# The impact of autonomy on the relationship between mentoring and entrepreneurial intentions among youth in Germany, Kenya, and Uganda

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## Abstract

**Purpose** – The purpose of this paper is to investigate how autonomy, moderated by employment status, impacts the relationship between entrepreneurial mentoring (EM) and entrepreneurial intentions (EI) among three countries (Germany, Kenya, and Uganda); as informed by both theory of planned behavior and self-determination theory.

**Design/methodology/approach** – A convenient sample of 1,509 youth from Germany, Kenya, and Uganda consisting of final-year university students, wage-employed, and unemployed was identified and studied. A multi-group analysis was conducted to test for differences in the impact of EM and autonomy on EI.

**Findings** – The findings indicate that mentoring and autonomy are positively correlated with EI. EM and intentions were lower among German participants than for the East African countries. The moderated moderation results revealed that EM is related to higher EI among students and the unemployed, and when individuals have higher levels of autonomy. Country-level analysis showed the effects of EM and autonomy are highest in Germany and lowest in Uganda.

**Practical implications** – Mentoring and self-determination play an important role in the development of EI. Entrepreneurship mentors should specifically support their protégées to develop the ability to act autonomously as an important entrepreneurial competence. The results further indicate that effectiveness of EM varies according to employment status and among countries. This is particularly important for targeting and designing of EM interventions. EM resources should be applied to youth with high autonomy, who are in either in insecure wage employment or who have no jobs. Protégés with low levels of autonomy should be supported to appreciate autonomy and develop the ability for autonomous action. Future EI research should also examine the impact of the availability of attractive positions in wage employment; and the effects of the availability of social safety nets on the need for autonomy.

**Originality/value** – A major challenge in EI research is the predominant focus on student populations. Using a multi-group analysis, the present paper tested for differences in the impact of EM and autonomy on EI. EM and EI were lower in German participants that in Kenyan and Ugandan participants. Whereas EM was generally positively correlated to EI, the moderated results showed that EM is related to higher EI among students and the unemployed, and when participants have higher autonomy. The study implies that EM and EI are highly correlated when participants need to work but have not or cannot find work or whey they do not need salaried employment to survive.

**Keywords** Autonomy, Self-determination theory, Entrepreneurial intentions, Entrepreneurial education
**Paper type** Research paper

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## Introduction

Self-employment or entrepreneurship has been adopted in many countries as a strategy for tackling unemployment and household poverty (Ahn, 2015; Falco and Haywood, 2016; Gindling and Newhouse, 2014). The world is today facing an unemployment crisis (Vogel, 2015a), highlighting the need to intensify entrepreneurship promotion efforts. This is based on the idea that entrepreneurship is a process involving the creation of new organizations thus offering employment opportunities (Wolff and Nivorozhkin, 2012). This way, the unemployment crisis can be turned into a development opportunity (Vogel, 2015b).

Following the consensus that entrepreneurship is good for economy and individuals, scholars continue to debate what motivates individuals into this career alternative. Answers generated in this debate are essential in the process of promoting entrepreneurship, consequently important for economic development (Yıldırım *et al.*, 2016). In recent decades, research has specifically focused on intentions, based on theory of planned behavior (TPB) (Ajzen, 1991) and subsequent findings that intentions predict much of entrepreneurial behavior (Van Gelderen *et al.*, 2015; Kautonen *et al.*, 2013, 2015). For over three decades of research on entrepreneurial intentions (EI), employing different perspectives, scholars have situated these intentions in different personal and situational factors. From the socialization perspective, we focus on the effect of entrepreneurial mentoring (EM) in the development of EI. However, we posit that EM should not only focus on the development of hard skills but should also be motivational to inspire individuals into entrepreneurship, in line with St-Jean's (2012) categorization of mentor's functions. We also re-emphasize the idea that EM should further aim at enabling individuals to develop competencies for autonomous action.

Whereas mentoring has the potential to inspire individuals into entrepreneurship directly or indirectly through mediator factors such as attitudes and self-efficacy (BarNir *et al.*, 2011; Kyrgidou and Petridou, 2013; Piperopoulos and Dimov, 2015), we propose that existence of a motivational force such as need to gratify psychological needs strengthens or weakens the effect of mentoring. Self-determination theory (SDT) situates inspiration for behavior in intrinsic goals such as interests and curiosity as well as extrinsic forces (Deci and Ryan, 2015; Gagné and Deci, 2005; Peco *et al.*, 2006). It is posited that self or autonomous motivation, which is volitional in nature and most essential of persistence in a behavior, is enhanced by factors supporting fulfillment of basic psychological needs of autonomy, competence, and relatedness (Deci *et al.*, 2001; Ryan and Deci, 2000). The present study particularly focuses on the need for autonomy, an important need that most people seek in the workplace (Otto *et al.*, 2013).

The primary postulation of the present study is that autonomy is a necessary condition for translating knowledge gained through EM into firm EI; based on TPB, SDT, and entrepreneurial socialization perspective. Subsequently, the paper also makes a case for adaptation of unified models in explaining EI and venture creation behavior. There have been calls and proposals for unified models in the study of EI, such as a mix of positivism and humanistic approaches (Liñán and Fayolle, 2015). In addition, previous research has predominantly used student samples; giving rise to questions regarding generalizability (Kautonen *et al.*, 2013; Roy *et al.*, 2017). The present study uses data from various populations including final-year university students, salary-employed, and unemployed individuals from three countries.

The remainder of the paper is structured in four sections. The second section focuses on the theoretical framework and development of hypotheses. The section introduces the SDT, particularly focusing on the need for autonomy and how it relates to mentoring in influencing intentions. The third section describes the methodology used in the study including the sample, measurement, and analysis strategy. The fourth section presents the results of the study. The fifth section discusses the results including conclusions, practical implications, and limitations (Figure 1).

## Theoretical framework and hypotheses

In the TPB, intentions refer to the readiness to engage in a given behavior (Ajzen, 2011). EI thus refers to the readiness of individuals to establish a business venture (Thompson, 2009). EI are the best predictor of entrepreneurial behavior or start-up. Intentions are determined by attitudes, subjective norm, and behavioral control (Ajzen, 1991). In the present study, we posit that these three factors can be shaped through mentoring, based on the entrepreneurial socialization model (Starr and Fondas, 1992). Therefore, EM is a precedent for EI. We further posit that the impact of EM on EI is impacted by autonomy (or self-determination) and can be moderated by both culture and employment status. In the subsequent sub-sections, we present a theoretical discussion that supports these propositions.

### *Mentoring and entrepreneurial intentions*

Socialization approaches suggest that EI can be enhanced through entrepreneurial learning. The "entrepreneurial socialization model" (Starr and Fondas, 1992) suggests that the choice to become an entrepreneur is influenced by predisposing characteristics and experiences; whereby socializing agents such as mentors, family, and peers provide important resources including information, knowledge, and skills; that are useful in adopting the entrepreneurial role (Krueger, 2007; Starr and Fondas, 1992). Mentoring is a form of entrepreneurial socialization involving an experienced entrepreneur supporting a protégé in acquiring necessary skills for growing his or her career (Beckett, 2010; Gong *et al.*, 2011; St-Jean and Audet, 2012; Xiao and North, 2017).

