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## Data Article

## Data from a three-wave complete longitudinal design survey on career calling and related constructs (N = 6368)



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## ABSTRACT

This dataset provides de-identified raw responses to a non-anonymous three-wave online survey with a 12-month time lag. Data collection was part of a larger project on the development of career calling in Italian college students. The first wave was collected during the fall of 2014. Participants were bachelor's or master's students enrolled in 24 different study domains and 4 different universities. Sample sizes for each wave are  $N_{T1} = 5,886$ ,  $N_{T2} = 1,700$  and  $N_{T3} = 881$ , 434 participants provided valid responses at all the three waves. Consent form was electronic. Dataset and codebook can be found here: <https://osf.io/v56du/>. The sample is mainly composed of women (63.8%, at Time 1). Participants' mean age at Time 1 was 23.37 years (SD = 5.39). The survey was in Italian and included multiple-item measures of career calling, intrinsic and extrinsic motivation, social support, engaged learning, clarity of professional identity, and quality of mentorship. Socio-demographic information and academic performance indicators are provided. The dataset is necessary to reproduce previously published results (Vianello et al., 2018) and can be useful to 1) investigate cross-cultural differences between college students from Italy and other countries; 2) investigate person-level variability in predictors and consequences of change

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in the variables collected over time; 3) develop and/or validate new statistical models for longitudinal data; and 4) develop and/or test original theoretical hypotheses.

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#### Specifications Table

Subject	Applied Psychology
Specific subject area	Vocational Psychology
Type of data	Table (Person-level longitudinal dataset)
How data were acquired	Online survey with e-mail invitation.
Data format	Raw
Parameters for data collection	Criterion for eligibility was being enrolled in any bachelor or master program at the university of Padua, Florence, Naples (Parthenope) and Arezzo.
Description of data collection	Italian college students answered to the same questions in 2014 (T1), 2015 (T2), and 2016 (T3).
Data source location	Institution: University of Padova (1), University of Florence (2), University of Arezzo (3), University of Naples (Parthenope, 4). City/Town/Region: Padua, Florence, Arezzo, Naples Country: Italy Latitude and longitude (and GPS coordinates) for collected samples: (1) 45°24'19.4"N 11°52'39.1"E; 45.405392, 11.877520 (2) 43°46'16.9"N 11°15'14.5"E; 43.771369, 11.254034 (3) 43°27'36.3"N 11°53'12.0"E; 43.460086, 11.886677 (4) 40°49'55.9"N 14°14'41.7"E; 40.832187, 14.244924
Data accessibility	Repository name: Open Science Framework Data identification number: 10.17605/OSF.IO/XKHF3 Direct URL to data: <a href="https://osf.io/2fgjb/">https://osf.io/2fgjb/</a>
Related research articles	A. Dalla Rosa, M. Vianello, P. Anselmi, Longitudinal Predictors of the Development of a Calling: New Evidence for the A Posteriori Hypothesis. <i>J. Vocat. Behav.</i> In press. <a href="https://doi.org/10.1016/j.jvb.2019.02.007">https://doi.org/10.1016/j.jvb.2019.02.007</a> .

#### Value of the data

- The data can be used to evaluate cross-cultural differences between samples of College students from Italy and other countries, as part of a larger longitudinal multigroup study.
- The data can be used to investigate predictors and consequences of changes across time in Social support, Engaged learning, Clarity of professional identity, Intrinsic and Extrinsic motivation among college students, and to investigate how person-level variability in these constructs relate to person-level variability in perceiving a calling for a study domain.
- The data can be used to develop and/or validate new statistical models for the assessment of change.
- The dataset includes open-text answers that can be qualitatively analyzed to develop new hypotheses about the origin of a calling among college students and is currently, to the best of our knowledge, the only open access dataset that provides repeated measurements of career calling.
- Scientists interested in the longitudinal study of vocational behavior, in higher education, in statistics and in independently reproduce the results reported in [1–4] can benefit from these data.

