



## Article

# Trustworthiness in Higher Education: The Role of Professor Benevolence and Competence

Silvia Di Battista <sup>1,\*</sup>, Heather J. Smith <sup>2</sup>, Chiara Berti <sup>1</sup> and Monica Pivetti <sup>3</sup>

<sup>1</sup> Department of Psychological, Health, and Territorial Sciences, University “G. d’Annunzio” of Chieti-Pescara, 66100 Chieti, Italy; chiara.berti@unich.it

<sup>2</sup> Department of Psychology, Sonoma State University, Rohnert Park, CA 94928, USA; heather.smith@sonoma.edu

<sup>3</sup> Department of Human and Social Sciences, University of Bergamo, 24129 Bergamo, Italy; monica.pivetti@unibg.it

\* Correspondence: s.dibattista@unich.it; Tel./Fax: +39-0871-3556595

**Abstract:** Trust is a fundamental element of educational success. However, compared to what we know about teachers’ perceptions of trust, relatively less is known about students’ perceptions of trust. This paper describes two experimental investigations that tested the effects of authority competence and benevolence on students’ perceptions of trust and their engagement. The investigations also explored whether university identification moderated the influence of authority competence and benevolence on assessments of authority trustworthiness and university engagement. As part of an online experiment administered in the Fall 2010 and the Spring 2011 academic terms, Italian ( $n = 211$ ; Study 1) and U.S. ( $n = 226$ ; Study 2) undergraduates were primed to identify or not identify with their university before they read one of four scenarios describing a professor’s behavior (i.e., competent and benevolent; competent but uncaring; incompetent but benevolent; incompetent and uncaring). Results showed that students from both Italy and the United States viewed a competent and caring professor as most trustworthy and an incompetent and uncaring professor as least trustworthy. Furthermore, in both countries, students trusted an incompetent and caring professor more compared to a competent and uncaring professor. University identification did not influence trustworthiness.

**Keywords:** trustworthiness; higher education; student trust; competence; benevolence; university context; Italy; United States of America



**Citation:** Di Battista, Silvia, Heather J. Smith, Chiara Berti, and Monica Pivetti. 2021. Trustworthiness in Higher Education: The Role of Professor Benevolence and Competence. *Social Sciences* 10: 18. <https://doi.org/10.3390/socsci10010018>

Received: 11 November 2020

Accepted: 6 January 2021

Published: 12 January 2021

**Publisher’s Note:** MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Trust is an essential element for all relationships and it has been studied within many disciplines and contexts, including organizational science (e.g., [Kramer and Tyler 1996](#); [Rousseau et al. 1998](#)) and educational contexts (e.g., [Kosonen and Ikonen 2019](#); [Tschannen-Moran and Hoy 2000](#)). Like many constructs in the social sciences, trust has been examined in multiple ways, making use of a wide variety of definitions ([McEvily et al. 2003](#)). In educational contexts, [Hoy and Tschannen-Moran \(1999\)](#) defined trust as one party’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, competent, reliable, honest, and open. [Bryk and Schneider \(1996\)](#) described trust in schools as a source of social capital in which all parties (e.g., principals, teachers, students, and parents) have expectations that the other party will behave in ways that are right and good. In educational settings, trust is a key predictor of collaboration and cooperation ([Forsyth et al. 2011](#); [Mitchell et al. 2011](#); [Tschannen-Moran 2001](#)), healthy school climates ([Smith et al. 2001](#); [Tschannen-Moran et al. 2006](#)), and students’ achievement ([Goddard et al. 2001](#); [Hoy and Tschannen-Moran 1999](#); [Tschannen-Moran 2004](#)). For example, [Tschannen-Moran \(2001\)](#) found that trust predicted teachers’ collaborations with principals and clients (i.e., students and parents). Furthermore, when parents trusted teachers, they were more likely to participate in school-relevant decisions. Trust among teachers, principals, and parents

also impacts students' performances and it has been found to be an essential element for effective school reform (Bryk and Schneider 2002, 2003; Forsyth 2008; Tschannen-Moran 2004). Tschannen-Moran and Hoy (1998) found that, within schools where the level of trust was high, teachers went beyond the minimum requirements of their contractual agreements. They also argued that a growing distrust of schools is shown in the increasing number of people unwilling to entrust their children to schools at all.

Compared to what we know about teachers' perceptions of trust, relatively less is known about students' perceptions of trust (Mitchell et al. 2016; Romero 2015). However, research has shown that students who trust their instructors perceive these instructors as more fair (Chory-Assad 2007), perform better, identify with school and academics, and participate in more extracurricular activities (Hoy and Tschannen-Moran 1999; Tschannen-Moran 2009; Tschannen-Moran and Hoy 2000). Romero (2015) found that high schools students who trusted their teachers and their schools had better school outcomes, higher grade point average (GPA), were more ambitious in their postsecondary plans, and more likely to graduate. Even fewer empirical studies have explored trustworthiness in higher education and if, or how, it matters (Kosonen and Ikonen 2019). Analyzing qualitative data collected from a Finnish university, Kosonen and Ikonen (2019) demonstrated that by showing trustworthiness, leaders promoted the organizational engagement of followers.

## 2. Two Facets of Trustworthiness

Trustworthiness refers to the attributes of a trustee that inspire trust (Colquitt and Rodell 2011; Mayer et al. 1995). Almost all scholars share the view that trustworthiness includes multiple dimensions (e.g., Kohring and Matthes 2007; McKnight et al. 2002). Many studies have proposed that trustworthiness includes at least two dimensions (i.e., benevolence or the "will do" dimension of trustworthiness and competence or the "can do" dimension of trustworthiness; e.g., Jungermann et al. 1995; McAllister 1995; Metlay 1999; Oleszkiewicz and Lachowicz-Tabaczek 2016; Rousseau et al. 1998). The former dimension is perhaps the most common facet of trust (e.g., Johnston et al. 2015; also described as good intentions, Barki et al. 2015; Gabarro 1978; Das and Teng 1998, 2001; Lui and Ngo 2004; Nooteboom 1996; dignified and respectful treatment, Tyler 2001; affective beliefs about institutional behavior, Metlay 1999; and responsibility, care, and concern, McAllister 1995). In schools, benevolence is the sense that the trustee has good intentions, and has the trustor's best interests in mind (Romero 2015; Tschannen-Moran 2004). In this context, students can be confident that one's well-being, or something one cares about, will be protected and not harmed even when the opportunity is available (Hoy and Tschannen-Moran 1999; Tschannen-Moran and Hoy 2000). Perceptions of authority benevolence are based on authority behaviors reflecting relational factors such as good intentions, goodwill, care, and concern for others' welfare (Jungermann et al. 1995).

The second main dimension of trustworthiness describes competence (e.g., Barki et al. 2015; Das and Teng 1998, 2001; Gabarro 1978, Lui and Ngo 2004; also described as ability-based trust, Nooteboom 1996; competency-based trust, Barber 1983; Johnston et al. 2015; and reliable and effective problem solving, Tyler 2001). Perceptions of authority competence are based on authority behaviors reflecting abilities, competencies, reliability, and ways of performing professional roles (Jungermann et al. 1995). In educational contexts, competence is defined as perceived expertise, skills, or knowledge (Romero 2015; Tschannen-Moran 2004). Competence-based trust refers to an individual's capability to do what they have been asked to do and includes experience, institutional validation, and the ability to manage knowledge by integrating skills, personal values, and attitudes (Kim et al. 2003). Tschannen-Moran and Hoy (2000) argued that benevolence is one of the most important facets of trust in schools. However, they also stated that there are times when benevolence is not enough because competence is involved in fulfilling expectation. Romero (2015) stated that for students, perceptions of teachers' competence are much more likely to revolve around what happens in the classroom and whether classes are interesting and challenging.

Experimental or quasi-experimental studies manipulating competence and benevolence as trust-in-authority dimensions are rare. In one of the few experiments that we could find, [Oleszkiewicz and Lachowicz-Tabaczek \(2016\)](#) examined the influence of perceived competence—including characteristics like competence and precision—and warmth—including characteristics like niceness and supportiveness—in a work context. Results showed that the manipulations of both supervisors' and a subordinates' competence influenced participants' judgment of trustworthiness to an equal extent. Warmth expressed by a supervisor had a greater impact on trustworthiness than warmth expressed by a subordinate. However, the trust constructs inspected by [Oleszkiewicz and Lachowicz-Tabaczek \(2016\)](#) were intended to measure trustworthiness in work organizations. They were not designed to study trustworthiness in educational contexts. Therefore, in this project, we built upon these earlier manipulations of trustworthiness by experimentally manipulating two different components of an educational authority's trustworthiness—the authority's competence and benevolence. We then measured students' perceptions of authority trustworthiness. We predicted that authority benevolence would increase students' perceptions of trust and their engagement. Authority malevolence would decrease students' perceptions of trust and their engagement<sup>1</sup>. Authority competence would increase students' perceptions of trust and their engagement. Authority incompetence would decrease students' perceptions of trust and their engagement.