Mentors particularly support their protégées in various ways, based on the expertise and needs of the protégée. This includes coaching, role modeling, experience sharing, practical training, support in obtaining resources and networks, and information provision (Beckett, 2010; Gong *et al.*, 2011; Radu Lefebvre and Redien-Collot, 2013). These processes increase the skill set of prospecting entrepreneurs, thus improved competence for opportunity recognition and efficacy for action. This is reflected in entrepreneurial training research and frameworks highlighting the impact of role models, training, and mentors in entrepreneurial processes and outcomes (e.g. Honig, 2004; Pretorius *et al.*, 2005; Van Auken, Fry, and Stephens, 2006).

Whereas recent research has emphasized entrepreneurial education (e.g. Bae *et al.*, 2014; Fayolle *et al.*, 2006; Piperopoulos and Dimov, 2015; Xiao and North, 2017), the present study focuses on EM that occurs in different forms including formal and informal forums. Informal entrepreneurial learning forums such as role modeling, learning from entrepreneurial parents or friends are also important in enhancing skills and attitudes of prospecting entrepreneurs (Ahmed *et al.*, 2017). Moreover, interactive learning settings that particularly involve learning from owners or industrial partners results in better outcomes for entrepreneurship students (Autio *et al.*, 2001; Fayolle and Gailly, 2015; Huq and Gilbert, 2017).

EM is not always about the development of technical skills, but also an opportunity for accessing emotional support, information, and connections as well as improved sense of professional identity and belonging (Radu Lefebvre and Redien-Collot, 2013; St-Jean and Audet, 2012; Terjesen and Sullivan, 2011). This further improves one's attitude toward

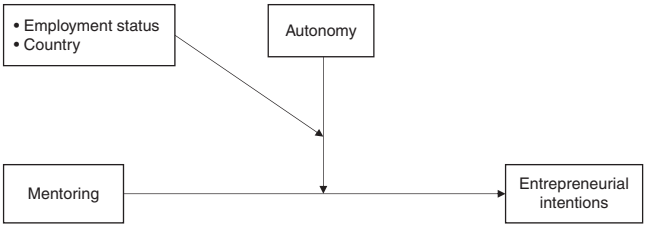


**Figure 1.**
Conceptual model for the study

entrepreneurship (Audet and Couteret, 2012); and consequently the intention to become an entrepreneur. In the planned behavior model, the intention is an initial outcome in the process of venture creation, which is likely to translate into an entrepreneurial start-up. Previous research has indicated that participation in mentoring activities results into stronger intentions, and increase in start-ups (e.g. Bosma *et al.*, 2012; Fayolle and Gailly, 2015; Solesvik, 2013; Xiao and North, 2017). We, therefore, hypothesize that:

*H1.* EM is positively related to EI.

*Autonomy and entrepreneurial intentions*

A major theoretical foundation in understanding human motivation is SDT (Deci, 1973; Deci and Ryan, 2012, 1980) which posits that behavior is motivated by aspirations that are either intrinsic or extrinsic. Self or autonomous motivations, consisting of intrinsic and some forms of extrinsic motivation, are more critical in causing and sustaining behaviors (Deci and Ryan, 2008; Gagné and Deci, 2005) since they are related to inherent interest in, or the joy an individual derives from the behavior (Ryan and Deci, 2000).

Engagement and persistence in activities that individuals find interesting or enjoyable are facilitated by the desire to satisfy the three basic psychological needs: autonomy, competence, and relatedness (Deci and Ryan, 2000). These needs play a role in setting aspirations and therefore in making career choices. Entrepreneurship literature particularly highlights the relevance of autonomy as a motivation for engaging in entrepreneurial activities. Autonomy refers to self-organization and self-regulation in pursuit of goals (Deci and Ryan, 2000; Lumpkin *et al.*, 2009). This independence in pursuit of work goals is increasingly an important contributor to changing work roles and work arrangements (Croson and Minniti, 2012; van Gelderen, 2010). It is also one of the important goals that individuals seek in the workplace (Otto *et al.*, 2013). Research has shown that self-employed individuals enjoy more autonomy than people in other forms of employment (Hundley, 2001; Lange, 2012; Schneck, 2014). Therefore, the need for autonomy is likely to motivate individuals to choose entrepreneurship as a career. We, therefore, hypothesize that:

*H2.* Need for autonomy is positively related to EI.

In the present study, we posit that the need for autonomy plays a moderating role in the relationship between EM and EI. Studies that have focused on independence show that EI and entry are higher among societies that value autonomy of action (e.g. Liñán *et al.*, 2016; Rantanen and Toikko, 2017; Taylor and Wilson, 2012). Accordingly, independence in decision making encourages innovation, opportunity-seeking behavior, consequently entrepreneurial ideas, and implementing them (Bird, 1988; Ireland *et al.*, 2003; Shimizu, 2012). It has been noted that organizational environments that facilitate autonomy tend to result into increased entrepreneurial outcomes, hence improved entrepreneurial orientation of the organization or emergence of new firms (Lumpkin *et al.*, 2009). Therefore, autonomy is necessary for entrepreneurial growth.

Our postulation that EM has a higher impact on EI for individuals who score high than those who score low on need for autonomy is particularly based on van Gelderen's (2010) proposition that autonomy should be the central focus of entrepreneurship education. He observes that autonomy is beyond mere independence in decision making, by including two more aspects: knowing one's own dreams and aims as well as taking necessary actions. Autonomy or self-reliance is also increasingly important as a way of life (Gibb, 2002), yet autonomy is more likely in the entrepreneurial career path. Thus autonomy is a powerful precedent for EI and satisfaction (van Gelderen, 2010). Moreover, van Gelderen observed that the ability to take autonomous action enables an individual to take full use of possibilities, and therefore also to exploit available entrepreneurial opportunities. Based on these suggestions,

we hypothesize that individuals are more likely to make use of knowledge, skills, and abilities gained through mentoring processes when they have the capacity to act independently on their entrepreneurial aspirations. Hence, it is hypothesized that:

*H3.* Autonomy moderates the relationship between EM and EI, such that the effects of EM are higher for individuals with a high gratification of the need for autonomy.

*Variations among countries and employment statuses*

In the present study, we propose that the moderating effect of autonomy on the relationship between EM and EI is likely to vary among individuals depending on people's employment status and among countries. Previous research demonstrated the positive effects of EM or education among students and other groups such as women and immigrants (Austin and Nauta, 2016; BarNir *et al.*, 2011; Hussain *et al.*, 2010; St-Jean and Mathieu, 2015). In the present study, we apply a multi-group analysis to establish the differential impact of mentoring on intentions between students, employed and unemployed individuals. We expect that similar effects of mentoring on intentions, as those found in previous studies among groups of women, students, and immigrants, could be observed among the unemployed. However, such effects may not necessarily be present among the employed individuals. Derived from SDT, employment is a source of psychological well-being, which motivates work (Deci *et al.*, 2001) and job search behaviors. Yet for the unemployed, self-employment could be a feasible route to earning income and improving one's well-being; hence autonomy coupled with mentoring can result in higher EI. Moreover, unemployed persons and students are likely to have lower autonomy since they have to depend on others or institutions for support. This may increase their willingness for self-employment, in pursuit for the gratification of their need for autonomy. We, therefore, hypothesize that:

*H4a.* Effects of EM on EI are moderated by employment status such that intentions are higher for students and unemployed but lower for the employed individuals.

