 54.7% of the variance in affective organizational commitment, and 49.0% of the variance in job performance.

================Figure2=================

In terms of mediation, the results reported in Figure 2 first fail to support Hypotheses 7, 8 and 9 (*H7a-H7b-H7c*, *H8a-H8b-H8c*, *H9a-H9b-H9c*), which suggest that BPN could mediate the associations between teachers' trust in administration and the optimal functioning outcomes given the lack of statistically significant associations between trust in administration and BPNs. Likewise, the results also fail to support Hypothesis 11 (*H11a-H11b-H11c*) given the lack of statistically significant association between trust in colleagues and competence need satisfaction, as well as hypotheses 13 and 15 (*H13a-H13b-H13c, H15a-H15b-H15c*) given the lack of statistically significant associations between trust in students and the satisfaction of the needs for relatedness and autonomy. In fact, when we consider the statistically significant paths reported in Figure 2, the results suggest that support for hypotheses of mediation could be limited to Hypotheses *H10a-H10b*, *H12a-H12b*, *H14a-H14c*, but not to Hypotheses *H10c*, *H12c*, and *H14b*. The results from formal tests of these mediation hypotheses via bias-corrected bootstrap confidence intervals are reported in Table 3. These results provide support for all of these hypotheses, showing that: (a) the need for relatedness mediates the relations between perceived trust in colleagues and vigor (*H10a*) and organizational commitment (*H10b*); (b) that need for autonomy mediates the relations between perceived trust in colleagues and vigor (*H12a*) and organizational commitment (*H12b*); (c) the need for competence mediates the relations between perceived trust in students and vigor (*H14a*) and job performance *(H14c)*.

================Table3=================

Discussion

This study aimed to study the social environment of college teachers and, more precisely, their perceived RT in three referents (the administration, colleagues, and students), a field relatively unexplored in the scientific literature. From this perspective, the study aimed to better understand how RT manifests itself in college teachers by examining the mediating role of BPNs satisfaction between trust in different referents and three of the most recognized optimal work outcomes in college teachers (i.e., vigor, affective organizational commitment, and job performance).

Theoretical Contributions

Our theoretical perspective and empirical findings offer three main contributions to the research. First, our study introduced and supported the relevance of RT as a theoretical antecedent of the satisfaction of the BPNs of college teachers at work. While the role of the social context, and more specifically leadership practices, has been extensively documented by SDT as a predictor of BPNs satisfaction (e.g., Kovjanic et al., 2012; Van Quaquebeke and Felps, 2018), the role of RT had until now only been theoretically assumed (Deci et al., 1989). In addition, our results reveal the need to consider the specific contribution of the three stakeholders (the administration, colleagues, and students) who can facilitate the satisfaction of the BPNs of teachers. Although our results corroborate a

recent study by Adams (2019) showing positive associations between BPN satisfaction among teachers (considered as a single global construct) and RT in different referents, they provide the first insights into which specific needs are trigged by which referent. Such empirical evidence helps to better understand why and by whom the basic needs are particularly energized.

Second, our study offers a unique integration of two of the more visible literatures in the education domain: RT (Van Maele et al., 2014; Tschannen-Moran, 2014) and SDT (Deci and Ryan, 2000; Ryan and Deci, 2017). This integration allows for a deeper understanding of the psychological mechanisms involved in the relation between trust and optimal functioning in college teachers. Although the results failed to support all hypotheses, we found support for our expectation that each BPN would play a full mediating role in explaining association between specific trust referents and outcomes. The findings suggest that the needs for autonomy and relatedness seem to be particularly important in explaining the association linking trust in colleagues with teachers' levels of organizational commitment and vigor at work. In addition, the need for competence seems to explain the relation between college teachers' trust in students and their job performance. The specific patterns observed in this study posed a challenge to SDT, which proposes that the satisfaction of all three needs is equally important for employee functioning. Along with other studies (Fernet, et al., 2013; Kovjanic et al., 2012; Trépanier et al., 2013), the results offer a more nuanced understanding of this proposition and suggest that all three needs are important to nurture a positive state of mind at work (e.g., vigor), while certain needs, such as the need for competence, may be more prominent for effective behaviors (e.g., job performance), just like the needs for autonomy and relatedness may be more important for adaptive attitudes (e.g., organizational commitment). Future research nevertheless remains necessary to clarify the role of psychological needs in relation with trust in administration. Considering the nature of their work, it is plausible that college teachers' trust in administration plays a more distant role than trust in colleagues or students, especially since the notion of RT reveals itself particularly in a context of proximity (Tschannen-Moran, 2014). Nevertheless, our study provides a conceptual and empirical basis for better understanding the different contributions of the trust referents, as well as for refining our understanding of how the perception of trust can impact one's psychological experience and functioning at work.