### 3. Institution Identification

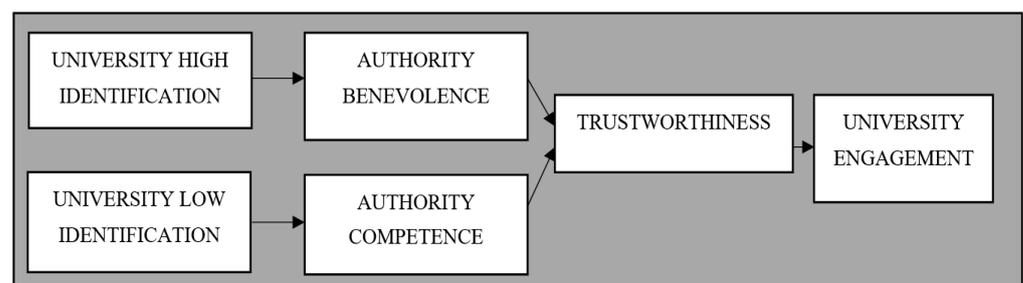
Identification with educational contexts can be defined as the students' sense of belonging to and valuing a school ([Voelkl 1997](#)). Identification and trust are related but distinct constructs (e.g., [Han and Harms 2010](#); [Martínez and del Bosque 2013](#)). Middle and high school students who reported a strong sense of belonging to their school were more engaged and motivated to succeed in comparison to students who did not report a strong sense of belonging to their school ([Finn and Voelkl 1993](#); [Furrer and Skinner 2003](#); [Goodenow and Grady 1993](#); [Hagborg 2003](#); [Ryan and Patrick 2001](#); [Voelkl 1997](#)). Similarly, United States university students who identified more strongly with their university also reported greater campus involvement ([Jackson et al. 2011](#)). On the contrary, studies found that students who do not have a sense of belonging and who do not value school as being important for their life showed school-related problems and poor academic achievement ([Finn and Voelkl 1993](#); [Osborne 1995, 1997](#); [Voelkl 1997](#)).

According to the group value ([Lind and Tyler 1988](#); [Tyler and Lind 1992](#)) and engagement models ([Blader and Tyler 2009](#); [Tyler and Blader 2003](#); [Tyler et al. 1996](#); [Smith et al. 2006](#)), if people view the group that an authority represents as an important reference group, they will view the authority's behavior as indicative of both their value to the group and the potential quality of their long-term relationship with other group members. If people do not care about the group the authority represents, they will not be as interested in any relational information that authority treatment might communicate ([Smith et al. 1998](#)). Instead, they will pay more attention to any cues that could indicate that they will get the outcomes that

<sup>1</sup> We conducted two pilot studies to test the effectiveness of the university identification manipulation. A first pilot test with U.S. undergraduates ( $n = 35$ ) indicated that the instructions for (a) the high identification prime: "Take a moment to remember feelings and thoughts about a specific situation when you felt involved and a part of your university"; and (b) the low identification prime: "Take a moment to remember feelings and thoughts about a specific situation when you did NOT feel involved or a part of your university" led to students in the high identification experimental condition reporting less university identification ( $M = 4.49$ ;  $SD = 0.32$ ) in comparison to students in the low identification experimental condition ( $M = 4.96$ ;  $SD = 0.37$ ). We adjusted the instructions and tested the new version used in these experiments with 19 Italian undergraduate students. High identification students reported more university identification ( $M = 5.17$ ;  $SD = 0.29$ ) in comparison to low identification students ( $M = 3.70$ ;  $SD = 0.26$ ). In the second U.S. sample, we included an instructional manipulation check ([Oppenheimer et al. 2009](#)). Nine participants did not complete this question correctly but did write appropriate paragraphs for the identification prime manipulation. We kept these participants in the data set. We also tested the effects of the professor's benevolence and competence on students' perceptions of the professor's fairness, goodness as a role model and good results (see in the Supplementary material file). Finally, we measured the mean ratings of university culture provided by participants who completed a second data collection. Results showed that undergraduates from the U.S. viewed their university culture as more horizontally individualistic in comparison to undergraduates from Italy ( $F(1, 210) = 15.77$ ,  $p < 0.001$ ,  $\eta^2 = 0.07$ ) and undergraduates from Italy rated their university as slightly more inclined toward vertical collectivism in comparison to undergraduates from the U.S. ( $F(1, 211) = 3.71$ ,  $p = 0.06$ ,  $\eta^2 = 0.02$ ).

they want. For example, in a study of United States undergraduates (Smith et al. 2009), the relative quality of university authorities' behavior during the first few weeks of term predicted students' perceptions that the university community respected them and their academic engagement three months later. In contrast, for students who did not identify as strongly with the university, the relative favorability of their outcomes during the first few weeks predicted feelings of respect and academic engagement three months later. Similarly, Italian undergraduates who identified more closely with the university reported more academic engagement if they felt that faculty treated them with benevolence. Faculty treatment quality did not predict the academic engagement of students who did not identify closely with the university (Di Battista et al. 2014).

Following the aforementioned literature, we assumed that authority benevolence may represent a relational form of procedural justice that indicates whether the larger group or institution values a person (Leventhal 1980; Tyler and Smith 1999) or a relational orientation focused on interpersonal contacts and relationships (Abele and Wojciszke 2007; Berti and Battista 2011). Therefore, students who identify more strongly with a university should care more about a university authority's benevolence compared to students who do not identify in this way. In contrast, authority competence could serve as a useful indicator of outcome favorability (Tyler 1997) or could represent an instrumental orientation basically related to goal-based pursuit of self-interest (Abele and Wojciszke 2007) for low identification students. Therefore, students who identify less strongly with the university should care more about information related to competence compared to high identification students. Therefore, we hypothesized that for students primed to identify with a university, authorities' benevolent behaviors would increase perceptions of trustworthiness and engagement compared with students primed to not identify with university. Furthermore, we expected that for students primed not to identify with the university, authorities' competent behaviors would increase perceptions of trustworthiness and engagement compared with students primed to identify with the university (see Figure 1).



**Figure 1.** Overview of theoretical model.

To test these hypotheses, we conducted two studies with undergraduates from a university in Italy and undergraduates from a university in the United States. Both universities were founded in the 1960s as public universities designed to increase regional access to higher education. The two universities had similar missions and public reputations. Since our goal was to confirm the general psychological model that we outline in Figure 1, the chance to repeat the exact same experiment in two different countries offered a unique opportunity to test its generalizability. Although Italian and U.S. higher education may differ in many respects (Marrucci 2010), we did not expect those differences to influence students' reactions to the experimental materials (we pilot tested the original vignette with students from both universities to confirm that the scenario was a realistic reflection of both Italian and U.S. students' experiences). Two previous studies performed in the U.S. and Italian universities confirmed the group value model assumptions in the two different contexts, at different times with different measures (Di Battista et al. 2014; Smith et al. 2009). This study was a chance to confirm similarities with the same materials.

## 4. Methods

### 4.1. Study 1—Italy

#### 4.1.1. Participants

Two hundred and fifty Italian undergraduate students participated in the study, however 39 participants were excluded from the analyses because they failed an identification prime manipulation—either they refused to answer the identification question or they wrote about something that was not related to the open-ended prompt (e.g., “I have no memories of this type”) (retained sample  $n = 211$ ). The remaining participants were 158 female (74.9%) and 50 male (23.7%) students—three had information missing for sex—with an age range from 18 up to 39 years ( $M(\text{age}) = 23.29$ ,  $SD = 3.29$ ), resulting in first ( $n = 111$ ) and second ( $n = 100$ ) sets of data that we combined for our analyses. Our sample size was determined by the number of student volunteers that we were able to recruit. However, we conducted a post-hoc power sensitivity analysis using G\*power version 3.1 that showed that if we assumed 80% power, a sample size of 211 would enable us to detect effect sizes of  $f^2 = 0.036$  or greater.

#### 4.1.2. Procedures

The questionnaire was implemented using MacroMedia Authorware 7.0 and administered in the Fall 2010 and Spring 2011 academic terms. Participants were undergraduate students from a large public university in Central Italy, recruited by snowball sampling with the collaboration of research assistants. The university serves approximately 26,000 students, many of whom (around 40 percent) are transfer students, including numerous graduate students, with large classes. This university provides rented accommodation for undergraduates, graduate students, and professional students. Participants were randomly assigned to one of eight experimental conditions organized as 2 (high vs. low university identification)  $\times$  2 (competent vs. incompetent authority behavior)  $\times$  2 (benevolent vs. uncaring authority behavior). Individual student volunteers came to a university lab to complete a computer-based questionnaire that began with an open-ended question designed to prime participants’ identities as undergraduate students belonging to that specific institution. Next, participants read one of four case vignettes describing a university authority’s behavior (see Appendix A). At the end of administration, the experimenter offered participants an opportunity to complete a paper-and-pencil “academic engagement” questionnaire (see below for details). The respondents were provided with a debriefing statement at the end of their contribution (the study typically lasted 30 min). The research was compliant with the Code of Ethics of the Italian Psychology [Italian Psychology Association \(2005\)](#), which is inspired to the Declaration of Helsinki. As no Institutional Review Board for Psychology research was available at the institution with which the social psychology researchers involved in this study are affiliated (i.e., the University of Chieti–Pescara), no request for approval could be submitted.

#### 4.1.3. Measures

*Identification prime manipulation.* All participants completed an open-ended prompt in which they were invited to think about a time that they felt connected to or disconnected from the university. Participants assigned to the high university identification experimental condition read the following:

“Take a moment to remember a specific situation during the past two months when you felt involved and connected with your university (for example, experiences with teams, clubs, student activities, department and administrative staff, study groups, or classes)”.