*H4b.* The effects of EM on EI are higher at high levels of autonomy for students and the unemployed but not for the employed individuals.

Regarding country differences, there are variations in EI arising from cultural (Liñán and Chen, 2009; Shinnar *et al.*, 2012) and economic contexts. Particularly, it has been reported that individuals in less developed countries tend to have stronger EI (Iakovleva *et al.*, 2011). Yet these differences also tend to affect entrepreneurial learning outcomes (Van Auken, Stephens, Fry and Silva, 2006). We, therefore, expect the impact of EM on EI to be higher in Germany than in the East African countries (Kenya and Uganda). In this regard, we hypothesize that:

*H5a.* Effects of mentoring on EI vary among countries, such that effects are higher for Germany than for Kenya and Uganda.

*H5b.* The effects of mentoring on EI are higher at high levels of autonomy for participants in Germany than their counterparts in Kenya and Uganda.

## Methodology

*Participants*

Participants were recruited in various ways depending on the employment status and country. German participants were all recruited through online invitations to participate in the survey. For the student sample, students in the final year of their university studies (bachelor, diploma, and master's) were invited to participate in the survey through the student mailing list of Philipps University of Marburg, which has a population of over

25,000 students. The employed participants comprised mainly of university staff; recruited through the university's staff mailing lists (comprising of about 4,400 employees). On the other hand, student participants in Uganda and Kenya were recruited through their classes, where they were invited to respond to the survey questionnaire (a total of 2,000 students were invited). The employed participants in Uganda and Kenya were invited through companies' administration to participate in the survey. In both countries, data were collected by means of paper and pencil (a total of 600 participants were invited). Finally, the unemployed participants were recruited through youth associations and forums that support unemployed youths (a total of 430 unemployed individuals were invited to participate). Ethical clearances were obtained from relevant bodies at the universities where the researchers work. Particularly, we obtained ethical approval from the Ethics Committee of Faculty of Psychology – Philipps University of Marburg, Germany; the School of Psychology – Makerere University, Uganda and the office of the Vice Chancellor for Research and Graduate Studies – Kisii University, Kenya.

Overall, the sample consisted of 1,501 (751 males, 745 females, and 5 identifying as other) individuals from Germany, Kenya, and Uganda. The German sample totaled to 382 participants (198 males, 179 females, and 5 other); including 289 students and 93 employed individuals. The Kenyan sample comprised of 412 participants (204 males and 208 females). These included 213 students, 47 unemployed, and 152 employed individuals. The Ugandan participants were 707 (349 males and 352 females). Of these, 289 participants were students, 173 were unemployed, while 245 were employed. Further details of the sample regarding distribution by country, gender, and employment status are shown in Table I. The study targeted young individuals, hence participants were in the age range of 18–35 years; Germany ($M = 25.57$, SD = 2.09), Kenya ($M = 24.67$, SD = 0.08), and Uganda ($M = 24.37$, SD = 0.75). It should be noted that standard deviations for age are very low because the responses were grouped into age ranges.

### *Measures*

Mentoring: the instrument to measure EM was purposively developed for this study. The instrument consisted of 22 items (sample item: I have been provided with practical

| | Employment status | | | |
|---|---|---|---|---|
| | Students | Unemployed | Employed | Total |
| *Uganda* | | | | |
| Male | 137 | 82 | 130 | 349 |
| Female | 152 | 91 | 115 | 358 |
| *Kenya* | | | | |
| Male | 99 | 28 | 77 | 204 |
| Female | 114 | 19 | 75 | 208 |
| *Germany* | | | | |
| Male | 167 | | 31 | 198 |
| Female | 117 | | 62 | 179 |
| Other | 5 | | | 5 |
| *Totals by sex and employment status* | | | | |
| Male | 403 | 110 | 238 | 751 |
| Female | 383 | 110 | 252 | 745 |
| Other | 5 | | | 5 |
| *Over all totals* | 791 | 220 | 490 | 1,501 |

**Table I.** Sample characteristics

suggestions for starting a business). The entire instrument can be found in the Appendix. Items measured the frequency of access to or participation in different aspects of EM on a five-point Likert type scale: 1 (never) to 5 (always). The instrument had high internal consistency with $\alpha = 0.96$.

Autonomy was measured with items from Deci and Ryan Basic Psychological Needs scale (see Samman, 2007; pp. 464-465). The instrument consists of three items measured on a four-point scale from 1 (not at all true) to 4 (completely true). A sample item is "I feel like I am free to decide for myself how to live my life". A satisfying Cronbach's $\alpha$ coefficient ($\alpha = 0.74$) was observed.

EI were measured using the EI questionnaire (Liñán and Chen, 2009). Items were rated on a seven-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree). The instrument composed of six items ($\alpha = 0.97$, sample item: I am determined to create a business of my own in the future).

## Results

Descriptive statistics and partial correlations are displayed in Table II. The MANOVA in Table III shows mean differences in EM, autonomy, and EI among groups (by employment status and country). Respondents in Germany reported significantly lower access to EM and lower EI than respondents in Uganda and Kenya, but there are no significant differences in the level of autonomy. Regarding differences according to employment status, the employed reported significantly lower autonomy and EI than the students and unemployed, but mean differences on EM were not significant. Given that Uganda and Kenya are part of the greater East African Community, they appear similar in cultural and economic development contexts. However, they do differ in entrepreneurial potential. Particularly, Uganda is reported to have higher entrepreneurial potential compared to other African countries (Singer *et al.*, 2015). On this basis, we analyze cross-country differences in the impact of mentoring and autonomy on EI.

| | *M* | SD | Min/Max. | $\alpha$ | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|
| Entrepreneurial mentoring | 2.89 | 1.04 | 1/5 | 0.96 | 1 | | |
| Autonomy | 3.36 | 0.64 | 1/4 | 0.74 | 0.19*** | 1 | |
| Entrepreneurial intentions | 4.43 | 1.82 | 1/7 | 0.97 | 0.34*** | 0.20*** | 1 |

**Notes:** Min, minimum score; Max, maximum score. ***$p < 0.001$

**Table II.** Descriptive statistics and variable correlations

| | Cross-cultural differences | | | | Employment status | | | |
|---|---|---|---|---|---|---|---|---|
| Variable | Status | *M* | SD | *F* | Country | *M* | SD | *F* |
| Entrepreneurial mentoring | Uganda | 3.19 | 0.85 | 317.03*** | Students | 2.90 | 1.11 | 2.26 |
| | Kenya | 3.28 | 0.86 | | Unemployed | 3.01 | 0.91 | |
| | Germany | 1.92 | 0.92 | | Employed | 2.83 | 0.98 | |
| Autonomy | Uganda | 3.35 | 0.66 | 0.85 | Students | 3.47 | 0.60 | 38.55*** |
| | Kenya | 3.39 | 0.64 | | Unemployed | 3.40 | 0.59 | |
| | Germany | 3.34 | 0.61 | | Employed | 3.16 | 0.69 | |
| Entrepreneurial intentions | Uganda | 4.94 | 1.67 | 196.65*** | Students | 4.87 | 1.95 | 318.99*** |
| | Kenya | 4.87 | 1.68 | | Unemployed | 5.83 | 1.11 | |
| | Germany | 3.00 | 1.47 | | Employed | 3.07 | 0.68 | |

**Note:** ***$p < 0.001$

**Table III.** MANOVA results – Differences between groups regarding the study variables

To test our hypotheses, we used PROCESS macro 2.16.3 (Hayes, 2013) models 1 and 3 for regression analyses. We also applied bootstrapping at 5,000 as suggested by Hayes (2013). We used the PROCESS model 1 for the two-way interactions (Table IV) in three separate models. In all the three models, we found similar positive effects of EM on EI: Model 1 ($B = 0.47$, $p < 0.001$), Model 2 ($B = 0.48$, $p < 0.001$), and Model 3 ($B = 0.45$, $p < 0.001$). These findings support *H1*. We also found positive effects of autonomy on EI in Model 1 ($B = 0.33$, $p < 0.001$), hence *H2* is confirmed.