Third, the findings contribute to our understanding the role of RT in predicting optimal functioning in college teachers. While these findings align with those of studies that support a connection between trust and indicators of psychological well-being (burnout; Van Maele and Van Houtte, 2015) and adaptive attitudes in teachers (job satisfaction; Van Maele and Van Houtte, 2012), they could be the first empirical evidence that trust simultaneously impacts behavioral outcomes. Trust in students would more particularly foster job performance for college teachers, as it facilitates satisfaction of their need for competence. These findings are echoed in the social cognitive theory of Bandura (1986), which suggests that college teachers who perceive themselves as highly efficacious manage to mobilize sufficient effort to achieve the desired result. However, studies are still needed to better understand how college teachers' sense of competence translates into job performance. It is plausible to argue that college teachers who perceive themselves as more competent manage to perform better, being naturally enthusiastic in class (Patrick et al., 2000) or even more inclined to deploy adaptive teaching practices (Fernet, et al., 2016; Taylor et al.,

2008).

Limitations and Future Research

This study has some limitations that are important to mention. First, the measurements used are based exclusively on self-reported data. To reduce the risk of bias caused by common-method variance (Podsakoff et al., 2003), other sources of data, such as the perception of administrators' trust in college teachers or even the perception of students' trust in college teachers could be used concurrently (Adams, 2008).

Second, the use of a cross-sectional design does not allow for establishing the directionality of associations between variables with certainty. Although some studies provide support for some connections from the proposed model (e.g., Trépanier, et al., 2015), the possibility of reciprocal or inverted relations between certain variables should not be excluded (Zapf et al., 1996). Indeed, from a temporal perspective, it would be plausible that vigor or affective organizational commitment tinges the perception of trust in referents from the academic context. Future research will need to examine the nature of the relations observed using longitudinal designs.

Third, the development of the model is based on the principle of parsimony. The model sought to better understand the mediating role of BPNs between college teachers' perceived RT and manifestations of their optimal functioning, relying on only a limited number of variables. As a result, the choice of variables led us to refrain from including other variables that might also be relevant to the context. For example, other psychological resources (e.g., self- and collective efficacy) could play a complementary role to BPNs, and their integration into the model would deepen our understanding of the motivational mechanisms involved.

Fourth, in terms of the generalizability of results, our study is based solely on a sample of college teachers from the province of Quebec, Canada. Our results should be replicated in other Canadian provinces, and other countries, as well as with teachers at other levels of education.

Practical Implications

Despite the aforementioned limitations, this study opens a window into practical implications that may favor optimal functioning in college teachers. From an organizational perspective, the administration of academic organizations would be interested in questioning the dynamics of RT associated with the stakeholders involved. While trust in some referents would be particularly important to support specific psychological needs, as well as associated improved work functioning outcomes, it becomes necessary to align actions to better reach the desired targets of trust. For example, an administration that is mindful of affective commitment to the organization (possibly for human resource management issues such as retaining talents, or for organizational development challenges such as building a supportive environment) would benefit from efforts to build college teachers' trust in their colleagues. Actions intended to create a more collaborative and cooperative environment where teachers engage in professional dialogue with their colleagues—sharing ideas, know-how, and pedagogical strategies—through participation in group problem-solving where teachers feel safe to try new strategies, are open to feedback, and can learn from their experiences would be an avenue to explore (Niemic and Ryan, 2009; Tschannen-Moran, 2014; Tschannen-Moran and Gareis, 2017). From a self-determination theory standpoint (Ryan and Deci, 2017), such actions would allow for achieving the desired target (here, affective organizational commitment), while supporting