Participants assigned to the low university identification experimental condition read the following:

“Take a moment to remember a specific situation during the past two months when you did not feel involved and connected with your university (for example, experiences with teams, clubs, student activities, department and administrative staff, study groups, or classes)”.

*Authority behavior manipulation.* Students read a short description of an anonymous professor's behavior (see Appendix A). We drew upon previous definitions of teaching competence and benevolence (Jungermann et al. 1995) to create four different scenarios (1. Professor is incompetent and uncaring; 2. Professor is incompetent but benevolent; 3. Professor is competent but uncaring; 4. Professor is competent and benevolent). Participants assigned to the competence vs. incompetence condition read a vignette case describing a professor's behavior in class during a lesson (e.g., The professor gave a clear vs. disorganized PowerPoint lesson, see Appendix A). Participants assigned to the benevolence vs. uncaring condition read a vignette case describing a professor's behavior—in class and outside class—as it pertained to relational aspects (e.g., the professor answered vs. did not answer the students' emails; apologized vs. never apologized for missing an office hour, see Appendix A).

*Manipulation check.* Following the identity prime manipulation and before the other two experimental manipulations, participants completed a university identification measure (Di Battista et al. 2014). Participants rated six items on a seven-point Likert scale (from 1 = completely disagree to 7 = completely agree) that included whether they (1) felt emotionally attached to the university, (2) felt like part of the university family, (3) intended to transfer to another university (reverse scored), (4) had a lot in common with other people at the university, (5) felt like a stranger at the university (reverse scored), and (6) were proud to be a student at the university (alpha (Italy) = 0.83; alpha (U.S.) = 0.77). After they read the scenario, participants rated the professor's relative competence from 1 (incompetent) to 7 (competent) and the professor's intentions from 1 (bad intentions) to 7 (good intentions).

*Dependent measures. Trustworthiness.* Students rated the professor's trustworthiness on a seven-point scale from 1 (*untrustworthy*) to 7 (*trustworthy*).

*Students' engagement.* At the end of the computer-based questionnaire, a research assistant indicated that, if the participants were willing to help, she had a short paper-and-pencil questionnaire that university administrators would like to give to undergraduates. Underneath university letterhead, participants read the following: "The university needs student volunteers to help increase the academic engagement of university students (for example, organize study groups, talk to high school students, meet with faculty, comment on strategic plans . . . )." Next, students indicated how much time they could commit to help the university over the next month from (1) *0 hours* up to (6) *8 or more hours*. If participants indicated a willingness to help, they were asked to write down their contact information. The contact information was removed from the questionnaires during the debriefing and before the data was included in the analyses.

#### 4.1.4. Data Analyses

We used the Statistical Package for the Social Sciences (SPSS 22.0) to conduct the following analyses for both Italian (Study 1) and U.S. (Study 2) samples. Descriptive analyses were performed to explore the level of trustworthiness and student engagement across experimental conditions. One-way Analysis of Variance (ANOVA), with identification (high vs. low university identification) as the independent factor and participants' self-reported university identification as the dependent measure was performed to check the manipulation of university identification. A 2 (high vs. low university identification)  $\times$  2 (competent vs. incompetent authority behavior)  $\times$  2 (benevolent vs. uncaring authority behavior) three-way ANOVA was performed for each dependent variable (i.e., trustworthiness and student engagement) and to check the manipulation of competence and benevolence. The qualitative data corpus pertaining to students' responses to the identification prime was content-analyzed according to procedures outlined by Hsieh and Shannon (2005).

All the U.S. and Italian quantitative data were screened for univariate and multivariate outliers (2.5 SD above/below the mean) but no outliers were identified. The variance inflation factors (VIFs) for trustworthiness, identification, competence, and intentions were  $\leq 1$ , showing no multicollinearity among measured variables (Akinwande et al. 2015). For the same variables, calculation of Levene's statistic suggested that there were not equal

variances ( $p < 0.05$ ). In addition, the K–S (Kolmogorov–Smirnov) test methods indicated a result  $<0.05$ . However, significant tests of skew and kurtosis and Leven’s test should be not used in large samples because they are likely to be significant even when skew and kurtosis are not too different from normal (Field 2009, pp. 163–95). The absolute values for asymmetry were acceptable ( $<2$ ) for proving normal univariate distribution (George and Mallery 2010; Kim 2013; West et al. 2013). Note that the kurtosis was much lower than the absolute kurtosis value (7.1) that West et al. (2013) proposed as a reference for substantial departure from normality.

## 4.2. Results

### 4.2.1. Descriptive Statistics and Correlations

Descriptive statistics and bivariate correlations for the entire sample are reported in Table 1. Trustworthiness and antecedents of trust (i.e., competence and intentions/benevolence) were highly and positively correlated. Identification was slightly correlated with competence but identification and engagement were not correlated with each other or with the other dimensions of trust.

**Table 1.** Descriptive statistics and bivariate correlations for Italian sample.

Variables	M (SD)	Skewnees	Kurtosis	1	2	3	4
1. Identification	4.46 (1.41)	−0.24	−0.95	1			
2. Competence	4.12 (1.91)	−0.01	−1.06	0.15 *	1		
3. Benevolence	4.35 (1.62)	0.02	−0.71	0.07	0.72 **	1	
4. Trustworthiness	3.60 (2.1)	0.30	−1.27	0.11	0.73 **	0.79 **	1
5. Engagement	1.76 (1.14)	1.73	2.91	−0.001	0.06	0.08	0.03

\*\*  $p < 0.001$ ; \*  $p = 0.03$ .

### 4.2.2. Confirmatory Factor Analyses

Using IBM SPSS AMOS 25.0 software, we performed a Confirmatory Factor Analysis (CFA) on the six identification items and three items measuring the trust dimension (i.e., trustworthiness and antecedents of trust, namely competence and intentions). The fit indices showed an acceptable two-factor model fit ( $\chi^2 = 30.44$ ;  $df = 26$ ;  $p = 0.25$ ;  $\chi^2/df = 1.17$ ; CFI = 0.99; RMSEA = 0.02; Bentler 1995) and all the factor loadings were highly significant ( $p < 0.001$ ). We tested an alternative model with a single factor that represented all the items but this model was not adequate ( $\chi^2 = 419.22$ ;  $df = 27$ ,  $p < 0.001$ ;  $\chi^2/df = 15.53$ ; CFI = 0.59; RMSEA = 0.26). These analyses confirm our assumption that university identification and ratings of authority trustworthiness are independent constructs.

### 4.2.3. Manipulation Checks

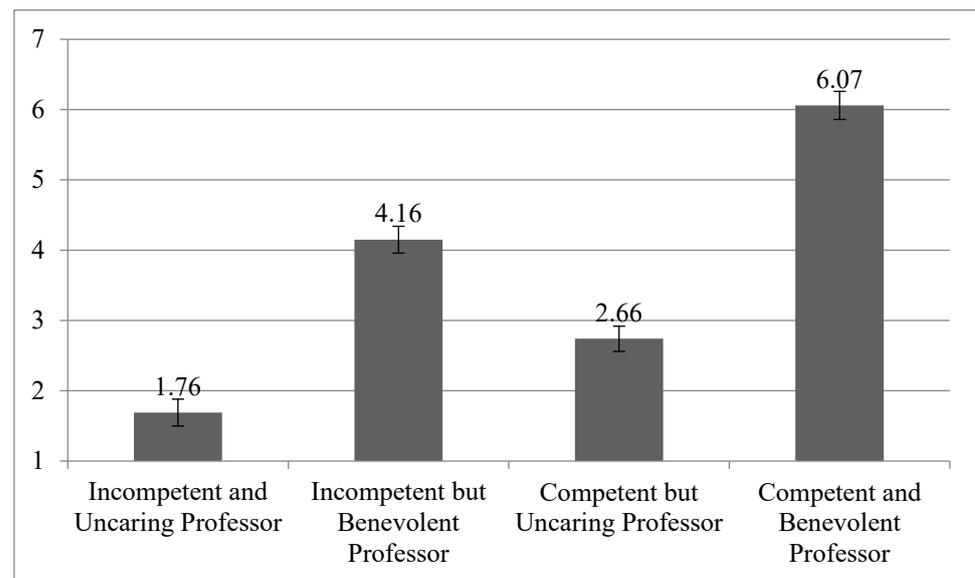
*University Identification.* The one-way ANOVA showed a significant effect for university identification ( $F(1, 210) = 246.68$ ,  $p < 0.0001$ ). Participants primed to identify more closely with the university reported stronger university identification ( $M = 5.48$ ,  $SD = 0.93$ ) in comparison to participants primed to identify less closely with the university ( $M = 3.41$ ,  $SD = 0.98$ ). The qualitative data corpus pertaining to students’ responses to the identification prime was content-analyzed by two judges. Results showed that in the high identification condition, participants mainly focused on themes concerning their experiences in classes or practical activities in general (e.g., study groups, experiences in laboratories, practical academic exercises, or department meetings). In the low identifica-

tion condition, Italian students mainly described their relationships with the university staff members and some experiences in classes.