We next tested for the interactive effect of EM and autonomy on EI, while controlling for the effect of sex, employment status, and country. In the first model, we found a significant positive effect ($B = 0.17$, $p < 0.01$). The regression plot in Figure 2 shows that EM has a higher association with EI when individuals have higher levels of autonomy, hence *H3* is confirmed. The second model tests for the moderating effect of employment status on the relationship between EM and EI, while controlling for effects of sex and country. Our results show a significant negative interaction effect ($B = -0.50$, $p < 0.001$). Figure 3 shows that EM is highly and moderately related to EI among students and the unemployed, respectively, but no relationship is observed for the employed individuals, also as reflected by the conditional effects in Table IV ($B = 0.04$, CI = −0.05–0.12). This finding confirms *H4a*. The third model tests for the moderating effect of cultural differences (country) on the relationship between EM and EI; controlling for effects of sex and employment status. A significant positive interactive effect is observed ($B = 0.38$, $p < 0.001$). The plots in Figure 4 and the conditional effects in Table IV show that EM tend to be highly correlated to EI among German respondents ($B = 0.77$, CI = 0.67–0.86), and relatively low among Ugandan respondents ($B = 0.15$, $CI = 0.04$ to 0.26), hence *H5a* is also confirmed.

We also conducted regression analyses for three-way interactions to examine whether the moderating effect of autonomy on the relationship between EM and EI are conditioned by employment status and country. First, in Model 4 (in Table V), we examine the three-way interaction effect of mentoring, autonomy and employment status. We found no significant effect ($B = -0.01$, CI = −0.07–0.11). The effect of interaction between mentoring and autonomy at all levels of employment status (students, unemployed, and employed) was not significant. Figures 5 and 6 confirm that EM is positively related to EI at all levels of autonomy for the student and unemployed samples. However, intentions are in general higher at high levels of autonomy. Therefore, *H4b* is not supported. Second, in Model 5, we test the three-way interaction effect of mentoring, autonomy, and country. Similar to Model 4, we do not find a significant effect ($B = -0.01$, CI = −0.15–0.13), hence *H5b* has also to be rejected. But, we observe that the interaction between EM and autonomy had significant positive effects on EI for all three samples: Uganda ($B = 0.18$, CI = 0.01–0.35), Kenya ($B = 0.17$, CI = 0.06–0.29), and Germany ($B = 0.17$, CI = 0.01–0.31). Regression plots in Figure 7 show that for the Ugandan samples, EI are positively related to EM at a high level of autonomy. Figures 8 and 9 show that among Kenyan and German samples, EI was positively correlated to mentoring at all levels of autonomy, but relatively higher when the level of autonomy is high. (Figure 10 and Table VI).

## Discussion

The main purpose of the present study is to assess the impact of self-determination (autonomy) on the relationship between EM and EI among groups of students, unemployed as well as employed individuals in Germany and two East African Countries (Kenya and Uganda). In more specific terms, the study examines whether the effects of EM on EI are dependent on the level of autonomy. This is essential for increasing start-ups among young people, given that from the planned behavior theory, intentions are said to be best predictors of start-up behavior (Kautonen *et al.*, 2015; Nabi and Liñán, 2013). However, we examine how this process varies according to employment status and among the countries. Consequently,

**Table IV.** Two-way interaction effects of mentoring with autonomy/employment status/country on entrepreneurial intentions

| | Model 1 (Moderator: autonomy) | | | | Model 2 (Moderator: employment status) | | | | Model 3 (Moderator: country) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *B* (*t*) | SE | 95% CI | | *B* (*t*) | SE | 95% CI | | *B* (*t*) | SE | 95% CI |
| Sex | 0.04 (0.64) | 0.07 | [−0.09, 0.17] | | −0.06 (−0.89) | 0.06 | [−0.18, 0.07] | | 0.08 (1.24) | 0.07 | [−0.05, 0.21] |
| Country | −0.81 (−16.47)*** | 0.05 | [−0.90, −0.71] | | −0.75 (−15.62)*** | 0.05 | [−0.85, −0.66] | | −0.68 (−14.39)*** | 0.05 | [−0.78, −0.59] |
| Employment status | −0.91 (−24.84)*** | 0.04 | [−0.99, −0.84] | | −0.97 (−30.16)*** | 0.03 | [−1.03, −0.91] | | −0.99 (−26.88)*** | 0.04 | [−1.06, −0.91] |
| Autonomy | 0.33 (5.88)*** | 0.06 | [0.22, 0.45] | | | | | | | | |
| Mentoring | 0.47 (11.40)*** | 0.04 | [0.39, 0.55] | | 0.48 (12.97)*** | 0.04 | [0.41, 0.56] | | 0.45 (11.74)*** | 0.04 | [0.37, 0.52] |
| Mentoring × Autonomy | 0.17 (2.93)** | 0.06 | [0.06, 0.28] | | | | | | | | |
| Mentoring × Employment | | | | | −0.50 (−17.48)*** | 0.03 | [−0.55, −0.44] | | | | |
| Mentoring × Country | | | | | | | | | 0.38 (8.76)*** | 0.04 | [0.30, 0.47] |
| Model summary | $R^2 = 0.49$, $F(6, 1{,}494) = 320.19$*** | | | | $R^2 = 0.54$, $F(5, 1{,}495) = 471.28$*** | | | | $R^2 = 0.51$, $F(5, 1{,}495) = 283.23$*** | | |
| $\Delta R^2$ due to interaction | $\Delta R^2 = 0.003$, $F(1, 1{,}494) = 8.59$** | | | | $\Delta R^2 = 0.06$, $F(1, 1{,}495) = 305.56$*** | | | | $\Delta R^2 = 0.03$, $F(1, 1{,}495) = 76.79$*** | | |
| *Conditional effects at values of the moderators* | | | | | | | | | | | |
| Low autonomy | 0.36 (6.27)*** | 0.06 | [0.25, 0.47] | Students | 0.88 (18.81)*** | 0.05 | [0.79, 0.97] | Uganda | 0.15 (2.61)** | 0.06 | [0.04, 0.26] |
| Average autonomy | 0.47 (11.40)*** | 0.04 | [0.39, 0.55] | Unemployed | 0.48 (12.97)*** | 0.04 | [0.41, 0.56] | Kenya | 0.45 (11.74)*** | 0.04 | [0.37, 0.52] |
| High autonomy | 0.57 (10.99)*** | 0.05 | [0.47, 0.68] | Employed | 0.04 (0.86) | 0.04 | [−0.05, 0.12] | Germany | 0.77 (16.46)*** | 0.05 | [0.67, 0.86] |