## 1. Data

Codebooks, data and a copy of the original surveys in Italian language are publicly available in the OSF (<https://osf.io/v56du/>). The OSF project provides a complete dataset in wide format with subject's repeated responses in a single row, and each response at T1, T2 and T3 in a separate column. An .xlsx version of the dataset is provided here: <https://osf.io/by8az/>. The database is provided in SPSS format (.sav; <https://osf.io/2fgjb/>). The SPSS code used to recode variable names and labels from Italian to

English is provided here: <https://osf.io/dafg3/>. The codebook presenting variable labels, type, and value codes in Italian and English is provided here: <https://osf.io/5hdv3/>. Name, surname, and email address of participants have been removed to prevent identification. The complete dataset is composed of 6370 Italian college students who participated in at least one of the three waves. 5886 provided valid responses in the first wave (T1), 1700 took part to the second data collection (T2), and 881 took part to the third data collection (T3). A sample of 434 subjects provided valid responses at all data collections (7.37% of the initial sample).

## 2. Experimental design, materials, and methods

### 2.1. Procedure

Data were collected by means of a non-experimental online survey. The Universities of Padova, Florence, Arezzo, and Naples (Parthenope) provided the list of actively enrolled student who were then invited by e-mail to the study. Responses were collected during the fall of 2014 (T1), 2015 (T2), and 2016 (T3). The survey was developed and administered in Moodle. At T2 and T3 the invitation e-mail was sent to students who logged in the survey page at T1, even if they did not provide valid responses. Participants voluntarily participated in the research. Upon receiving the invitation message, they were informed that participation in the survey presented no risk, that their identifying information would have been used to match their responses at different waves, and that the data would have been anonymized and used exclusively in aggregated form for scientific purposes. They were also informed that they could have withdrawn from the study at any time without giving a reason, simply closing their browser. Data protection followed regulation of the Italian country (Legislative Decree n. 196/2003) and of the European Union (regulation n. 2016/679). Participants were then informed that going further in the survey would have been interpreted as their signature on the consent form. Their consent was electronically recorded. Participants at T1 were offered a €25 and €15 lottery incentive, respectively at T2 and T3, awarded to 50 and 70 randomly chosen students.

### 2.2. Participants

T1 students were enrolled in different programs, across a total of 24 different domains. The sample is mainly composed of women (63.8%, 65.8%, and 68% females at T1, T2, and T3, respectively). Participants' ages ranged between 18 and 69 ( $M_{T1} = 23.37$ ;  $SD_{T1} = 5.39$ ;  $M_{T2} = 23.47$ ;  $SD_{T2} = 4.82$ ;  $M_{T3} = 24.02$ ;  $SD_{T3} = 4.50$ ). At T1, 44% ( $n = 2282$ ) of participants had working experience or were working, 46.8% ( $n = 755$ ) at T2, and 44.6% ( $n = 389$ ) at T3. At T1, 3173 students (78.7%) declared to have a career calling. The large majority of them (85%) declared that the source of their calling was internal. Among the students who took part to the three data collections, 28% ( $n = 123$  out of 434) declared that they had a mentor at T1, T2 and T3; 27% declared that they did not have a mentor at T1, T2 and T3 ( $n = 118$  out of 434). In our sample, a mentor is often a professor at high school (10.7%; 8.7%; 7% respectively at T1, T2 and T3) or at College (8.6%; 9.9%; 9.6% respectively at T1, T2 and T3), a friend or a relative (16.5%; 9.8%; 15.1% respectively at T1, T2 and T3).

### 2.3. Questionnaire

Moodle does not provide an automated tool to randomize the presentation of the items. To limit order effects, we created four different versions of the questionnaire, which were administered each time to the same subsample of students. The first 13 items of the career calling measures (12 items adapted from Dobrow & Tosti-Kharas [5] and one additional item created by the researchers), appeared before the 18 items adapted from the presence and search subscales of CVQ [6] in versions 1 and 3. Versions 2 and 4 implemented the opposite order. The order of the paragraphs [7] measuring career calling in mentors and professors was counterbalanced, such that respondents to Version 1 and 2 of the

questionnaire were asked to evaluate their mentor first, whereas respondents to Version 3 and 4 were asked to evaluate their professors before their mentor. Hence, Version 1 and Version 3 have the same order of paragraphs measuring career calling in mentors and professor of Version 2 and 4, respectively. Version 1 and Version 2 have the same order of career calling measures of Version 3 and 4, respectively.

## 2.4. Measures

All measures who were not available in Italian or created ad hoc for the study were translated and back-translated by three independent experts. The original scale was translated from English to Italian by two independent experts, and the two translated versions were discussed to resolve inconsistencies. The Italian version was back-translated by the third independent expert and the discrepancies between the original and back-translated scales were resolved by the three experts.