*Authority competence.* The three-way ANOVA conducted on authority competence showed a significant effect for competence ( $F(1, 211) = 90.96, p < 0.001, \eta^2_p = 0.31$ ). As intended, participants who read about the professor's competent behavior rated the professor as being more competent ( $M = 5.01, SD = 1.83$ ) in comparison to participants who read about the professor's incompetent behavior ( $M = 3.18, SD = 1.47$ ). However, participants who read about the professor's benevolent behavior also rated the professor as being more competent ( $M = 4.98, SD = 1.63$ ) in comparison to participants who read about the professor's uncaring behavior ( $M = 3.35, SD = 1.80; F(1, 211) = 72.96, p < 0.001, \eta^2_p = 0.26$ ). The other effects were not statistically reliable (all  $p < 0.05$ ).

*Authority benevolence.* The three-way ANOVA conducted on authority benevolence showed a significant effect for benevolence ( $F(1, 211) = 157.88, p < 0.001, \eta^2_p = 0.44$ ). Participants who read about the professor's caring behavior rated the professor as being more caring ( $M = 5.41, SD = 1.33$ ) in comparison to participants who read about the professor's uncaring behavior ( $M = 3.4, SD = 1.23$ ). However, participants who read about the professor's competence also rated the professor as being more caring ( $M = 4.75, SD = 1.29$ ) in comparison to participants who read about the professor's incompetence ( $M = 3.93, SD = 1.79; F(1, 211) = 32.82, p < 0.001, \eta^2_p = 0.14$ ). In addition, there was a reliable interaction between competence and benevolence ( $F(1, 212) = 11.24, p = 0.001, \eta^2_p = 0.05$ ). Participants who read about a caring and competent professor rated him as more benevolent ( $M = 6.19, SD = 1.08$ ) in comparison to participants who read about (in order): (1) an uncaring and incompetent professor ( $M = 3.14, SD = 0.96$ ); (2) an uncaring but competent professor ( $M = 3.62, SD = 1.39$ ); and (3) a caring but incompetent professor ( $M = 4.69, SD = 1.11$ ). The other effects were not significant (all  $p < 0.05$ ).

*Trustworthiness.* The three-way ANOVA conducted on trustworthiness showed a significant main effect for competence ( $F(1, 210) = 51.63, p < 0.001, \eta^2_p = 0.21$ ), benevolence ( $F(1, 210) = 220.31, p < 0.001, \eta^2_p = 0.52$ ), and, contrary to expectations, an interaction between competence and benevolence ( $F(1, 210) = 6.64, p = 0.011, \eta^2_p = 0.03$ ). Furthermore, the results did not show a significant effect for university identification ( $F(1, 210) = 2.82, p = 0.09$ ). Furthermore, they did not show a significant effect for the interaction between identification and benevolence ( $F(1, 210) = 0.69, p = 0.41$ ) or between identification and competence ( $F(1, 210) = 0.53, p = 0.47$ ). Consistent with expectations, students who read about a caring professor rated him as significantly more trustworthy ( $M = 5.07, SD = 1.73$ ) in comparison to those who read about a professor who was uncaring ( $M = 2.27, SD = 1.41$ ). Participants who read that the professor was competent rated him as significantly more trustworthy ( $M = 4.20, SD = 2.22$ ) in comparison to those who read that the professor was incompetent ( $M = 2.96, SD = 1.76$ ). The interaction between competence and benevolence showed that, among participants who read that the professor was competent, participants who read that the professor was caring rated him as significantly more trustworthy ( $M = 6.07, SD = 1.34$ ) in comparison to those who read that professor was uncaring ( $M = 2.66, SD = 1.58; F(1, 202) = 157.29, p < 0.001, \eta^2_p = 0.44$ ). Furthermore, among participants who read that the professor was incompetent, participants who read that the professor was caring rated him as significantly more trustworthy ( $M = 4.16, SD = 1.53$ ) in comparison to participants who read that the professor was uncaring ( $M = 1.76, SD = 0.87; F(1, 202) = 72.65, p < 0.001$ ), but the effect was less strong ( $\eta^2_p = 0.26$ ). Among those who read that the professor was caring, those who read that the professor was competent rated him as more trustworthy in comparison to those who read that he was incompetent ( $F(1, 202) = 47.59, p < 0.001, \eta^2_p = 0.19$ ). Among participants who read that the professor was uncaring, those who read that the professor was competent rated him as more trustworthy in comparison to those who read that the professor was incompetent ( $F(1, 202) = 10.63, p = 0.001$ ), but the effect was not strong ( $\eta^2_p = 0.05$ ; see Figure 2).



**Figure 2.** Italian participants' mean ratings of authority trustworthiness. Note,  $n = 211$ . The scale for the items of trustworthiness ranges from 1 = *untrustworthy* to 7 = *trustworthy*. Error bars represent 95% confidence intervals.

*Students' engagement.* The three-way ANOVA conducted on the measure of students' engagement showed no statistically significant results (all  $p > 0.05$ ).

#### 4.3. Discussion

In line with the expectations, there was evidence that both benevolence and competence increased students' perceptions of authority trustworthiness. Students rated a professor who was competent and caring as the most trustworthy and a professor who was incompetent and uncaring as the least trustworthy. Furthermore, there was evidence that the professor's benevolence mattered more than competence. The expected role of identification was not significant and the effects on engagement were not reliable. The second experiment conducted in the U.S. was an opportunity to determine whether the same patterns occur when United States undergraduates evaluate university authorities.

## 5. Methods

### 5.1. Study 2—United States

#### 5.1.1. Participants

Two hundred and forty United States undergraduate students participated in a second study; however, 14 participants were excluded from the analyses because they failed identification prime manipulation—either they left it blank or they wrote about something that was not related to the open-ended prompt (retained sample  $n = 226$ ). The remaining participants were 177 female (78.3%) and 49 male (21.7%) students with an age range from 16 up to 59 years ( $M(\text{age}) = 21.56$ ;  $SD = 6.51$ ), resulting in first ( $n = 108$ ) and second ( $n = 118$ ) sets of data that we combined for our analyses. The first set of data was collected in 2010 and the second in 2011. Our sample size was determined by the number of student volunteers that we were able to recruit. Again, we conducted a post-hoc power sensitivity analysis that showed that if we assumed 80% power, a sample size of 226 would enable us to detect effect sizes of  $f^2 = 0.032$  or greater.

#### 5.1.2. Procedures

The procedure was exactly the same as in Study 1. Undergraduates were recruited from a small public state university in Northern California. This university serves approximately 8500 students, mostly undergraduates, with relatively small class sizes (most classes include fewer than 30 students). Approximately 40% of the undergraduates live

on campus. All aspects of the current study were approved by a university institutional review board.

### 5.1.3. Measures

The materials (back translated from Italian to English) were exactly the same as in Study 1.

## 5.2. Results

### 5.2.1. Descriptive Statistics and Correlations

Descriptive statistics and bivariate correlations for the entire sample are reported in Table 2. Trustworthiness and antecedents of trust (i.e., competence and intentions/benevolence) were highly and positively correlated, as in the Italian sample. Identification and engagement were not correlated with each other or with authority competence and benevolence.

**Table 2.** Descriptive statistics and bivariate correlations for the U.S. sample.

Variables	M (SD)	Skewnees	Kurtosis	1	2	3	4
1. Identification	4.46 (1.41)	−0.24	−0.95	1			
2. Competence	4.12 (1.91)	−0.01	−1.06	0.11	1		
3. Benevolence	4.35 (1.62)	0.02	−0.71	0.08	0.83 **	1	
4. Trustworthiness	3.60 (2.1)	0.30	−1.27	0.04	0.80 **	0.85 **	1
5. Engagement	1.58 (1)	1.9	3.8	0.02	0.02	0.09	0.11

\*\*  $p < 0.001$ .

### 5.2.2. Confirmatory Factor Analyses

Using IBM SPSS AMOS 25.0 software, we performed a Confirmatory Factor Analysis on the six identification items and the three items measuring trust dimension (i.e., trustworthiness and antecedents of trust, namely competence and intentions). The fit indices showed an acceptable two-factor model fit ( $\chi^2 = 47.79$ ;  $df = 26$ ;  $p = 0.01$ ;  $\chi^2/df = 1.84$ ; CFI = 0.98; RMSEA = 0.06; (Bentler 1995) and all the factor loadings were highly significant ( $p < 0.001$ ). A one-factor model in which trustworthiness was part of the identification dimension was not adequate ( $\chi^2 = 621.96$ ;  $df = 27$ ,  $p < 0.001$ ;  $\chi^2/df = 23.04$ ; CFI = 0.49; RMSEA = 0.31).

### 5.2.3. Manipulation Checks

*University Identification.* The one-way ANOVA showed a significant effect for university identification ( $F(1, 225) = 229.99$ ,  $p < 0.0001$ ). Participants primed to identify more closely with the university reported stronger university identification ( $M = 5.59$ ,  $SD = 0.87$ ), in comparison to participants primed to identify less closely with the university ( $M = 3.71$ ,  $SD = 0.98$ ). Content analysis (using the same approach as used in Study 1) indicated that, across both identification prime experimental conditions, students focused on their social experiences (e.g., university clubs, teams, social groups) and their academic experiences outside class (e.g., academic activities relating to seminars, university events, and study expeditions).