**Notes:** Employment status: students = 0, unemployed = 1, employed = 2; country: Uganda = 0, Kenya = 1, Germany = 3; sex: female = 0, male = 1. **$p < 0.001$; ***$p < 0.001$

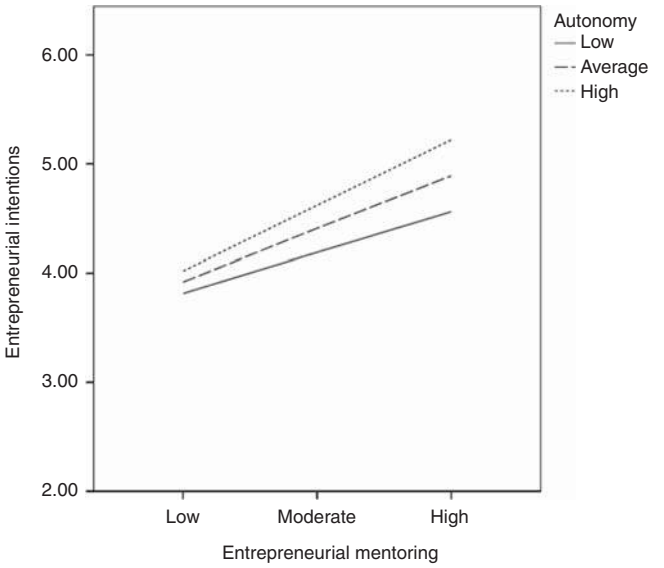


**Figure 2.**
Interaction effects of mentoring and autonomy on entrepreneurial intentions

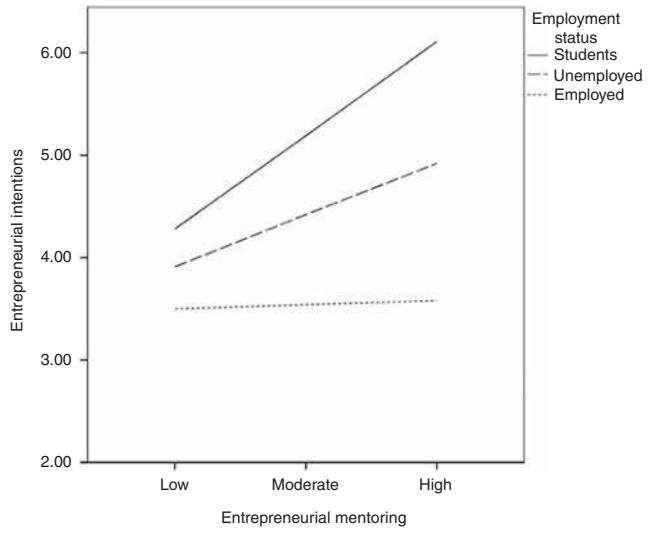


**Figure 3.**
Differential effects of mentoring on entrepreneurial intentions by employment status

a moderated moderation analysis used in this study incorporates employment status and country. These resulted in robust regression models, explaining high percentages of variances in EI. All hypothesized relationships were confirmed, with the exception of *H4b* and *H5b*.

Concerning *H1*, findings revealed that EM is positively related to EI. This finding was consistent in all five regression models computed in the analysis, suggesting that EM is in most circumstances linked to higher EI. Certainly, entrepreneurship-related learning will improve one's entrepreneurial competencies (Liñán, 2008; Starr and Fondas, 1992), which may also increase the possibility of choosing an entrepreneurial career and eventual start-up

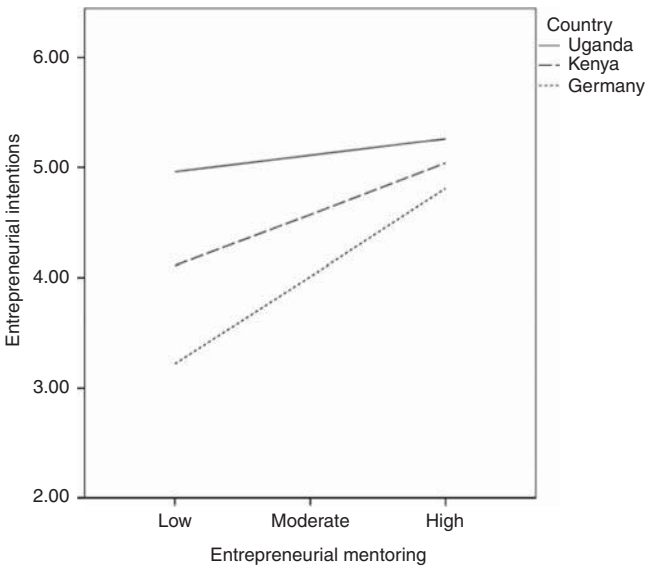


**Figure 4.**
Differential impact of mentoring on intentions by country

as already highlighted in previous studies (e.g. Bosma *et al.*, 2012; Xiao and North, 2017). Therefore, EM is an important input that needs to be incorporated into interventions seeking to promote entrepreneurial start-ups. In the case of Kenya and Uganda where exacerbating youth unemployment is a major challenge, self-employment is increasingly being promoted as the most available solution. Such entrepreneurship promotion interventions tend to highlight start-up funding as well as entrepreneurship training. Hence Ugandan and Kenyan participants reported higher access to EM compared to their German counterparts.

An important question addressed by this study is whether EM has similar effects on EI among different groups and across countries. Results relating to *H3b* indicate that impact of mentoring on EI is highest among students and marginal among employed individuals. Although the unemployed report higher access to EM, the impact on intentions in this group seems not as strong as it is among students. Most of the previous studies on EM have been conducted on student populations (e.g. Murphy, 2011; Radu Lefebvre and Redien-Collot, 2013) and actually most research tackle the subject from an entrepreneurial education perspective (Bekirogullari *et al.*, 2012; Fayolle and Gailly, 2015; Nabi *et al.*, 2018; Piperopoulos and Dimov, 2015). Nonetheless, similar to our findings, the consensus in these studies is that EM increases EI among students.

Similar to effects of EM on EI among minority or disadvantaged groups (Austin and Nauta, 2016), findings of the present study show that mentoring is related to higher intentions among populations of unemployed people. For some, depending on the reason for being unemployed, entrepreneurship or self-employment presents an opportunity out of unemployment. In line with Davidsson's (1995) model where he situates EI in background factors, employment situation, and conviction; joblessness and the desire to change this status already pre-disposes unemployed individuals to perceive entrepreneurship as an alternative career path leading to the development of high EI. Therefore, when they are encouraged by mentors or are helped to acquire entrepreneurship knowledge, attitudes, and skills; their EI develop further and are most likely implemented.