the needs for autonomy (experiencing feelings of volition and self-endorsement of choices and actions) and relatedness (experiencing feelings of being connected with others), the satisfaction of which could also contribute to the expression of other adaptive outcomes, such as a higher level of emotional energy at work (vigor). For college teachers, it seems essential to establish a learning climate that is conducive to building students' trust and confidence. One way to achieve it would be through needs-supportive leadership (Deci et al., 1989; Parfyonova et al., 2019) or authentic leadership behaviors (Avolio et al., 2004). For instance, authentic leadership of college teachers should focus on developing meaningful relationships with students by garnering support and projecting a true and genuine self to them (Arceño et al., 2019; Avolio et al., 2004). For the administration of academic organizations, this examination of the dynamics of RT is all the more relevant, given the leadership role that the administration must fill in teachers' professional development. Through its approach and the relevance of the actions deployed, an administration is likely to shape not only the attitudes of teachers at work (Fernet, et al., 2012), but also the perception of trust in them—which is closely associated with the RT in the other referents.

Conclusion

The study's findings contribute to a better understanding of college teachers' RT in their context as well as their BPNs as a vector of their optimal functioning at work. It reveals specific pathways in which college teachers' trust in the various stakeholders from the academic context is likely to impact the satisfaction of their psychological needs, as well as the indicators of their well-being, attitude, and behavior as regards their optimal functioning at work. As academic organizations seek to reinvent themselves in order to better meet the needs of a constantly changing environment, the deployment of well-aligned actions, aimed at cultivating RT, becomes a relevant source of leverage to ensure the optimal functioning of college teachers, as well as the attainment of their academic mission.

References

Adams, C. (2008). Building trust in schools: A review of the empirical evidence. In W.K. Hoy, & M.F. DiPaola (Eds.), *Improving schools: Studies in leadership and culture* (pp.29-54). Charlotte, NC: Information Age Publishing.

Adams, C.M. (2019). Teacher Trust in District Administration: An Overlooked Relational Support for Teachers. *Journal of School Leadership*, 1-19. doi:https://doi.org/10.1177/1052684619852714

Adams, C.M., & Forsyth, P.B. (2009). The nature and function of trust in schools. *Journal of School Leadership*, *19*(2), 126-152.

Aloe, A.M., Amo, L.C., & Shanahan, M.E. (2014). Classroom management self-efficacy and burnout: A multivariate meta-analysis. *Educational Psychology Review*, *26*(1), 101-126.

Arceño, R.A., Ag, S.I.M., & Adamu, T.I. (2019). Assessment on dimensions of authentic leadership of college teachers. *PEOPLE: International Journal of Social Sciences*, *5*(1), 205-216.

Avolio, B.J., Gardner, W.L., Walumbwa, F.O., Luthans, F., & May, D.R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The Leadership Quarterly*, *15*(6), 801–823.

Bakker, A.B., Schaufeli, W.B., Leiter, M.P., & Taris, T.W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187-200.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497-529.

Boyle, G.J., Borg, M.G., Falzon, J.M., & Baglioni Jr., A.J. (1995). A structural model of the dimensions of teacher stress. *British Journal of Educational Psychology*, *65*(1), 49-67.

Brien, M., Hass, C., & Savoie, A. (2012). Psychological health as a mediator between need satisfaction at work and teachers' self-perceptions of performance. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement*, *44*(4), 288-299.

Brislin, R.W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, *1*(3), 185-216.

Chughtai, A.A., & Zafar, S. (2006). Antecedents and consequences of organizational commitment among Pakistani university teachers. *Applied HRM Research*, *11*(1), 39-64.

Collie, R.J., Shapka, J.D., & Perry, N.E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, *104*(4), 1189-1204.

de Charms, R. (1968). *Personal causation: The internal affective determinants of behavior*. New York, NY: Academic Press.

Deci, E.L., Connell, J.P., & Ryan, R.M. (1989). Self-determination in a work organization. *Journal of Applied Psychology*, *74*(4), 580-590.

Deci, E.L., Olafsen, A.H., & Ryan, R.M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology*

and Organizational Behavior, *4*, 19-43.

Deci, E.L., & Ryan, R.M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268.

Dirks, K.T. (2006). Three fundamental questions regarding trust in leaders. In R. Bachmann, & A. Zaheer (Eds.), *Handbook of trust research* (pp.15-28). Cheltenham, England: Edward Elgar Publishing.

Dirks, K.T., & Ferrin, D.L. (2001). The role of trust in organizational settings. *Organization Science*, *12*(4), 450-467.

Fernet, C. (2013). The role of work motivation in psychological health. *Canadian Psychology/Psychologie Canadienne*, *54*(1), 72-74.