*Authority competence.* The three-way ANOVA conducted on authority competence showed a significant effect for competence ( $F(1, 224) = 278.61$ ,  $p < 0.001$ ,  $\eta^2_p = 0.56$ ). As intended, participants who read about the professor's competent behavior rated the

professor as being more competent ( $M = 5.43$ ,  $SD = 1.66$ ) in comparison to participants who read about the professor's incompetent behavior ( $M = 2.95$ ,  $SD = 1.48$ ). However, participants who read about the professor's benevolent behavior also rated the professor as being more competent ( $M = 5.49$ ,  $SD = 1.5$ ) in comparison to participants who read about the professor's uncaring behavior ( $M = 3.06$ ,  $SD = 1.69$ ;  $F(1, 224) = 262.17$ ,  $p < 0.001$ ,  $\eta^2_p = 0.54$ ). The other effects were not statistically reliable (all  $p < 0.05$ ).

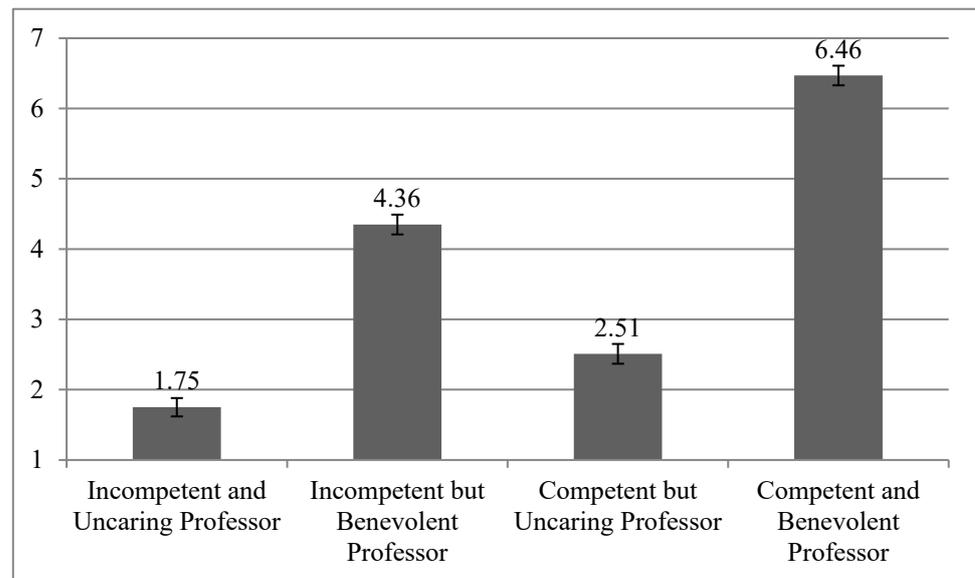
*Authority benevolence.* The three-way ANOVA conducted on authority benevolence showed a significant effect for benevolence ( $F(1, 226) = 302.76$ ,  $p < 0.001$ ,  $\eta^2_p = 0.58$ ). Participants who read about the professor's caring behavior rated the professor as being more caring ( $M = 6.16$ ,  $SD = 1.42$ ) in comparison to participants who read about the professor's uncaring behavior ( $M = 3.51$ ,  $SD = 1.16$ ). However, participants who read about the professor's competence also rated the professor as being more caring ( $M = 5.5$ ,  $SD = 1.63$ ) in comparison to participants who read about the professor's incompetence ( $M = 4.04$ ,  $SD = 1.77$ ;  $F(1, 226) = 80.81$ ,  $p < 0.001$ ,  $\eta^2_p = 0.27$ ). The other effects were not statistically reliable (all  $p < 0.05$ ).

*Trustworthiness.* The three-way ANOVA conducted on trustworthiness showed a significant main effect for competence ( $F(1, 226) = 106.92$ ,  $p < 0.001$ ,  $\eta^2 = 0.33$ ), benevolence ( $F(1, 226) = 563.23$ ,  $p < 0.001$ ,  $\eta^2_p = 0.72$ ), and, contrary to expectations, an interaction between competence and benevolence ( $F(1, 226) = 23.76$ ,  $p < 0.001$ ,  $\eta^2_p = 0.09$ ). Furthermore, the results did not show a significant effect for university identification ( $F(1, 226) = 2.19$ ,  $p = 0.14$ ). Furthermore, they did not show a significant effect for the interaction between identification and benevolence ( $F(1, 226) = 1.51$ ,  $p = 0.22$ ) or between identification and competence ( $F(1, 226) = 0.81$ ,  $p = 0.37$ ). Consistent with expectations, students who read about a caring professor rated him as significantly more trustworthy ( $M = 5.47$ ,  $SD = 1.52$ ) in comparison to those who read that the professor was uncaring ( $M = 2.12$ ,  $SD = 1.05$ ). Participants who read that the professor was competent rated him as significantly more trustworthy ( $M = 4.5$ ,  $SD = 2.18$ ) in comparison to those who read that the professor was incompetent ( $M = 2.94$ ,  $SD = 1.74$ ). The interaction between competence and benevolence showed that among participants who read that the professor was competent, participants who read that the professor was caring rated him as significantly more trustworthy ( $M = 6.46$ ,  $SD = 0.75$ ) in comparison to those who read that the professor was uncaring ( $M = 2.51$ ,  $SD = 1.04$ ;  $F(1, 218) = 417.01$ ,  $p < 0.001$ ,  $\eta^2_p = 0.66$ ). Furthermore, among participants who read that the professor was incompetent, participants who read that the professor was caring rated him as significantly more trustworthy ( $M = 4.36$ ,  $SD = 1.38$ ) in comparison to participants who read that the professor was uncaring ( $M = 1.75$ ,  $SD = 0.93$ ;  $F(1, 218) = 174.6$ ,  $p < 0.001$ ), but the effect was less strong ( $\eta^2_p = 0.44$ ). Among those who read that the professor was caring, those who read that the professor was competent rated him as more trustworthy in comparison to those who read that he was incompetent ( $F(1, 218) = 111.44$ ,  $p < 0.001$ ,  $\eta^2_p = 0.34$ ). Among participants who read that the professor was uncaring, those who read that the professor was competent rated him as more trustworthy in comparison to those who read that the professor was incompetent ( $F(1, 218) = 15.57$ ,  $p < 0.001$ ), but the effect was not strong ( $\eta^2_p = 0.07$ ; see Figure 3).

*Students' engagement.* The three-way ANOVA conducted on the measure of students' engagement showed no statistically significant results (all  $p > 0.05$ ).

### 5.3. Discussion

As in Study 1 and in line with expectations, students rated a competent and caring professor as much more trustworthy in comparison to an incompetent and uncaring professor. Furthermore, the professor's benevolence again mattered more than competence. The expected role of identification was not significant and the effects on engagement were not reliable.



**Figure 3.** U.S. participants' mean ratings of authority trustworthiness. Note,  $n = 226$ . The scale for the items of trustworthiness ranges from 1 = *untrustworthy* to 7 = *trustworthy*. Error bars represent 95% confidence intervals.

## 6. General Discussion

These two studies represented a test of the impact of educational authorities' competence and benevolence on trustworthiness. As predicted, the experimental manipulations of competence and benevolence influenced undergraduates' perception of the authority's trustworthiness. Undergraduates from both the U.S. and Italy rated a competent professor as more trustworthy, particularly if they thought the professor cared about students. They also rated a caring professor as more trustworthy in comparison to an uncaring professor, particularly if they thought the professor was competent. In both countries, competence and benevolence influenced students' ratings of authority trustworthiness. As suggested by correlational research investigations of teachers and students, competence and benevolence are two fundamental aspects that contribute to trustworthiness (Hoy and Tschannen-Moran 1999; Tschannen-Moran and Hoy 1998). In both countries, undergraduate students trusted an incompetent but benevolent professor more than a competent but malevolent professor. They seemed more concerned about the good intentions of an educational authority rather than his competency. These results could be explained by the hierarchical nature of relationships in educational settings (e.g., one is vulnerable in a different way in relation to an intimate friend compared to a supervisor) that increase the subordinate concern for the superiors' willingness. This is in line with the results from other studies (Baier 1986; Tschannen-Moran 1998) that showed that people with different levels of power and authority look to one another with different expectations when building trust. For instance, Tschannen-Moran (1998), in her study of urban schools, found that benevolence was the facet of trust that played the largest role in the teachers' judgments of trust in their principals, colleagues, and clients (students and parents) (Tschannen-Moran and Hoy 1998).

In this study, the role of identification was not confirmed and the predicted effects on students' engagement were not found. However, this pattern might reflect our choice to prime general university identification and not identification with the course of study. This problem is illustrated with the content analysis of what students wrote in response to the open-ended questions about a time that they either felt connected to (identified) or disconnected from (not identified) with their university. Both low and high identification U.S. students focused their descriptions on social activities and relational aspects concerning their university experience. For instance, U.S. students were especially focused on social experiences from clubs, sports teams, and with their peers that Italian students

hardly mentioned. Italian students' responses focused on the didactic, organizational, and administrative aspects of university life. For instance, high identification Italian students described practical didactic experiences (e.g., internships and guided practical experiences) that increased their sense of belongingness to university context. Furthermore, organizational and administrative aspects (e.g., the distribution of exam sessions in the academic calendar and the relationships with staff members) were mainly cited by low identification Italian students. These results suggest that U.S. students are less interested than Italian students in how much different didactic and organizational aspects can influence their academic or future experiences. Furthermore, the social and extra-didactic activities (e.g., fraternities, university newspapers, sports teams) that U.S. universities offer are much more developed than those offered to Italian university students. The results indeed suggest that social activities can strongly influence the construction of U.S. students' identification compared to Italian students, who are rarely involved in activities of this type. The absence of a positive correlation between university identification and instructor competence among U.S. students supports this interpretation. In future research, it could be important to consider the role of different targets of student identification. Mitchell and colleagues (2016) argued that school teachers have a positional power to create the conditions in which students can identify in positive ways. These authors discussed how students are likely to identify with school and to cooperate to meet academic goals and school-related outcomes when they believe that their teachers have their best interests at heart. However, individual instructors might be a less important source of identification information for some higher education institutions. For this reason, in future studies, the identification with academic authorities (e.g., professors) should be distinct from the students' identification with peers and/or the institution.