As expected, the findings indicate that mentoring has nearly negligible effects on EI among employed individuals. Davidsson (1995) proposed that EI is chiefly determined by

**Table V.**
Three-way interactions of mentoring, employment status and country on entrepreneurial intentions

| | Model 4 (Moderators: autonomy and employment status) | | | Model 5 (Moderators: autonomy and country) | | |
|---|---|---|---|---|---|---|
| | *B* (*t*) | SE | 95% CI | *B* (*t*) | SE | 95% CI |
| Sex | −0.07 (−1.03) | 0.06 | [−0.19, 0.06] | 0.07 (1.08) | 0.07 | [−0.06, 0.20] |
| Country | −0.77 (15.96)*** | 0.05 | [−0.87, −0.68] | −0.69 (−14.34)*** | 0.05 | [−0.78, −0.59] |
| Employment status (Employ.) | −0.92 (−27.51)*** | 0.03 | [−0.99, −0.86] | −0.93 (−24,66)*** | 0.04 | [−1.00, −0.86] |
| Autonomy | 0.33 (5.75)*** | 0.06 | [0.22, 0.44] | 0.39 (6.67)*** | 0.06 | [0.28, 0.51] |
| Mentoring | 0.44 (11.48)*** | 0.04 | [0.36, 0.51] | 0.38 (9.45)*** | 0.04 | [0.30, 0.46] |
| Mentoring × autonomy | 0.07 (1.58) | 0.05 | [−0.02, 0.17] | 0.17 (2.98)** | 0.06 | [0.06, 0.29] |
| Mentoring × Employ. | −0.50 (−17.09)*** | 0.03 | [−0.56, −0.44] | | | |
| Autonomy × Employ. | 0.05 (0.93) | 0.05 | [−0.06, 0.16] | | | |
| Mentoring × autonomy × Employ. | 0.01 (0.40) | 0.05 | [−0.07, 0.11] | | | |
| Mentoring × country | | | | 0.43 (9.44)*** | 0.05 | [0.34, 0.51] |
| Autonomy × country | | | | −0.05 (−0.63) | 0.07 | [−0.19, 0.10] |
| Mentoring × autonomy × country | | | | −0.01 (−0.13) | 0.07 | [−0.15, 0.13] |
| Model summary | $R^2 = 0.55$, $F(9, 1{,}491) = 287.11$*** | | | $R^2 = 0.53$, $F(9, 1{,}491) = 0.186.12$*** | | |
| $\Delta R^2$ due to 3-way interaction | $\Delta R^2 = 0.00$, $F(1, 1{,}491) = 0.16$ | | | $\Delta R^2 = 0.00$, $F(1, 1{,}491) = 0.02$ | | |
| *Conditional effects of mentoring × autonomy – by employment status* | | | | *Conditional effects of mentoring × autonomy – by country* | | |
| Students | 0.06 (0.90) | 0.07 | [−0.07, 0.19] | Uganda 0.18 (2.13)* | 0.09 | [0.01, 0.35] |
| Unemployed | 0.07 (1.58) | 0.05 | [−0.02, .17] | Kenya 0.17 (3.00)** | 0.06 | [0.06, 0.29] |
| Employed | 0.09 (1.68) | 0.05 | [−0.02, 0.20] | Germany 0.17 (2.11)* | 0.08 | [0.01, 0.31] |

**Notes:** Employment status: students = 0, unemployed = 1, employed = 2; country: Uganda = 0, Kenya = 1, Germany = 3; sex: female = 0, male = 1. *$p < 0.001$; **$p < 0.001$;**$p < 0.001$

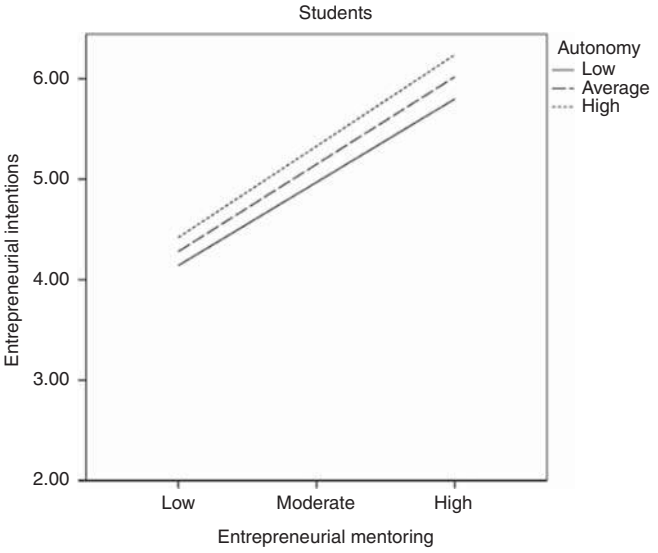


**Figure 5.**
Interactive effects of mentoring and autonomy on entrepreneurial intentions of students

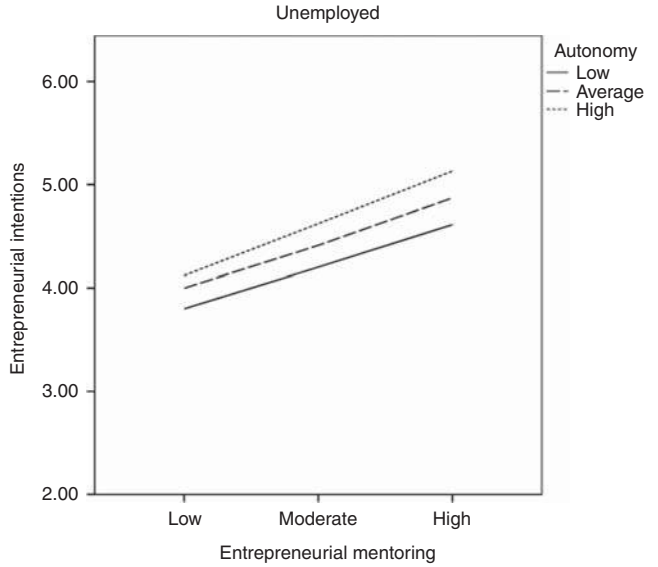


**Figure 6.**
Interactive effects of mentoring and autonomy on entrepreneurial intentions of unemployed individuals

the conviction that establishing one's own firm is a fitting alternative for the person, which also partly depends on one's current employment status. Therefore, employed individuals, especially when satisfied with their current jobs, may not have the conviction for a change of career path from salaried to self-employment. Hence, EM given to employees may not necessarily be impactful, unless if the mentoring is geared toward intrapreneurship. In this direction, it has been observed that a lack of an entrepreneurship-friendly environment in workplaces increases dissatisfaction of employees with entrepreneurial minds, which leads to intentions to start their own firms (Lee *et al.*, 2011).

