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Soziale Integration in der Hochschule wird durch die Big Five Persönlichkeitsdimensionen vorhergesagt

Zusammenfassung

Das Integrationsmodell von Tinto (1993) sagt voraus, dass Studierende, die gut sozial eingebunden sind, erfolgreicher studieren. Diese Studie untersuchte, wie Persönlichkeits- und Kontextfaktoren die soziale Integration vorhersagen. Verträglichkeit, Extraversion und Gewissenhaftigkeit konnten die soziale Integration vorhersagen, während der Vergleich zweier Studienprogramme keine Unterschiede ergab. Die soziale Integration wirkte sich unterschiedlich auf den Einsatz von Lernstrategien im Studium aus. Soziale Integration ist ein komplexer Prozess, der von individuellen Merkmalen abhängt und eine Ressource für den Erfolg in der Hochschulbildung darstellt.

Schlüsselwörter

Integrationsmodell, Soziale Integration, Persönlichkeit, Lehramtsstudium

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Social Integration in Higher Education is Predicted by Big Five Personality Dimensions

Abstract

Tinto's (1993) Student Integration Theory predicts that students who connect with each other are more likely to succeeded in higher education. This study investigated how personality and contextual factors predict social integration of teaching students at a German university. Agreeableness, extraversion, and conscientiousness were found to predict social integration. The comparison of two teacher training programmes revealed no differences with regard to integration. In addition, social integration predicted the use of peer learning. Social integration as a complex process depends on individual characteristics and acts as and a resource for success in higher education.

1   Introduction

Pursuing higher education is an important goal for many young people, with over 40 % of 25–34 year olds in the EU27 having graduated in 2022 (Eurostat, 2022). However, students may encounter various challenges during their university experience. For some, the demands of academia, financial pressures, or difficulties in forming social connections can pose obstacles (Heublein, 2014). As a result, in Germany an average of 29 % students leave higher education without the intended degree (Heublein et al., 2017; Larsen et al., 2013; Tinto, 1975). This study explores the role of social integration as a supportive factor in student retention, while also considering how individual and contextual factors may shape students' social integration in higher education settings. The resulting research questions are: What role do personal characteristics and structural study conditions play in predicting social integration at university? How do students benefit from better social integration?

1.1   Tintos' Longitudinal Model of Dropout

Tinto's (1975) Longitudinal Model of Dropout is one of the most recognized works in the field of student attrition research (Braxton et al., 1997). It presents a framework to explain drop-out from higher education. Following Tinto's theory, both academic and social integration are necessary prerequisites for successfully pursuing study programs. Academic integration is defined by an extrinsic component, representing the mastering of curricular demands of education and achieving good grades and eventually degrees, as well as an intrinsic component consisting of the cognitive development of the student. Social integration refers to meaningful interactions with members of the faculty and building peer networks and friendships on campus.

The present article will focus on the social integration component of Tinto's model. More specifically, the peer network and friendship aspect, i.e. student-to-student connections, will be investigated. Stronger student-to-student connections are related to higher academic success (Heublein et al., 2017) and reduced drop-out risk (Bank et al., 1990, Klein, 2019). This protective effect of social integration against drop-

out seems especially true for women in gender-atypical subjects (Meyer & Strauß, 2019) and for students of colour (Hollands, 2012), i.e. student groups with generally low retention rates.

1.2 Social integration and personality

Tinto's (1975) model specifies three pre-entry attributes that have an influence on the adaption process: family background, individual attributes, and pre-college schooling. This study will focus on individual attributes, more specifically on personality. The Five Factor Model of personality (Costa & McCrae, 1995) is a dominant model of personality that specifies five domains (extraversion, agreeableness, openness, conscientiousness, neuroticism) underlying personality. There have been approaches to show that personality domains predict social outcomes (Back & Vazire, 2015). Direct social outcomes include romantic relationship status, friendship networks, family relationships, status, and popularity. Indirect outcomes include life satisfaction and health or work-related outcomes that rely on others.

Longitudinal data from the UK support the assumption that personality is relevant for the quality and quantity of close friendships (Laakasuo et al., 2017). While more agreeable people tended to have more traditional friendships, with long-term nearby friends, individuals who were high on openness were more likely to have more diverse long-distance friendships. In another study individuals high on extraversion tended to choose more friends than those low on this domain, while more agreeable individuals were more likely to be chosen as friends themselves (Selfhout et al., 2010). Personality also predicts friendship satisfaction (Wilson et al., 2015), with agreeableness and extraversion associated with higher satisfaction with more friendships.