Fernet, C., Austin, S., Trépanier, S.-G., & Dussault, M. (2013). How do job characteristics contribute to burnout? Exploring the distinct mediating roles of perceived autonomy, competence, and relatedness. *European Journal of Work and Organizational Psychology, 22*(2), 123-137.

Fernet, C., Guay, F., Senécal, C., & Austin, S. (2012). Predicting intraindividual changes in teacher burnout: The role of perceived school environment and motivational factors. *Teaching and Teacher Education*, *28*(4), 514-525.

Fernet, C., Trépanier, S.-G., Austin, S., Gagné, M., & Forest, J. (2015). Transformational leadership and optimal functioning at work: On the mediating role of employees' perceived job characteristics and motivation. *Work & Stress*, *29*(1), 11-31.

Fernet, C., Trépanier, S.-G., Austin, S., & Levesque-Côté, J. (2016). Committed, inspiring, and healthy teachers: How do school environment and motivational factors facilitate optimal functioning at career start? *Teaching and Teacher Education, 59*, 481-491.

Finney, S.J., & DiStefano, C. (2013). Non-normal and categorical data in structural equation modeling. In G.R. Hancock & R.O. Mueller (Eds), *Structural Equation Modeling: A Second Course*, *2nd edition* (pp. 439-492). Greenwich, CO: IAP.

Forsyth, P.B., Adams, C.M., & Hoy, W.K. (2011). *Collective trust: Why schools can't improve without it*. New York, NY: Teachers College Press.

Gillet, N., Caesens, G., Morin, A.J.S., & Stinglhamber, F. (2019a). Complementary variable- and person-centered approaches to the dimensionality of work engagement: A longitudinal investigation. *European Journal of Work and Organizational Psychology*, *28*(2), 239-258.

Gillet, N., Morin, A.J.S., Huart, I., Colombat, P., & Fouquereau, E. (2019b). The forest and the trees: Investigating the globality and specificity of employees' basic need satisfaction at work. *Journal of Personality Assessment*. Early view. doi:10.1080/00223891.2019.1591426

Hoy, W.K., Gage, C.Q., & Tarter, C.J. (2006). School mindfulness and faculty trust: Necessary conditions for each other? *Educational Administration Quarterly*, *42*(2), 236-255.

Hoy, W.K., & Tschannen-Moran, M. (2003). The conceptualization and measurement of faculty trust in schools. In W.K. Hoy, & C. Miskel (Eds.), *Studies in leading and organizing schools* (pp.181-208). Greenwich, CT: Information Age Publishing.

Hu, L.T., & Bentler, P.M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1-55.

Kovjanic, S., Schuh, S.C., Jonas, K., Quaquebeke, N.V., & Dick, R. (2012). How do

transformational leaders foster positive employee outcomes? A self-determination-based analysis of employees' needs as mediating links. *Journal of Organizational Behavior*, *33*(8), 1031-1052.

Lee, J.C.K., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education*, *27*(5), 820-830.

Marsh, H.W., Hau, K.-T., & Grayson, D. (2005). Goodness of Fit in Structural Equation Models. In A. Maydeu-Olivares & J.J. McArdle (Eds.), *Contemporary psychometrics* (pp. 275-340). Mahwah, NJ: Erlbaum.

Marsh, H.W., Scalas, L.F., & Nagengast, B. (2010). Longitudinal tests of competing factor structures for the Rosenberg self-esteem scale: Traits, ephemeral artifacts, and stable response styles. *Psychological Assessment*, *22*, 366-381.

McDonald, R.P. (1970). Theoretical foundations of principal factor analysis and alpha factor analysis. *British Journal of Mathematical & Statistical Psychology, 23*, 1-21.

Meyer, J.P., Allen, N.J., & Smith, C.A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*(4), 538-551.

Motowidlo, S.J. & Van Scotter, J.R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, *79*(4), 475-480.

Muthén, L.K., & Muthén, B.O. (2019). *M*plus *User's Guide*. Los Angeles, CA: Muthén & Muthén.

Niemiec, C.P., & Ryan, R.M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory and research in Education*, *7*(2), 133-144.

Parfyonova, N.M., Meyer, J.P., Espinoza, J.A., Anderson, B.K., Cameron, K.A., Daljeet, K.N., & Vaters, C. (2019). Managerial support for employees' psychological needs: A multidimensional approach. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *51*(2), 122–134.