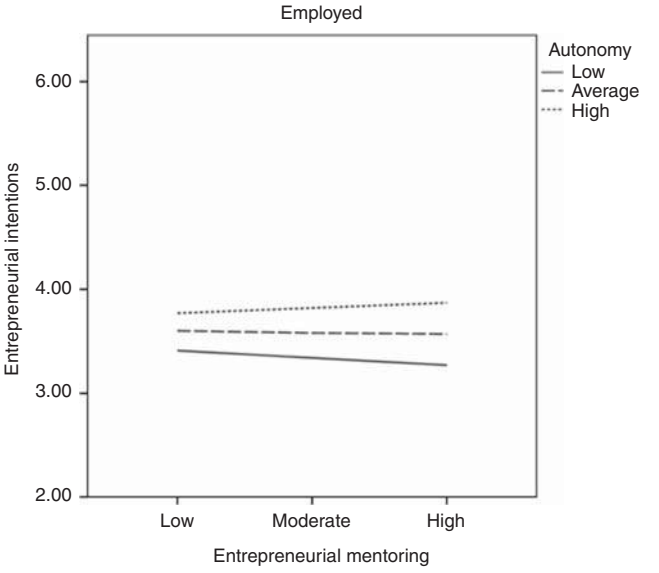


**Figure 7.**
Interactive effects of mentoring and autonomy on entrepreneurial intentions of employed individuals

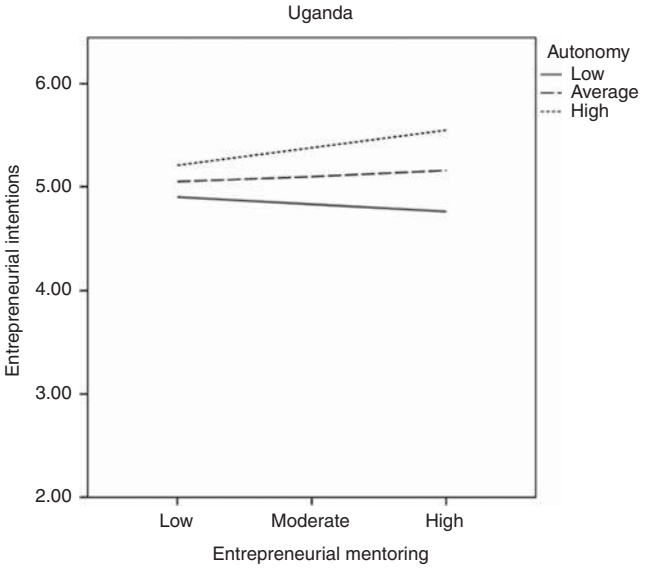


**Figure 8.**
Interactive effects of mentoring and autonomy on intentions for Uganda

However, the finding that EM has a differential impact on EI among different employment groups could be associated with the economic context. As hypothesized (*H4a*), results further confirm that there are variations among countries in the association of EM with EI. Specifically, mentoring is more strongly associated with EI in Germany than in Kenya and Uganda. A developed country like Germany has adequate resources to offer quality entrepreneurship education and mentoring programs. Previous research has shown that the quality of design and methods plays a critical role in the effectiveness of EM and education programs (e.g. Karimi *et al.*, 2016; Radu Lefebvre and Redien-Collot, 2013). Moreover, resource

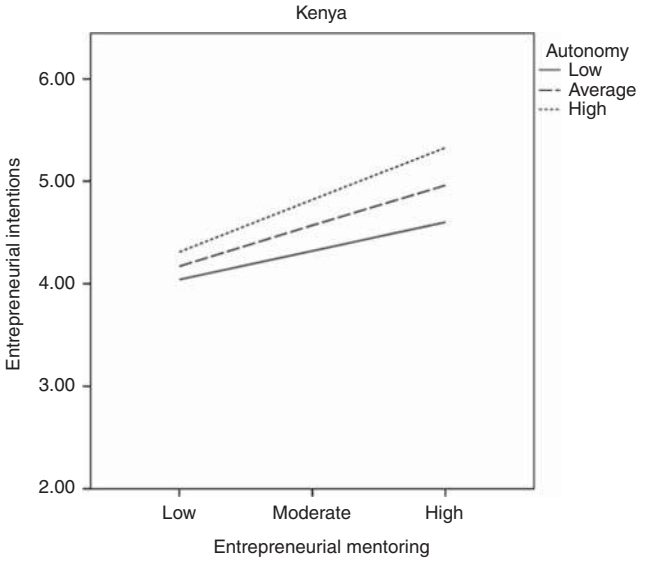


**Figure 9.**
Interactive effects of mentoring and autonomy on entrepreneurial intentions for Kenya

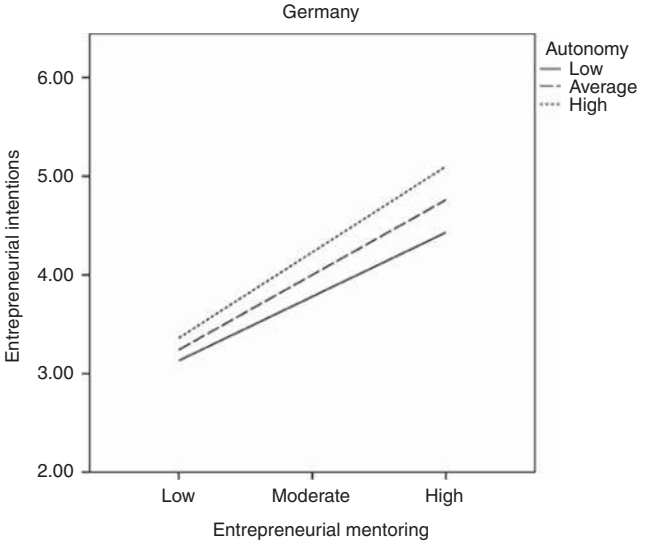


**Figure 10.**
Interactive effects of mentoring and autonomy on entrepreneurial intentions for Germany

constraints in countries like Kenya and Uganda imply that limited access to start-up capital (Gindling and Newhouse, 2014; Orobia *et al.*, 2011), consequently affecting the development and implementation of EI. We further note that the level of EI already existing in a given group affects the effectiveness of mentoring. Our results reveal that mentoring is less associated with EI in Uganda in comparison to the other two countries. Yet, EI are higher in Uganda. This suggests that EI are already high in Uganda, hence there is limited contribution mentoring can make. In such situations, EM would be more effective if geared toward the implementation of intentions and start-up rather than enhancing attitudes toward entrepreneurship.

| Hypothesis | Conclusion | |
|---|---|---|
| *H1* | Entrepreneurial mentoring is positively related to entrepreneurial intentions | Supported |
| *H2* | Need for autonomy is positively related to entrepreneurial intentions | Supported |
| *H3* | Autonomy moderates the relationship between entrepreneurial mentoring and entrepreneurial intentions, such that the effects of entrepreneurial mentoring are higher for individuals with a high gratification of the need for autonomy | Supported |
| *H4a* | Effects of entrepreneurial mentoring on entrepreneurial intentions are moderated by employment status such that intentions are higher for students and unemployed but lower for the employed individuals | Supported |
| *H4b* | The effects of entrepreneurial mentoring on entrepreneurial intentions are higher at high levels of autonomy for students and the unemployed but not for the employed individuals | Not supported |
| *H5a* | Effects of mentoring on entrepreneurial intentions vary among countries, such that effects are higher for Germany than for Kenya and Uganda | Supported |
| *H5b* | The effects of mentoring on entrepreneurial intentions are higher at high levels of autonomy for participants in Germany than their counterparts in Kenya and Uganda | Not supported |

**Table VI.** Summary of hypotheses and conclusions



Another important contribution of this paper regards the role of autonomy in the association between EM and EI. Autonomy, defined in SDT as connoting self-regulation and self-organization (Deci and Ryan, 2000), is posited to be essential for motivation to engage and persist in entrepreneurial activities (Croson and Minniti, 2012; van Gelderen, 2010; O'Shea *et al.*, 2017). In line with these studies, findings of the present study reveal that autonomy is not only positively correlated to EI (*H2*); but also moderates the effects of EM on EI (*H3*). Moreover, its moderating role in the mentoring–intentions relationship was found to be similar across countries and does not vary with employment status either (*H4b* and *H5b*). This implies that the need for autonomy as a motivator for EI applies across various geographical and economic contexts. The ability to take personal career decisions and to act upon those decisions are key components of autonomy (van Gelderen, 2010). These abilities enable individuals to transform knowledge and skills gained from mentoring activities into firm intentions to start one's own firm, and to act upon those intentions. Another possible impact of autonomy on EI is that individuals who already have high autonomy may seek to maintain or improve that level through entrepreneurial activities, hence more likely to seek and benefit from EM. Whereas the need for autonomy is widely known to motivate EI, having high job autonomy has also been claimed to relate to intentions to start one's own business (Zhang and Schøtt, 2017). On the other hand, and in line with SDT assumptions about need satisfaction and motivation (Deci *et al.*, 2001; Gagne, 2003), those with relatively low gratification of need for autonomy, yet with a high preference for independence at work may opt for entrepreneurship to attain this goal (Croson and Minniti, 2012; van Gelderen and Jansen, 2006). Overall, results of the present study suggest that autonomy is an important precondition for the effectiveness of mentoring aimed at enhancing EI. We note that autonomy is higher in Germany and lowest in Uganda, which could be because of the availability of social safety nets in Germany. However, this requires empirical investigation.