As for the measure of engagement, our behavioral instrument might have been limited in measuring both U.S. and Italian undergraduate students' willingness to volunteer. A behavioral proxy of university engagement is helpful because it avoids the problems associated with social desirability biases. However, although we offered students a broad range of choices by which to engage with the university, they have been reluctant to cooperate due to time constraints or other responsibilities. Future longitudinal studies could be valuable. We should also investigate potential cultural differences in the measurement of cooperation. For U.S. students, volunteering to discuss university problems and solutions may be a natural fit to a university culture that values egalitarianism, voluntary associations, innovation, and individual agency (Rhee et al. 1996; Triandis et al. 1995). U.S. students, as members of a more individualistic and egalitarian culture, could be more comfortable in volunteering their advice and opinions and feel much less concerned that their comments could be interpreted as a sign of disrespect compared to Italian students (Dinev et al. 2006; Fukuyama 1995; Hofstede 2003). However, this explanation is speculative and must be confirmed in future research.

## 7. Limitations

We should recognize some limitations of the studies. First, although we worked hard to present the scenario as a believable summary of real events, it is not the same as directly observing or experiencing authority behavior. Still, there is evidence from other research areas that suggests that people's reactions to imagined situations are similar to their reactions to real experiences (Robinson and Clore 2002). For example, participants who imagined positive intergroup contact reported improved intergroup attitudes in much the same way that real positive intergroup contact improves intergroup attitudes (Garcia et al. 2002). Also, we recognize that students' trustworthiness was measured with a single item. Previous studies showed support for single-item measures (Bergkvist and Rossiter 2007; Loo 2002). However, in future studies, trustworthiness could be assessed in a more comprehensive manner. For instance, the trustworthiness of lecturers who adequately transmit the syllabus contents could be measured independently from their trustworthiness in being accessible or fair.

The manipulation of competence also had small but statistically reliable significant effects on the perception of the professor's good intentions and the manipulation of benevolence had small but statistically reliable effects on perceptions of his competence. This pattern suggests the extent to which competence and benevolence judgments are inter-related and cognitively integrated (Vidotto et al. 2012). This is in line with other studies (Kosonen and Ikonen 2019) that showed that the dimensions of trustworthiness are strongly related. For instance, in the Italian educational context, Di Battista et al. (2020) explored university students' representations of professors' competence and benevolence. Qualitative content analysis showed that the two dimensions overlapped. Students listed theoretically defined competence characteristics as indications of both benevolence and competence. The same applied to benevolence. In future studies, we could sharpen the distinction between authority competence and benevolence, controlling for the potential order effect of giving competence and then benevolence information. The distinction between benevolence and competence might be especially blurred within education contexts where competent teachers might be expected to be warm, friendly, flexible, helpful, and open (Elton 1987).

## 8. Implications

As far as we know, this research is the first attempt to experimentally manipulate two different components of educational authority trustworthiness. We assumed that a university authority who desires to be regarded as trustworthy would need to demonstrate competence and benevolence to their students and colleagues. As our society becomes more complex and competitive and requires more frequent and adaptive change, trust will be ever more important. People who can trust institutional authorities share useful information, reduce their consumption of collective resources, and are more altruistic (Kramer and Tyler 1996). Trustworthy authorities do not need to continually manage and justify their actions or continually monitor other people's performance (Tyler and Degoey 1996). The importance of authority trustworthiness is especially evident in the educational context. Schools and universities are places for equal opportunity for all students coming from all socioeconomic strata, but national surveys show that there is a growing public distrust of schools, universities, and educational authorities (Tschannen-Moran and Hoy 2000). Growing distrust is a serious impediment to educational reforms when divergent interests among competing parties produce a negative climate of disengagement.

Teaching has become a challenging activity with increasing expectations among students and adverse conditions, such as increasing class sizes and students' absenteeism or dropping out (e.g., Dable et al. 2012). Lecturers could improve their andragogical methods (i.e., teaching methodology for adult learners; Savicevic 1991, 1999) to suit these students' needs, considering that effective teaching in the classroom includes behaviors such as organization, enthusiasm, empathy, rapport, clarity, general knowledge, and being available for students (Feldman 1997). Facilitating a culture of cooperation rather than competition is likely to have a significant impact on trusting and trustworthy behaviors in schools (Tschannen-Moran and Hoy 2000). This culture could be driven by educational leaders promoting the success of every student, creating a rigorous curriculum and a motivating learning environment (Tschannen-Moran and Gareis 2015). Behaviors that demonstrate benevolence and competence are essential to such a school culture. Professors' capacities to develop individualized interventions based on the needs of students, ensuring that each student is known, valued, and respected in a safe, secure, emotionally protective, and healthy environment, highlight some of the most important principles for an effective educational leadership (Tschannen-Moran and Gareis 2015).

**Supplementary Materials:** The following are available online at [https://osf.io/sbdju/?view\\_only=2397cc9151784d5b8d0e1fe1ba94bbd6](https://osf.io/sbdju/?view_only=2397cc9151784d5b8d0e1fe1ba94bbd6), Supplementary material files.

**Author Contributions:** Conceptualization, S.D.B., H.J.S. and C.B.; methodology, S.D.B. and H.J.S.; software, S.D.B., H.J.S., M.P.; validation, S.D.B., H.J.S. and C.B.; formal analysis, S.D.B. and H.J.S.; investigation, S.D.B. and H.J.S.; resources, H.J.S., C.B. and M.P.; data curation, S.D.B. and H.J.S.; writing—original draft preparation, S.D.B. and H.J.S.; writing—review and editing, S.D.B., H.J.S., M.P., C.B.; visualization, S.D.B.; supervision, H.J.S. and C.B.; project administration, S.D.B., H.J.S. and M.P.; funding acquisition, M.P. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding. The Open Access publication fees were covered by the University of Bergamo (Italy).

**Institutional Review Board Statement:** In United States, the study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board of Sonoma State University (protocol code n° #2372 for the approval of research involving human subjects. 30 April 2010). In Italy, research was compliant with the Code of Ethics of the [Italian Psychology Association \(2005\)](#), which is inspired to the Declaration of Helsinki. As no Institutional Review Board for Psychology research was available at the institution with which the social psychology researchers involved in this study are affiliated (i.e., the University of Chieti–Pescara), no request for approval could be submitted.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** Further data are in supplementary material file and are available on request from the corresponding author.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

### *Appendix A.1. Vignette—Incompetent and Uncaring Professor's Behavior*

All students arrived on time for a morning class. Fifteen minutes after class was supposed to have started Professor X arrived. It took Professor X an additional ten minutes to set up the computer and began his presentation. Some students complained, “The power point slides were disorganized, confusing, and full of errors. Professor X read off the slides without offering any additional information.” Other students said, “When we tried to ask for clarifications Professor X could not give us clear answers.” Furthermore, in this same class there was an exam scheduled for the following week. The professor had said that he would be available to extend the office hours the following day to accommodate students who had questions about the exam material. Students told us that they had arrived at school the following day to take advantage of this offer. However, Professor X was not in his office. They waited for an hour but the professor never showed up. In addition, some students said, “Professor X did not answer our emails and when we questioned him on exam day he did not apologize. Instead, he said that it was our responsibility, not his, to be prepared for the exam.” When talking to other classmates, students found out that professor X had answered someone else's exam questions.

### *Appendix A.2. Vignette—Competent and Caring Professor's Behavior*

All students arrived on time for their morning class. Professor X was already set up for lecture and began the class on time. Students said, “The power point slides were clear, organized and free of errors. The lecture was interesting and insightful. Professor X demonstrated expertise in the subject by citing relevant and interesting examples.” Other students recalled, “When we asked for clarification Professor X gave us clear answers.” Furthermore, in this same class there was an exam scheduled for the following week. Professor X had said that he would extend his office hours the following day to accommodate students who had questions about the exam material. Some students told us that they had arrived at school the following day to take advantage of this offer. Not only did Professor X answer their questions about the upcoming exam, but some students said, “He helped to relieve our test anxiety by reassuring us that we would do fine and he praised our class

performance.” In addition, students said, “Professor X regularly answered our emails and answered everybody’s questions.”

*Note:* The text varies by combination of positive and negative aspects of benevolence and competence. Participants were informed that the name of professor was anonymized for privacy.