Patrick, B.C., Hisley, J., & Kempler, T. (2000). "What's everybody so excited about?": the effects of teacher enthusiasm on student intrinsic motivation and vitality. *The Journal of Experimental Education*, *68*(3), 217-236.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879-903.

Preacher, K.J., & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*(3), 879-891.

Ryan, R.M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, *63*(3), 397-427.

Ryan, R.M., & Deci, E.L. (2001). On happiness and human potential: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, *52*, 141-166.

Ryan, R.M., & Deci, E.L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Publications.

Ryff, C.D., & Keyes, C.L.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*(4), 719-727.

Schaufeli, W.B., Bakker, A.B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, *66*(4), 701-716.

Seligman, M.E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychological Association*, *55*(1), 5-14.

Stronge, J.H., Ward, T.J., & Grant, L.W. (2011). What makes good teachers good? A cross-case analysis of the connection between teacher effectiveness and student achievement. *Journal of Teacher Education*, *62*(4), 339-355.

Taylor, I.M., Ntoumanis, N., & Standage, M. (2008). A self-determination theory approach to understanding the antecedents of teachers' motivational strategies in physical education. *Journal of Sport and Exercise Psychology*, *30*(1), 75-94.

Trépanier, S.-G., Fernet, C., & Austin, S. (2013). Workplace bullying and psychological health at work: The mediating role of the needs for autonomy, competence, and relatedness. *Work & Stress*, *27*(2), 123-140.

Trépanier, S.-G., Fernet, C., & Austin, S. (2015). A longitudinal investigation of workplace bullying, basic need satisfaction, and employee functioning. *Journal of Occupational Health Psychology*, *20*(1), 105-116.

Tschannen-Moran, M. (2001). Collaboration and the need for trust. *Journal of Educational Administration, 39(4)*, 308-331.

Tschannen-Moran, M. (2009). Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly*, *45*(2), 217-247.

Tschannen-Moran, M. (2014). *Trust matters: Leadership for successful schools* (2nd ed.). San Francisco, CA: Jossey-Bass.

Tschannen-Moran, M., & Gareis, C. R. (2015). Faculty trust in the principal: An essential ingredient in high-performing schools. *Journal of Educational Administration*, *53*(1), 66-92.

Tschannen-Moran, M., & Gareis, C.R. (2017). Principals, trust and cultivating vibrant schools. In K. Leithwood, J. Sun, & K. Pollock (Eds.), *How school leaders contribute to student success* (pp.153-174). Springer International Publishing.

Vallerand, R.J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques : implications pour la recherche en langue française. *Psychologie canadienne*, *30*(4), 662-680.

Van den Broeck, A., Ferris, D.L., Chang, C.H., & Rosen, C.C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management*, *42*(5), 1195-1229.

Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981-1002.

Van Maele, D., & Van Houtte, M. (2012). The role of teacher and faculty trust in forming teachers' job satisfaction: Do years of experience make a difference? *Teaching and Teacher Education*, *28*(6), 879-889.

Van Maele, D., & Van Houtte, M. (2015). Trust in school: A pathway to inhibit teacher burnout? *Journal of Educational Administration*, *53*(1), 93-115.

Van Maele, D., Van Houtte, M., & Forsyth, P.B. (2014). Introduction: Trust as a matter of

equity and excellence in education. In D. Van Maele, P.B. Forsyth, & M. Van Houtte (Eds.), *Trust and school life: The role trust for learning, teaching, leading and bridging* (pp.1-36). Dordrecht, Netherlands: Springer Verlag.

Van Quaquebeke, N., & Felps, W. (2018). Respectful Inquiry: A Motivational Account of Leading Through Asking Questions and Listening. *Academy of Management Review*, *43*(1), 5-27.

Vandenberghe, C., Bentein, K., & Stinglhamber, F. (2004). Affective commitment to the organization, supervisor, and work group: Antecedents and outcomes. *Journal of Vocational Behavior*, *64*(1), 47-71.

White, R.W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review*, *66*(5), 297-333.

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.

Yu, C.Y. (2002). *Evaluating cutoff criteria of model fit indices for latent variable models with binary and continuous outcomes*. Los Angeles, CA: University of California

Zapf, D., Dormann, C., & Frese, M. (1996). Longitudinal studies in organizational stress research: a review of the literature with reference to methodological issues. *Journal of Occupational Health Psychology*, *1*(2), 145-169.