Based on existing research, two domains of the Big Five Model may prove to be predominant in determining the development of student-to-student relationships, namely agreeableness and extraversion. Agreeableness is associated with motives of maintaining positive interpersonal relations (Jensen-Campbell et al., 2002). In a study with middle school children, agreeableness was related to peer acceptance and

friendship and was linked to healthy peer relations, and was negatively related to victimization (Jensen-Campbell et al., 2002). In a review, Jensen-Campbell et al. (2010) concluded that, agreeable people have more harmonious relationships with family members, friends, and romantic partners during their life time. However, agreeableness does not seem to be an advantage in initiating friendships (Harris & Vazire, 2016). Whereas agreeable people do not seem to seek contacts actively, they are rated as more likable than disagreeable people after initial contacts (Cuperman & Ickes, 2009). Not surprisingly, agreeable people have large and stable social networks (Wagner et al., 2014) compared to disagreeable people.

Another Big Five domain that might be relevant for social relations is extraversion. When building social networks incoming students with higher extraversion were more likely to name someone as a friend, and were more likely to be named as a friend by other students (Feiler & Kleinbaum, 2015). Thus, extroverts had bigger social networks (Harris et al., 2017). In a similar line, higher levels of extraversion corresponded to a larger advice network, i.e. people who one discussed important matters with; but not with higher network density or more emotional closeness (Malcolm et al., 2021). Extraversion was also connected with being more comfortable with strangers (Cuperman & Ickes, 2009), which might facilitate establishing new contacts. In addition, cheerfulness and sociability, which are facets of extraversion (Costa & McCrae, 1995), might support making more contacts with strangers. Harris and Vazire (2016) conclude in their literature review that extroverts' effortlessness in making friends may help them to adapt better to new environments that require to form new friendship. Entering academic training is an example of such an environment and students with more extroverted personalities might more easily connect with peers and faculty members. For the other three dimensions, openness, conscientiousness, and neuroticism, Harris and Vazire (2016) found little effects on the formation of friendships.

Based on these previous findings, it is hypothesized that the Big Five personality domains will predict social integration, specifically that students who score higher on Extraversion and Agreeableness should score higher on social integration (Hypothesis 1).

1.3   Contextual impact on social integration

On the level of the social system of higher education institutions, Tinto (1975) defines peer-group interactions and faculty interactions as influential on social integration. The opportunities for those interactions are, at least partly, determined by the structure of the study programme they are enrolled in. In German teacher education (see Ostinelli, 2009), there are programmes where students spend their education within a rather fixed group of peers (usually students training to be primary school or and special needs teachers), who start their education together, participate in internships together, and prepare for the same exams. There are also teacher education programmes where the peer group varies a lot, depending on what lectures are attended in the respective term and which teaching subject students have chosen (usually students training to be secondary school teachers). Higher education research has shown that structural characteristics of educational programmes have an impact on students' well-being and educational outcomes (Heublein, 2014). Our second hypothesis is that a fixed cohort of students facilitates more social integration due to students meeting more often.

1.4   Social integration and learning

As mentioned before, social integration is also connected to academic success. But how exactly? The connection between academic achievement and social integration might be an effect of well-being and lower emotional stress arising from social integration. Interpreting social integration in terms of study-capital (Jensen & Jetten, 2015) or social capital (Bourdieu, 1986), i.e. as a resource, it is to be expected that students with high social integration would benefit. López Solé et al. (2018) highlighted the importance of social capital for pre-service teachers, showing in a network analysis that centrality predicted academic success. Well integrated students might use student-oriented learning strategies when convenient, whereas students with low social integration are limited to learning strategies that do not involve other students. Social integration should therefore support learning in higher education. In

a meta-analysis, Tenenbaum et al. (2020) found that peer interaction was more effective in promoting learning than other learning conditions for children and adolescents. Students have reported multiple benefits of peer interaction including: more resources and opportunities on campus, comfort and support in challenging situations, learning partners, and role models (Peregrina-Kretz et al., 2018). Our third hypothesis is that social integration positively predicts peer learning.

2 Method

2.1 Procedure

The data was collected as a part of the baseline survey for a longitudinal study. The aim of the study was to track potential predictors of academic success and retention, such as social integration, and their development over the course of study. An entire cohort of students ($N = 1185$) enrolled in teacher training programmes at a German university was invited via e-mail to participate in a voluntary online survey two months into their first academic term. The online questionnaire was created in Lime-Survey and the data were stored on the university database. Informed consent was obtained from all participants.

2.2 Participants

Of the 1,185 students who were enrolled in the programme, 174 students (137 female, 37 male) completed the questionnaire. Their mean age was 20.91 years ($SD = 3.58$), ranging from 18–38. Even though the gender distribution was unbalanced, it was representative for a German teacher education cohort (BMFSFJ, 2020). Students were enrolled in the following teacher education programmes: primary school ($N = 45$; 25.9 %), secondary education vocational track $N = 20$ (11.5 %), secondary education academic track $N = 77$ (44.3 %), and special education $N = 32$ (18.4 %). The unbalanced distribution of the students to the programmes is due to different enrolment numbers at the university.