This result has important practical and theoretical implications. A call for EM to focus on empowering protégés to develop the capability for autonomous action has already been made (van Gelderen, 2010); which is validated by the findings of the present study. This proposes that to enhance the effectiveness of EM programs, the design and implementation of mentoring activities should focus on empowering protégés to act autonomously. This is not only important for transforming knowledge and skills gained from mentoring into firm start-up intentions; but important for actual entry and success particularly for early-stage

entrepreneurs (Schneider *et al.*, 2017). Having a high level of autonomy enables individuals to implement what they have learned through mentoring, hence giving strength to EI and their implementation. In addition, mentoring programs should not only empower prospecting entrepreneurs with the ability to act autonomously but also increase the craving for autonomy. This craving, in line with SDT, could be essential for translating knowledge and skills gained into firm and sustained EI.

The second implication regards the finding that EM is not related to EI among employed individuals. The challenge could be the low impetus for the transition from salaried to self-employment. For programs promoting entrepreneurship among employees and for mentors, the challenge concerns best ways to motivate employed individuals into entrepreneurship and what should be the focus of EM for employed individuals. One possible area of focus of EM among employees is intrapreneurship. Enhancing skills of employed individuals to adopt entrepreneurial roles within the organizational setting is not only important for organizations, given its impact on organizational performance and growth (Rivera, 2017), but also contributes to one's employability, since employers are increasingly seeking for creative and innovative employees. Regarding the motivation for entrepreneurship, mentors could also highlight the need for increased financial autonomy, which could be achieved by augmenting one's salaried job with business activities, particularly in situations where incomes from wage employment are relatively low. Multiple jobbing is increasingly becoming common (Kottwitz *et al.*, 2017), and might offer alternative income opportunities. In this case, multiple jobbing takes on the form of owning a business in addition to a salaried job. Although this phenomenon is not yet studied, it could be one way of enhancing entrepreneurship and, therefore, a possible area of focus for EM among employed individuals.

Further, regarding the matter of focus of EM, the results suggest that mentors should carefully design the content of mentoring activities for individuals who already have strong EI. In such situations, mentors or intervention programs could be more effective by focusing on increasing capacity to plan entry and implementation of intentions. This may include efforts of supporting protégés to develop business plans and financing strategies, which would consequently result in actual start-ups.

Despite the support for most of the hypotheses, the results should be applied or generalized with caution. There are a number of possible limitations that should be considered. The first limitation relates to the operationalization of the mentoring construct. The measure used in the present study focused on three aspects of the mentoring process including training/education, role modeling, and counseling. However, EM involves several other aspects, such as reflection and motivation (St-Jean, 2012; St-Jean and Audet, 2012). It is proposed that future research should explore EM more comprehensively considering all its facets. Moreover, the present study relied on data collected through a cross-sectional survey. Since we could not undertake systematic manipulation of EM could as is the case in experimental research, causal conclusions cannot be drawn regarding the influence of mentoring on EI. It is proposed that studies on EM should consider experimental or at least longitudinal approaches. Mentors could also have information from various resources regarding the success of their mentees; however, this could be coupled with longitudinal approaches. Lastly, the study used self-report measures, which presents a risk of social desirability bias (Miller, 2012). Thus, the possibility of inflated relations of mentoring and autonomy with EI cannot be ruled out.

## Conclusion

On the overall, the present study contributes to EM and EI literature by highlighting the role of self-determination (autonomy) in the process through which mentoring translates into start-up intentions. The study has highlighted that autonomy is an important precondition

necessary for mentoring to lead to high EI. Yet the study results suggest that this is true in different groups (students, unemployed, and employed individuals) as well as among all the three countries. The results, therefore, support the idea that EM should include efforts to increase the capability of participants to act autonomously, but further suggest that mentors should also gear some efforts toward eliciting the drive among participants to value and seek greater autonomy. Individuals who have a lower need for autonomy and limited capability to act autonomously may not develop strong or sustained intentions, even with access to mentoring. The study further provides implications regarding the focus of EM especially for employed individuals, and in situations where mentoring is offered to individuals who already have strong intentions to start their own firms. Further research is also needed in exploring mechanisms of enhancing EM among employed individuals. There is a need for research to explore the quality of mentoring and mechanisms for increasing mentoring effectiveness in leading to the implementation of intentions, especially in contexts where mentees already have high EI. Such efforts would contribute significantly to the development of entrepreneurship in some countries.



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## Appendix

### Mentoring questionnaire

The following items describe your actual experience in self-employment mentoring. Using the scale below, respond to each item with a figure that best describes your experience.

1 = Never, 2 = Infrequently, 3 = Sometimes, 4 = Frequently, 5 = Always:

(1) I have been encouraged to pursue a career in self-employment/business.

(2) I have been encouraged to discuss how I feel about ability to succeed in self-employment.

(3) I have been encouraged to express my honest feelings or experiences in self-employment.

(4) I have been encouraged to develop or share my self-employment/business plans.

(5) I have been encouraged to make well-informed personal choices regarding possibilities of self-employment.

(6) I have been assisted in using facts to map out realistic step-by-step strategies for becoming self-employed/succeeding in business.

(7) I have been helped to carefully examine my career options in self-employment.

(8) Someone has probed my views regarding a career in self-employment.

(9) Someone has guided me in exploring my commitment to a career in self-employment by providing me with alternative views.

(10) I have discussed with someone the importance of pursuing a career in self-employment/business.

(11) Someone has helped me explore realistic options and provided guidance on attainable self-employment/business objectives.

(12) I have been provided with practical suggestions for becoming self-employment or succeeding in business.

(13) Someone has encouraged me to use him or her as reference/surety in exploring self-employment/business ideas, opportunities and plans.

(14) Someone has expressed his or her own personal confidence in my ability to succeed in self-employment/business.

(15) Someone has used his or her own personal experience to explain how self-employment can be valuable for my career or financial success.

(16) When I have been emotionally upset about business or making a career in self-employment, I have received support.

(17) Someone has expressed confidence in my business abilities.

(18) I have had successful meetings with business/self-employment mentors.

(19) In meetings with mentors, I have been offered recommendations about my needs to make a career in self-employment/business.

(20) I have been encouraged to consider nontraditional employment opportunities.

(21) I have had help developing better coping strategies when I have not achieved my business goals or want to give up the idea of self-employment.

(22) Someone has emphasized that one of his or her goals is to assist me in making my own decisions about my business or self-employment options.



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