## References

- Abele, Andrea E., and Bogdan Wojciszke. 2007. Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology* 93: 751–63. [CrossRef] [PubMed]
- Akinwande, Michael Olusegun, Hussaini Garba Dikko, and Agboola Samson. 2015. Variance Inflation Factor: As a Condition for the Inclusion of Suppressor Variable(s) in Regression Analysis. *Open Journal of Statistics* 5: 1–14. [CrossRef]
- Baier, Annette. 1986. Trust and antitrust. *Ethics* 96: 231–60. [CrossRef]
- Barber, Bernard. 1983. *The Logic and Limits of Trust*. New Brunswick: Rutgers University Press.
- Barki, Henri, Jacques Robert, and Alina Dulipovici. 2015. Reconceptualizing trust: A Non-Linear Boolean Model. *Information & Management* 52: 483–95. [CrossRef]
- Bentler, Peter M. 1995. *EQS Structural Equations Program Manual*. Encino: Multivariate Software.
- Bergkvist, Lars, and John R. Rossiter. 2007. The predictive validity of multiple item versus single-item measures of the same constructs. *Journal of Marketing Research* 44: 175–84. [CrossRef]
- Berti, Chiara, and Silvia Di Battista. 2011. Framing student engagement through perception of justice: The role of trust in authorities in educational contexts. In *Classrooms: Management, Effectiveness and Challenges*. Edited by Rebecca J. Newley. New York: Nova Science Publishers, pp. 59–75. ISBN 978-1-61234-601-6.
- Blader, Steven L., and Tom R. Tyler. 2009. Testing and extending the Group Engagement Model: Linkages between social identity, procedural justice, economic outcomes, and extrarole behavior. *Journal of Applied Psychology* 94: 445–64. [CrossRef]
- Bryk, Anthony S., and Barbara Schneider. 1996. *Social Trust: A Moral Resource for School Improvement*; Madison: Wisconsin Center for Education Research, pp. 1–40. Available online: <https://eric.ed.gov/?id=ED412630> (accessed on 10 September 2020).
- Bryk, Anthony S., and Barbara Schneider. 2002. *Trust in Schools: A Core Resource for Improvement*. New York: Russell Sage Foundation.
- Bryk, Anthony S., and Barbara Schneider. 2003. Trust in schools: A core resource for reform. *Educational Leadership* 60: 40–44.
- Chory-Assad, Rebecca M. 2007. Enhancing student perceptions of fairness: The relationship between instructor credibility and classroom justice. *Communication Education* 56: 89–105. [CrossRef]
- Colquitt, Jason A., and Jessica B. Rodell. 2011. Justice, trust, and trustworthiness: A longitudinal analysis integrating three theoretical perspectives. *Academy of Management Journal* 54: 1183–206. [CrossRef]
- Dable, Rajani A., Babita R. Pawar, Jaykumar R. Gade, Prasanth M. Anandan, Girish S. Nazirkar, and Jyoti T. Karani. 2012. Student apathy for classroom learning and need of repositioning in present andragogy in Indian dental schools. *BMC Medical Education* 12: 1–8. [CrossRef]
- Das, T. K., and Bing-Sheng Teng. 1998. Between trust and control: Developing confidence in partner cooperation in alliances. *Academy of Management Review* 23: 491–512. [CrossRef]
- Das, T. K., and Bing-Sheng Teng. 2001. Trust, control, and risk in strategic alliances: An integrated framework. *Organization Studies* 22: 251–83. [CrossRef]
- Di Battista, Silvia, Monica Pivetti, and Chiara Berti. 2014. Engagement in the university context: Exploring the role of a sense of justice and social identification. *Social Psychology of Education* 17: 471–90. [CrossRef]
- Di Battista, Silvia, Monica Pivetti, and Chiara Berti. 2020. Competence and benevolence as dimensions of trust: Lecturers’ trustworthiness in the words of Italian students. *Behavioral Sciences* 10: 143. [CrossRef] [PubMed]
- Dinev, Tamara, Massimo Bellotto, Paul Hart, Vincenzo Russo, Ilaria Serra, and Christian Colautti. 2006. Privacy calculus model in E-Commerce—A Study of Italy and the United States. *European Journal of Information Systems* 15: 389–402. [CrossRef]
- Elton, Lewis. 1987. *Teaching in Higher Education: Appraisal and Training*. London: Kogan Page.
- Feldman, Kenneth A. 1997. Identifying exemplary teachers and teaching: Evidence from student ratings. In *Effective Teaching in Higher Education: Research and Practice*. Edited by Raymond Perry and John C. Smart. New York: Agathon Press, pp. 368–95.
- Field, Andy. 2009. *Discovering Statistics Using IBM SPSS Statistics*, 4th ed. Thousand Oaks: Sage.
- Finn, Jeremy D., and Kristin E. Voelkl. 1993. School characteristics related to student engagement. *The Journal of Negro Education* 62: 249. [CrossRef]
- Forsyth, Patrick B., Curt M. Adams, and Wayne K. Hoy. 2011. *Collective Trust: Why School Can’t Improve without It*. New York: Teachers College Press.
- Forsyth, Patrick B. 2008. The empirical consequences of school trust. In *Improving Schools: Studies in Leadership and Culture*. Edited by Wayne K. Hoy and Michael Di Paola. Greenwich: Information Age, pp. 1–27.
- Fukuyama, Francis. 1995. *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.
- Furrer, Carrie, and Ellen Skinner. 2003. Sense of relatedness as a factor in children’s academic engagement and performance. *Journal of Educational Psychology* 95: 148–62. [CrossRef]
- Gabarro, John J. 1978. The development of trust, influence, and expectations. In *Interpersonal Behaviors: Communication and Understanding in Relationships*. Edited by Anthony G. Athos, John J. Gabarro and Jane Lyman Holtz. Englewood Cliffs: Prentice Hall, pp. 290–303.

- Garcia, Stephen M., Kim Weaver, Gordon B. Moskowitz, and John M. Darley. 2002. Crowded minds: The implicit bystander effect. *Journal of Personality and Social Psychology* 83: 843–53. [CrossRef]
- George, Darren, and Paul Mallery. 2010. *SPSS for Windows Step by Step: A Simple Guide and Reference*, 10th ed. 17.0 Update. Boston: Pearson.
- Goddard, Roger D., Megan Tschannen-Moran, and Wayne K. Hoy. 2001. A Multilevel examination of the distribution and effects of teacher trust in students and parents in urban elementary schools. *The Elementary School Journal* 102: 3–17. [CrossRef]
- Goodenow, Carol, and Kathleen E. Grady. 1993. The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education* 62: 60–71. [CrossRef]
- Hagborg, Winston J. 2003. Sources of school belonging for students with learning disabilities. Paper presented at the Annual Conference of the American Psychological Association, Toronto, ON, Canada, August 7–10.
- Han, Guohong (Helen), and P. D. Harms. 2010. Team identification, trust and conflict: A mediation model. *International Journal of Conflict Management* 2: 20–43. [CrossRef]
- Hofstede, Geerte. 2003. *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations across Nations*. London: Sage.
- Hoy, Wayne K., and Megan Tschannen-Moran. 1999. Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership* 9: 184–208. [CrossRef]
- Hsieh, Hsiu-Fang, and Sarah E. Shannon. 2005. Three approaches to qualitative content analysis. *Qualitative Health Research* 15: 1277–88. [CrossRef] [PubMed]
- Italian Psychology Association [Associazione Italiana di Psicologia]. 2005. Code of Ethics of the Italian Psychological Association. Available online: <http://www.aipass.org/node/26> (accessed on 10 January 2015).
- Jackson, Jay W., Daniel A. Miller, Erin J. Frew, Brad Gilbreath, and Christa Dillman. 2011. Group identification and university involvement. *Journal of Applied Social Psychology* 41: 798–822. [CrossRef]
- Johnston, Angie M., Candice M. Mills, and Asheley R. Landrum. 2015. How do children weigh competence and benevolence when deciding whom to trust? *Cognition* 144: 76–90. [CrossRef]
- Jungermann, Helmut, Hans-Rudiger Pfister, and Katrin Fischer. 1995. Credibility, information preferences, and information interests. *Risk Analysis* 16: 251–61. [CrossRef]
- Kim, Hae-Young. 2013. Statistical notes for clinical researchers: Assessing normal distribution using skewness and kurtosis. *Restorative Dentistry & Endodontics* 38: 52–54. [CrossRef]
- Kim, Dan J., Donald L. Ferrin, and Raghav Rao. 2003. Antecedents of consumer trust in B-to-C electronic commerce. Paper presented at Ninth Americas Conference on Information Systems, Tampa, FL, USA, August 4–6; pp. 157–67.
- Kohring, Matthias, and Jörg Matthes. 2007. Trust in news media development and validation of a multidimensional scale. *Communication Research* 34: 231–52. [CrossRef]
- Kosonen, Päivi, and Mirjami Ikonen. 2019. Trust building through discursive leadership: A communicative engagement perspective in higher education management. *International Journal of Leadership in Education*, 1–17. [CrossRef]
- Kramer, Roderick M., and Tom R. Tyler. 1996. *Trust in Organizations: Frontiers of Theory and Research*. Thousand Oaks: Sage.
- Leventhal, Gerald S. 1980. What should be done with Equity Theory? New approaches to the study of fairness in social relationships. In *Social Exchange Theory*. Edited by Gergen Kenneth. New York: Plenum Press.
- Lind, E. Allan, and Tom R. Tyler. 1988. *The Social Psychology of Procedural Justice*. New York: Plenum.
- Loo, Robert. 2002. A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology* 17: 68–75. [CrossRef]
- Lui, Steven S., and Hang-Yue Ngo. 2004. The role of trust and contractual safeguards on cooperation in Non-Equity Alliances. *Journal of Management* 30: 471–85. [CrossRef]
- Marrucci, Lorenzo. 2010. L'università negli Stati Uniti: Differenze con l'Italia (University in the United States: The differences with Italy). *Ricerca* 9: 12–14.
- Martínez, Patricia, and Ignacio R. del Bosque. 2013. CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. *International Journal of Hospitality Management* 35: 89–99. [CrossRef]
- Mayer, Roger C., James H. Davis, and F. David Schoorman. 1995. An integrative model of organizational trust. *The Academy of Management Review* 20: 709–37. [CrossRef]
- McAllister, D. J. 1995. Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal* 38: 24–59. [CrossRef]
- McEvily, Bill, Vincenzo Perrone, and Akbar Zaheer. 2003. Trust as an Organizing Principle. *Organization Science* 14: 91–103. [CrossRef]
- McKnight, D. Harrison, Vivek Choudhury, and Charles Kacmar. 2002. Developing and validating trust measures for ecommerce: An integrative typology. *Information Systems Research* 13: 334–59. [CrossRef]
- Metlay, Daniel. 1999. Institutional trust and confidence: A journey into a conceptual quagmire. In *Social Trust and the Management of Risk*. Edited by George T. Cvetkovich and Ragnar E. Lofstedt. London: Earthscan, ISBN 9781315071350.
- Mitchell, Roxanne M., Joan Ripley, Curt Adams, and Dheeraj Raju. 2011. Trust an essential ingredient in collaborative decision making. *Journal of School Public Relations* 32: 145–70. [CrossRef]
- Mitchell, Roxanne M., Lisa Kensler, and Megan Tschannen-Moran. 2016. Student trust in teachers and student perceptions of safety: Positive predictors of student identification with school. *International Journal of Leadership in Education* 21: 135–54. [CrossRef]
- Nooteboom, Bart. 1996. Trust, opportunism and governance: A process and control model. *Organization Studies* 17: 985–1010. [CrossRef]