2.3   Measures

Social Integration

Social integration was assessed as part of a custom-built questionnaire (Dietrich & Latzko, 2017) that was based on Tinto's model for student adaption to college (Tinto, 1993). It measures the two dimensions social integration and academic engagement. Participants rated four items on a 4-point Likert scale (sample item, reversed "I only meet my fellow students during classes"). Factorial validity of the instrument was tested in a pilot study and showed high factor loadings (0.717 to 0.885) for all items. Reliability was confirmed with Cronbach $\alpha = 0.828$ (Dietrich & Latzko, 2017).

Personality

The German version of the 10 Item Big Five Inventory (BFI-10, Rammstedt et al, 2013) was used to assess the personality dimensions. Participants had to rate ten items on a 5-point-Likert scale, ranging from 1 (does not apply at all) to 5 (fully applies).

Learning Strategies

A short version of the German LIST-questionnaire (Wild & Schiefele, 1994) was used to measure learning strategies (Mayr, 1998). Analysis will only include two scales that represent resource management strategies: peer learning and learning with literature.

Teacher Education Programme

Students supplied information on their teacher education programme as part of the questionnaire. There were four programmes available at the university: primary school, secondary school vocational track, secondary school academic track, and special education. The primary school programme was chosen as the prototype for a programme with a fixed student group while the secondary school academic track

programme was chosen as they prototype with flexible peer groups. Both programmes are full time academic programmes with a final state examination. They are also the most popular and likely to provide enough participants for analysis.

3 Results

Hypothesis 1

Participants generally felt connected to their peers, with social integration being rated with a mean of 3.1 ($SD = 0.67$).

A multiple linear regression was conducted to predict social integration based on the Big Five dimensions (Figure 1) and gender as control. Using the enter method it was found that Big Five dimensions explained a significant amount of the variance in social integration ($F(6, 167) = 7.626$, $p < .001$, $R^2 = .215$, R^2Adjusted $= .187$). The analysis shows that extraversion ($\beta = .233$, $t(173) = 3.250$, $p = .001$), agreeableness ($\beta = .251$, $t(173) = 3.639$, $p < .001$) and conscientiousness ($\beta = .227$, $t(173) = 3.243$, $p = .001$), significantly add to the prediction of social integration. Neuroticism ($\beta = .089$, $t(173) = 1.229$, ns), openness ($\beta = .130$, $t(173) = 1.887$, ns), and gender ($\beta = -.084$, $t(173) = -1.184$, ns) did not add to the prediction.
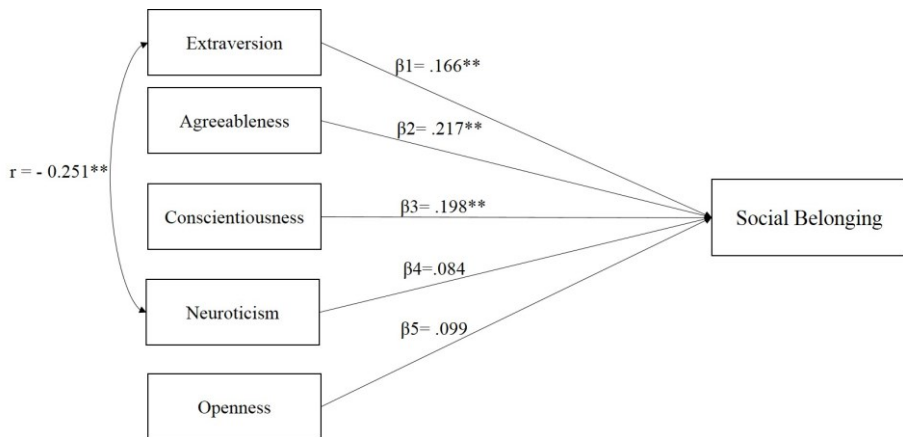
Fig. 1: Prediction of Social Integration by Big Five Dimensions

Note: Displayed standardised coefficients of a multilinear regression analysis explain 21.5 % of variance in social integration. r marks the highest correlation between two predictors.

Hypothesis 2

Mean social integration scores were compared between students in a primary school teacher programme ($M = 3.07$, $SD = 0.62$) and a secondary school academic track teacher programme ($M = 3.16$, $SD = 0.66$), using an independent samples t-test. There was no difference in social integration between the two programmes, $t(112) = -0.78$, ns.

Hypothesis 3

A regression analysis showed that social integration predicted how frequently students reported using peer learning strategies ($R^2 = .32$, $F(1, 172) = 81.73$, $p < .001$). Social integration did not predict the use of the learning with literature strategy ($r = .07$, $p = $ ns).