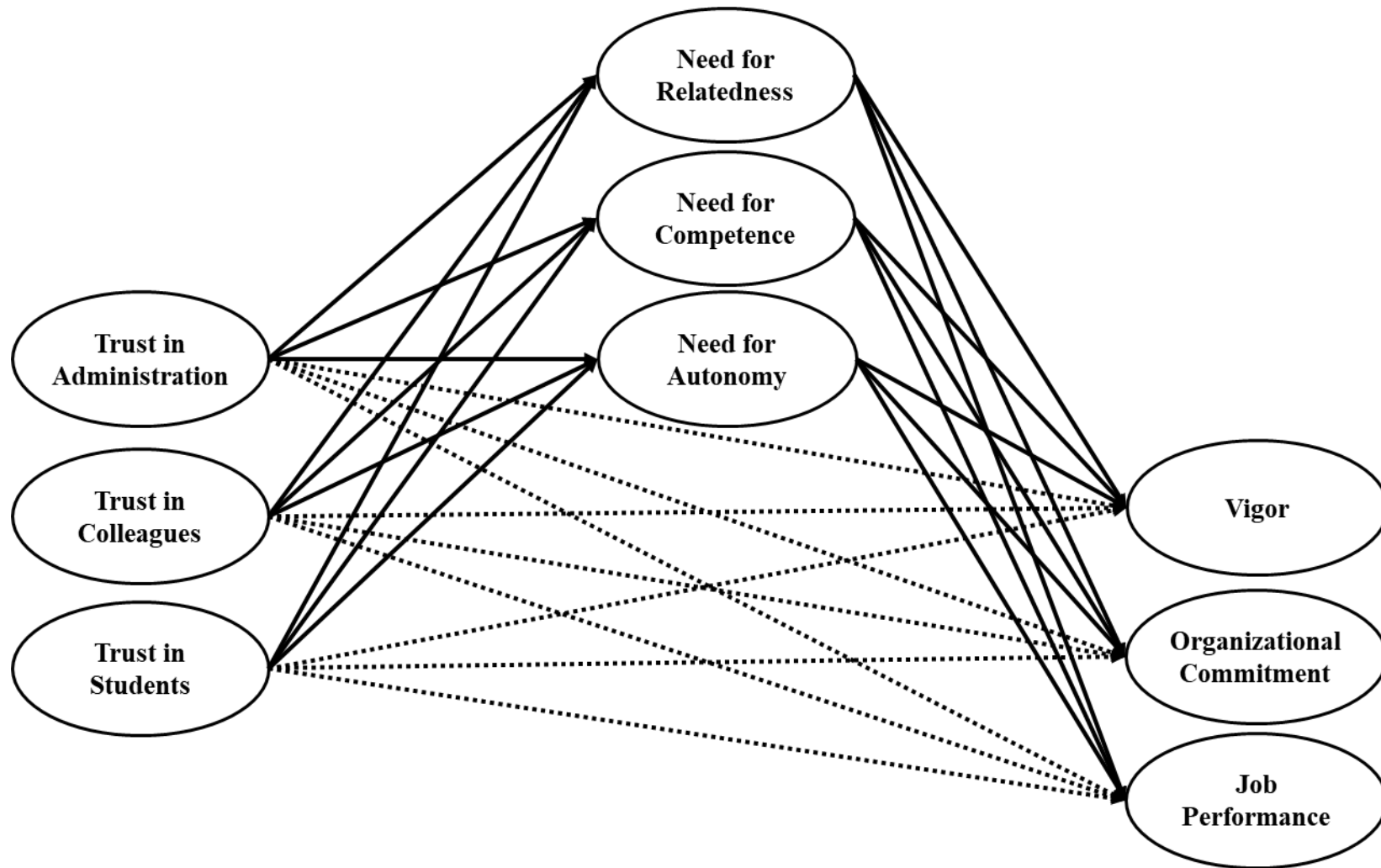*Figure 1.* Hypothesized Mediation Model (Full Arrows) and Alternative Model of Partial Mediation (Addition of the Dotted Arrows)
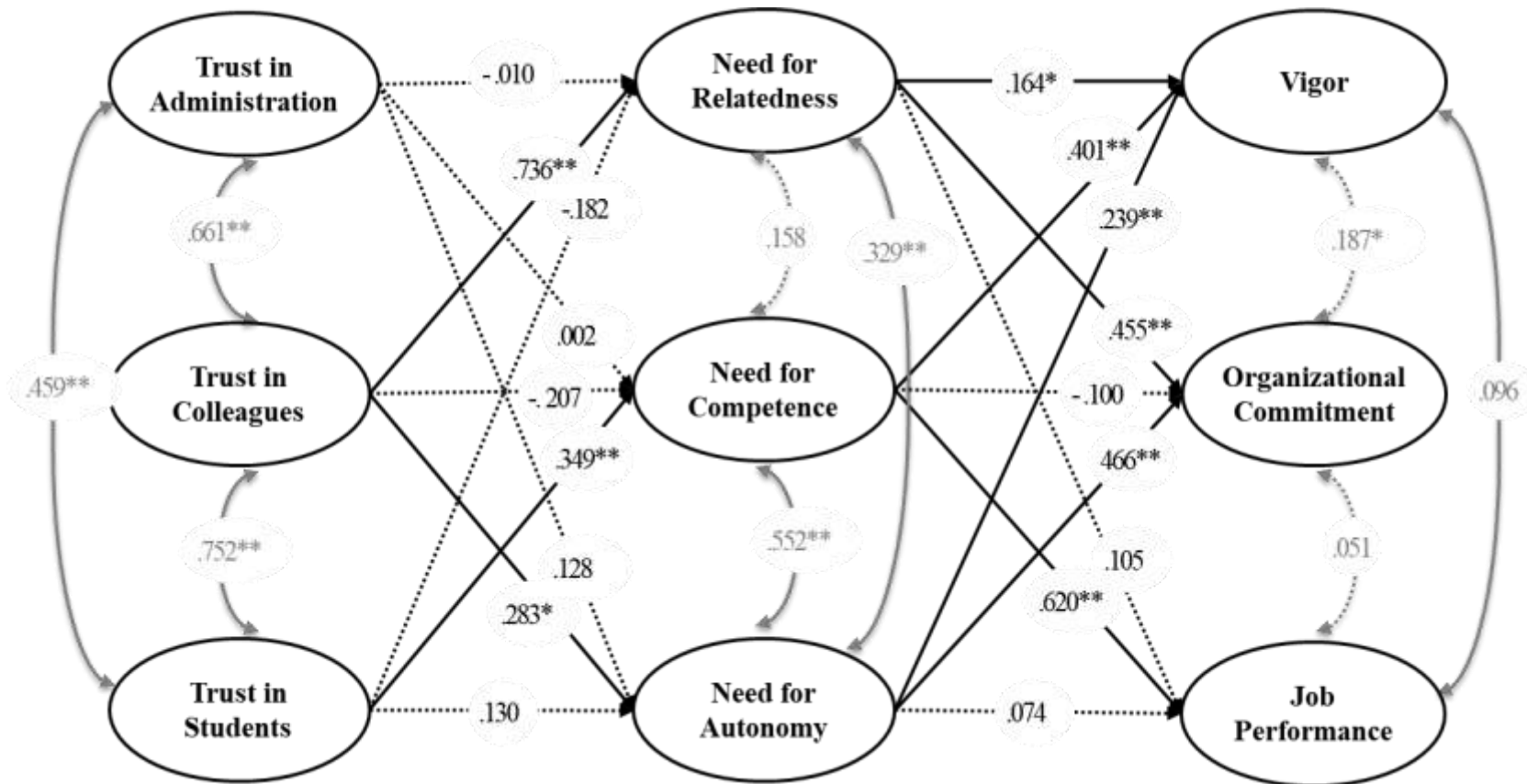
Figure 2. Standardized Regressions (Black) and Correlations (Greyscale) from the Final Predictive Model
Note. *p<.05; **p<.01; Statistically significant coefficients are represented by full arrows whereas non-statistically significant coefficients are represented by dotted arrows.