- Oleszkiewicz, Anna, and Kinga Lachowicz-Tabaczek. 2016. Perceived competence and warmth influence respect, liking and trust in work relations. *Polish Psychological Bulletin* 47: 431–35. [CrossRef]
- Oppenheimer, Daniel M., Tom Meyvis, and Nicolas Davidenko. 2009. Instructional Manipulation Checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology* 45: 867–72. [CrossRef]
- Osborne, Jason W. 1995. Academics, self-esteem, and race: A look at the underlying assumptions of the disidentification hypothesis. *Personality and Social Psychology Bulletin* 21: 449–55. [CrossRef]
- Osborne, Jason W. 1997. Race and academic disidentification. *Journal of Educational Psychology* 89: 728–35. [CrossRef]
- Rhee, Eun, James S. Uleman, and Hoon Koo Lee. 1996. Variations in collectivism and individualism by ingroup and culture: Confirmatory Factor Analysis. *Journal of Personality and Social Psychology* 71: 1037–54. [CrossRef]
- Robinson, Michael D., and Gerald L. Clore. 2002. Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin* 128: 934–60. [CrossRef]
- Romero, Lisa S. 2015. Trust, behavior, and high school outcomes. *Journal of Educational Administration* 53: 215–36. [CrossRef]
- Rousseau, Denise M., Sim B. Sitkin, Ronald S. Burt, and Colin Camerer. 1998. Not so different after all: A cross-discipline view of trust. *Academy of Management Review* 23: 393–404. [CrossRef]
- Ryan, Allison M., and Helen Patrick. 2001. The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal* 38: 437–60. [CrossRef]
- Savicevic, Dušan M. 1991. Modern conceptions of andragogy: A European framework. *Studies in the Education of Adults* 23: 179–201. [CrossRef]
- Savicevic, Dušan M. 1999. *Adult Education: From Practice to Theory Building*. *Studies in Pedagogy, Andragogy and Gerontagogy*. Frankfurt am Main: Peter Lang.
- Smith, Heather J., Tom R. Tyler, Yuen J. Huo, Daniel J. Ortiz, and E. Allan Lind. 1998. The self-relevant implications of the Group-Value Model: Group membership, self-worth, and treatment quality. *Journal of Experimental Social Psychology* 34: 470–93. [CrossRef]
- Smith, Page A., Wayne K. Hoy, and Scott R. Sweetland. 2001. Organizational health of high schools and dimensions of faculty trust. *Journal of School Leadership* 11: 135–51. [CrossRef]
- Smith, Heather J., Timothy R. Thomas, and Tom R. Tyler. 2006. Concrete construction employees: When does procedural fairness shape self-evaluations? *Journal of Applied Social Psychology* 36: 644–63. [CrossRef] [PubMed]
- Smith, Heather J., Gerryann Olson, Gail Agronick, and Tom Tyler. 2009. Everyday interactions with university authorities: Authority treatment quality, outcome favorability and first-year students' university adjustment. *Group Processes & Intergroup Relations* 12: 209–26. [CrossRef]
- Triandis, Harry C., Darius K.-S. Chan, Dharm P. S. Bhawuk, Sumiko Iwao, and Jai B.P. Sinha. 1995. Multimethod probes of allocentrism and idiocentrism. *International Journal of Psychology* 30: 461–80. [CrossRef]
- Tschannen-Moran, Megan. 1998. Trust and Collaboration in Urban Elementary Schools. Unpublished Ph.D. dissertation, The Ohio State University, Columbus, OH, USA. Available online: [https://www.researchgate.net/publication/35758687\\_Trust\\_and\\_collaboration\\_in\\_urban\\_elementary\\_schools](https://www.researchgate.net/publication/35758687_Trust_and_collaboration_in_urban_elementary_schools) (accessed on 10 September 2020).
- Tschannen-Moran, Megan. 2001. Collaboration and the need for trust. *Journal of Educational Administration* 39: 308–31. [CrossRef]
- Tschannen-Moran, Megan. 2004. *Trust Matters: Leadership for Successful Schools*. San Francisco: Jossey-Bass.
- Tschannen-Moran, Megan. 2009. Fostering teacher professionalism in schools: The role of leadership orientation and trust. *Educational Administration Quarterly* 45: 217–47. [CrossRef]
- Tschannen-Moran, Megan, and Christopher Gareis. 2015. Principals, Trust, and Cultivating Vibrant Schools. *Societies* 5: 256–76. [CrossRef]
- Tschannen-Moran, Megan, and Wayne K. Hoy. 1998. Trust in schools: A conceptual and empirical analysis. *Journal of Educational Administration* 36: 334–52. [CrossRef]
- Tschannen-Moran, Megan, and Wayne K. Hoy. 2000. A multi-disciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research* 70: 547–93. [CrossRef]
- Tschannen-Moran, Megan, Jennifer Parish, and Michael Dipaola. 2006. School climate and state standards: How interpersonal relationships influence student achievement. *Journal of School Leadership* 16: 386–415. [CrossRef]
- Tyler, Tom R. 1997. The psychology of legitimacy: A relational perspective on voluntary deference to authorities. *Personality and Social Psychology Review* 1: 323–45. [CrossRef]
- Tyler, Tom R. 2001. Public trust and confidence in legal authorities: What do majority and minority group members want from the law and legal institutions? *Behavioral Sciences & The Law* 19: 215–35. [CrossRef]
- Tyler, Tom R., and Steven L. Blader. 2003. The Group Engagement Model: Procedural justice, social identity, and cooperative behavior. *Personality and Social Psychology Review* 7: 349–61. [CrossRef] [PubMed]
- Tyler, Tom R., and Peter Degoe. 1996. Trust in organizational authorities: The influence of motive attributions on willingness to accept decisions. In *Trust in Organizations*. Edited by Roderick Kramer and Tom R. Tyler. Thousand Oaks: Sage. [CrossRef]
- Tyler, Tom R., and E. Allan Lind. 1992. A relational model of authority in groups. In *Advances in Experimental Social Psychology*. Amsterdam: Elsevier, pp. 115–91. [CrossRef]
- Tyler, Tom R., and Heather J. Smith. 1999. Justice, social identification and group processes. In *The Psychology of the Social Self*. Edited by Tom T. Tyler, Roderick M. Kramer and John O. Mahwah. Hillsdale: Lawrence Erlbaum.

- 
- Tyler, Tom, Peter Degoey, and Heather Smith. 1996. Understanding why the justice of group procedures matters: A test of the psychological dynamics of the group-value model. *Journal of Personality and Social Psychology* 70: 913–30. [[CrossRef](#)]
- Vidotto, Giulio, Davide Massidda, Stefano Noventa, and Marco Vicentini. 2012. Trusting Beliefs: A Functional Measurement Study. *Psicologica* 33: 575–90.
- Voelkl, Kristin E. 1997. Identification with school. *American Journal of Education* 105: 294–318. [[CrossRef](#)]
- West, Stephen G., John F. Finch, and Patrick J. S. Curran. 2013. Structural equation models with nonnormal variables: Problems and remedies. In *Structural Equation Modeling: Concepts, Issues, and Applications*. Edited by Rick H. Hoyle. Thousand Oaks: Sage, pp. 56–75.