At the beginning of the survey, and before the calling scales, participants were asked to indicate their major from a list of alternatives. They were then instructed to think of their major when filling out the questionnaire.

To limit the number of items in the questionnaire and the time needed to answer, we reduced the length of the presence and search for a calling scales by selecting a subset of items, and we assessed only the dimensions of quality of mentorship, intrinsic and extrinsic motivation that were relevant for the purpose of our research. When not specified in the following sections, all measures were assessed at each time point.

### 2.4.1. Multi-item measures

*Presence and Search for a Calling.* We assessed the presence of a calling with 22 items, 12 items of the calling scale developed by Dobrow and Tosti-Kharas [5], nine items selected from the Calling and Vocation Questionnaire Presence subscale by Dik, Eldridge, Steger, and Duffy [6], and one additional item regarding willingness to sacrifice. From the Calling and Vocation Questionnaire (Presence subscale) we selected nine items to cover the key aspects of the construct and maximize reliability. The items were chosen based on their factor loadings using results from the confirmatory factor analyses reported in Dik et al. [6] (see Table 2, p. 250). When necessary, items' wording was adapted to the specific samples under investigation. Further details on the measure of calling and its validation are provided in Vianello et al. [1,3]. We also assessed search for a calling with nine items taken from Dik et al. [6]. Items were selected following the same procedure adopted for the presence of a calling subscale.

*Engaged Learning.* The 10-item Engaged Learning Index (Schreiner & Louis [8]) was used to assess Meaningful processing, Active participation, and Focused attention. For further details on the reliability and longitudinal measurement invariance of the Italian version of the scale refer to the article by Dalla Rosa et al. [2].

*Clarity of professional identity.* Clarity of professional identity was assessed with four items created ad hoc from those used in Dobrow and Higgins [9], and Day and Allen [10]. Information on the reliability and longitudinal measurement invariance of the scale is provided in Dalla Rosa et al. [2].

*Social support.* The subjective assessment of social support provided by family, friends, and a special person was assessed with the nine items of the Italian version [11] of the Multidimensional Scale of Perceived Social Support by Zimet, Dahlem, Zimet, and Farley [12]. For further details on the reliability of the scale and its longitudinal measurement invariance refer to the article by Dalla Rosa et al. [2].

*Need for calling.* We assessed participants' need to perceive and live out their calling with six items created ad hoc for this purpose.

*Calling flexibility.* We developed a five-item scale to measure the degree to which students felt that their calling could not have been felt or realized in other domains. Calling flexibility was assessed at T1 and T2.

*Quality of mentorship.* We assessed vocational support, psychological support and role modeling provided by students' mentor with nine items taken from the Vocational Support Subscale of the Mentoring Functions Questionnaire (MFQ-9; [13]) and the role model and friendship subscales of the Mentor Role Instrument [14].

*Hope.* We measured hope at T1 with nine items from Snyder et al. [15].

*Intrinsic and Extrinsic motivation.* Internal and external regulation strategies were assessed at T2 and T3 with eight items from the Italian adaptation of the Academic Motivation Scale [16,17].

#### 2.4.2. Single item measures

We used single item measures to assess the following aspects: having a vocation (“How much do you have a vocation for a specific study/work domain?” at T1 and T2), living out a calling (“Are you living out your calling in the program you are enrolled?” at T2 and T3), dropout intention (“What is your current attitude toward your studies? Responses recorded on a self-anchoring 1-to-4 scale with 1 indicating “I will quit studying” and 4 indicating “I will get my program done”), and academic satisfaction (“How much are you satisfied with your study program?” at T2 and T3). We used the work-life paragraph developed by Wrzesniewski et al. [7] to assess job, career, and calling orientation toward work of participants (at T1, T2 and T3), their mentor (at T1, T2 and T3), their professor (at T1 and T2), and their parents (at T3).

#### 2.4.3. Open questions

We asked students to describe what has changed in their calling after curricular and extracurricular learning activities such as courses or internship (at T1) and to describe how their calling has changed in the last year (at T2). Responses were given in Italian and the English translation is not available.

#### 2.4.4. Other data

Information concerning academic status and career (such as study program and year of enrollment) were acquired through the administrative database of each participating University before data collection. Self-reported age, gender, employment status, and work experience were assessed at each time point. Self-reported mean grade was assessed at T2 and T3.

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### Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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