Table 1

Descriptive Statistics, Scale Score Reliabilities, and Latent Correlations

	Variable	Items	Range	M	SD	α	ω	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1	Gender	1	1-2	1.37	.48	--	--												
2	Teaching Experience	1	1-5	2.53	1.39	--	--	.03											
3	Employment Status	1	1-2	1.66	.47	--	--	.03	.57**										
4.	Trust-Administration	8	1-6	4.46	.92	.91	.94	.10	-.05	-.12**									
5.	Trust-Colleagues	8	1-6	4.48	.80	.89	.92	.07	-.13**	-.16**	.66**								
6.	Trust-Students	5	1-6	4.53	.68	.74	.82	.01	-.16**	-.11*	.46**	.75**							
7.	Need-Relatedness	6	1-5	4.09	.59	.82	.88	.03	.12	.08	.35**	.57**	.35**						
8.	Need-Competence	6	1-5	4.50	.41	.84	.93	.06	.31**	.22**	.02	.03	.17*	.27**					
9.	Need-Autonomy	6	1-5	3.97	.58	.85	.90	.05	.04	-.00	.35**	.47**	.41**	.56**	.57**				
10.	Vigor	3	0-6	4.55	1.01	.90	.88	-.01	-.10	-.07	.24**	.28**	.29**	.37**	.53**	.54**			
11.	Org. Commitment	6	1-7	5.49	1.09	.83	.89	-.01	.01	.05	.36**	.46**	.33**	.63**	.22**	.60**	.43**		
12.	Job Performance	4	1-7	6.33	.51	.94	.97	-.18**	.21**	.07	.06	.16*	.25**	.26**	.64**	.45**	.45**	.26**	
13.	Work Overload	4	1-9	4.71	1.72	.74	.78	-.20**	-.05	.02	-.08	-.13**	-.18**	-.26**	-.46**	-.33**	-.37**	-.11*	-.27**

Note. M: mean; SD: Standard deviation; α: Scale score reliability (Alpha); ω: Composite reliability (Omega); *p<.05; **p<.01.

Table 2

Standardized Factor Loadings (λ) and Uniquenesses (δ) from the Preliminary Measurement Model

Items	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	δ
Trust-Administration											
Item 1	.887										.213
Item 2	.909										.175
Item 3	.946										.105
Item 4	.943										.110
Item 5	.512										.570
Item 6	.706										.389
Item 7	.611										.512
Item 8	.713										.492
Trust-Colleagues											
Item 1		.823									.323
Item 2		.890									.208
Item 3		.909									.174
Item 4		.815									.335
Item 5		.754									.432
Item 6		.579									.542
Item 7		.653									.574
Item 8		.622									.613
Trust-Students											
Item 1			.671								.549
Item 2			.641								.589
Item 3			.492								.651
Item 4			.763								.418
Item 5			.838								.298
Need-Relatedness											
Item 1				.696							.512
Item 2				.879							.227
Item 3				.738							.455
Item 4				.812							.340
Item 5				.784							.334
Item 6				.433							.813

Items	λ	λ	λ	λ	λ	λ	λ	λ	λ	λ	δ
Need-Competence											
Item 1					.732						.464
Item 2					.694						.518
Item 3					.903						.184
Item 4					.878						.220
Item 5					.835						.303
Item 6					.878						.230
Need-Autonomy											
Item 1						.935					.125
Item 2						.575					.556
Item 3						.669					.480
Item 4						.768					.410
Item 5						.779					.394
Item 6						.733					.302
Vigor											
Item 1							.898				.194
Item 2							.792				.373
Item 3							.826				.317
Org. Commitment											
Item 1								.814			.338
Item 2								.335			.888
Item 3								.797			.343
Item 4								.879			.191
Item 5								.879			.207
Item 6								.718			.485
Job Performance											
Item 1									.894		.201
Item 2									.979		.042
Item 3									.992		.015
Item 4									.914		.164
Work Overload											
Item 1										.630	.603
Item 2										.827	.315
Item 3										.616	.621
Item 4										.641	.590

Table 3
Indirect Effects from the Final Predictive Model

Antecedent	Mediator	Outcome	Point Estimate	95% CI	
				Lower	Upper
Trust Colleagues	Need Relatedness	Vigor	.163*	.081	.271
Trust Colleagues	Need Relatedness	Organizational Commitment	.497*	.202	.643
Trust Colleagues	Need Autonomy	Vigor	.091*	.071	.374
Trust Colleagues	Need Autonomy	Organizational Commitment	.196*	.099	.481
Trust Students	Need Competence	Vigor	.189*	.137	.233
Trust Students	Need Competence	Job Performance	.303*	.114	.478

Note. CI: Confidence interval. *$p < .05$.