4 Discussion

The aim of the present paper was to identify personal and institutional factors that support or impede students' social integration into university. In addition, the influence of social integration on study behaviour was investigated.

As expected, results showed that agreeableness and extraversion predicted social integration (H1). Students with higher values on those dimensions were more likely to feel connected to their peers at the university and have positive social interactions with them. These results are consistent with findings on the development of university students' integration with peers and staff (Jusri & Lechner, 2024), and on the role of personality for the formation of friendship (Harris & Vazire, 2016). Conscientiousness also predicted social integration. There is little mention of comparable effects in the literature (Harris & Vazire, 2016), however, students that are high in conscientiousness might be more dependable and therefore better at maintaining student-to-student connections (Jensen-Campbell & Malcolm, 2007). They might also be more easily available for interactions, simply by turning up for classes on a regular basis. Conscientiousness might gain importance for friendships in adolescences and adulthood, while agreeableness seems to be predominant in childhood (Jensen-Campbell et al., 2002).

No differences between the programmes were not found (H2). Different explanations for those results are possible. The most obvious would be that structural properties of the study programme did not have an effect on the development of social integration. The opportunities for social contacts within a fixed or flexible group of peers, inherent in the programme structure, neither support nor impede social integration.

Another more complex explanation might be the following. While the assumption might hold that steady contact in the primary teacher programme supports the development of social integration, the students in the secondary school academic track programme might benefit from the greater number of available contacts, through the flexible peer groups. A larger selection of potential new friends may increase the likelihood of finding someone who is a good match for you. Last but not least, the effect of self-selection in the study programmes may have an influence. According to the Person Environment Fit Theory (Holland, 1997), which has already been applied to higher education (Bohndick et al., 2018, Etzel & Nagy, 2016), people choose environments that fit their abilities and are likely to lead to positive outcomes. From this point of view, it would be possible that students may have chosen programmes that match their preferred social contact settings, whether fixed or flexible. Further and more differentiated research is needed to unveil the exact mechanisms at work here.

While there was no relationship between social integration and the use of learning with literature, students with higher levels of social integration reported more frequent use of peer learning strategies (H3). This means that social integration does not represent a general benefit but supports specific behaviours that help students to prosper in the higher education environment. The use of peer-related learning strategies may be constricted in those with limited connections to fellow students. Such individuals may have fewer resources to support their academic development (M. Richardson et al., 2012). That is, students that feel they belong with their peers and have had positive interactions with them, use their social capital (Bourdieu, 1986) to promote their academic progress.

4.1 Limitations

There are some limitations that might affect the generalizability of the results. The sample consists exclusively of German pre-service teachers. The generalisability of H2, in particular, is limited by the fact that study conditions in teacher education programmes vary greatly internationally and nationally. The specific characteristics

of students choosing this career might reduce variance in the personality dimensions of the sample (Etzel & Nagy, 2016). Social integration was only assessed for peers at the university. At the beginning of academic training, there might still be strong social ties to former peer groups from school or previous education or work settings. Repeating the survey at a later date might reveal changes here. For future surveys, a measure of social integration beyond the university would also be a useful addition. It is also to be expected that students vary widely in the amount of social interaction they find desirable. Students were not asked how happy they were with the quantity or quality of their social interactions for this study.

4.2   Implications for Higher Education

In order to improve higher education the following implications can be drawn from the results of the study: Students with low agreeableness and extraversion may encounter greater challenges in developing connections with their peers. It is a fallacy to believe that personality can change on its own. Therefore, it is essential to consider the diverse personalities of students when developing strategies for social integration. Students who are, for example, low in extraversion and who intuitively avoid social situations with strangers are likely to avoid events such as orientation rallies or start-of-term parties. Rather than peer tutoring or group interventions, easily accessible support systems such as digital advice applications or chat bots may be more appropriate. Also, university counsellors and teachers should be made aware of the role that students' personalities play in successful social integration. Students who don't integrate well may not do so because they don't want to, but because their personality prevents them from doing so.

In order to support students who do not make use of study groups due to a lack of contacts, lecturers should systematically support the formation of study groups. This should go beyond group work in individual seminars and instead facilitate groups that are as stable as possible throughout the semester or beyond. This also applies to spatial requirements, in terms of providing group work rooms that can be used by learning groups (Stifterverband, 2022). Programme evaluations should examine the

effectiveness and acceptability of learning groups among students and, if necessary, identify opportunities for improvement.

5 Conclusion

Taken together, the results indicate that personal characteristics affect the way students integrate into the higher education environment. By enabling students to use student-to-student relationships as a resource for effective learning behaviour, social integration could promote academic success. Fostering peer learning and social integration should be a major concern for higher education institutions, and uncovering prerequisites for peer learning should be a key motivation for educational researchers.

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