

# **The involvement of Felt Inclusion, Climate for Inclusion and Effort in the possible relationship between Dissimilarity and Academic Performance**

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## Abstract

This study investigated how perceived dissimilarity relates to academic performance and if felt inclusion and effort are mediating this relationship. In addition, the moderating role of the climate for inclusion on the relationship between dissimilarity and felt inclusion has been examined. The survey-data of 131 students of veterinary medicine has been analyzed. To test the hypothesis of the moderated serial mediation model, a PROCESS analysis has been conducted. The analysis showed that perceived dissimilarity did not relate to objective academic performance. Interestingly, perceived dissimilarity did relate to subjective academic performance through the mediation of felt inclusion. Furthermore, the analysis showed that perceived dissimilarity negatively relates to felt inclusion within the academic setting and that the climate for inclusion buffered this relationship. Felt inclusion, in turn, did positively relate to both objective and subjective academic performance. This research improves our understanding on the relationship between perceived dissimilarity and academic performance, on how dissimilarity affects felt inclusion and how felt inclusion affects academic performance.

*Keywords:* dissimilarity; felt inclusion; climate for inclusion; effort; academic performance

## Introduction

Demographic diversity in organizations has already increased a lot over the years and is still increasing as a result of economic globalization and market diversification. This is why research into the effects of diversity on organizations and employees has become important. For example, diversity seems to relate to team performance (Bell, Villado, Lukasik, Belau, & Briggs, 2011). Diversity is defined as “variety” and it is used to describe the composition of a group according to one or more characteristics of its members (Bleijenbergh, Peters, Poutsma, & Haas, 2010). Basically, it refers to a large number of different dimensions of characteristics. Diversity research, however, has mainly focused on the variety in gender, age, religion, educational background and ethnicity (Milliken & Martins, 1996). It is a broad construct that has already been investigated a lot in the context of organizations, especially on its relationship with group performance. Diversity can contribute to group performance. Educational

background variety, for example, contributes to team creativity and innovation (Bell et al., 2011). At the same time, diversity has been negatively related to group processes. Sex and race variety, for example, has been negatively associated with team performance (Bell et al., 2011) and workgroup diversity negatively relates to social relationships within the group (Van Knippenberg, De Dreu & Homan, 2004). Thus, demographic diversity within a group can have both negative and positive effects on team performance. The informational diversity – cognitive resource perspective states that a diverse team based on task related variables will be more successful than homogenous teams, because of the greater amount of knowledge and different perspectives (Cox & Blake, 1991). As opposed to that, the similarity-attraction paradigm explains how homogenous groups will outperform diverse teams (Byrne, 1997). Fiersma & Bantel (1992) state that similar group members are better able to communicate with each other due to their mutual attraction.

As a result of these diverse groups, there will be people who will feel dissimilar to the majority within a group. While diversity is a group characteristic, dissimilarity relates more to the individual. As a result, diversity does not only have a group level effect, such as team performance, but also an individual level effect, such as individual performance. For example, on an individual level, ethnically different group members are more likely to experience negative affective and evaluative reactions from their peers, which leads to feelings of anxiety and low psychological safety. Therefore, ethnically different group members are less likely to engage in learning behaviour, such as asking for help (Brodbeck, Guillaume, & Lee, 2011). These findings are mostly about ethnic dissimilarity. The current study will focus on how feeling dissimilar in general can affect the individual academic performance of students and which variables play a role within this relationship. Academic performance of students will affect their later careers, which makes it a relevant topic to investigate.

A lot of the research done on the effect of dissimilarity on both group- and individual level outcomes and processes has been tested within an organizational setting and work environment. Not as much is known about the effect of perceived dissimilarity within the academic environment. We can use a lot of research done in the organizational setting because these findings are likely to be generalizable to students. Both students and employees work in teams, are bound to an organization and have to perform individually or in a group. In addition, Jansen, Otten, & van der Zee (2015) tested the effects of diversity approaches on felt inclusion and organizational diversity efforts, comparing students and employees. The results for both students and employees were similar, which indicates that it is possible to generalize research results from organizations to academic environments.

The following research questions can be stated: *to what extent does perceived dissimilarity influence academic performance and which variables are of influence in this relationship?* See figure 1.

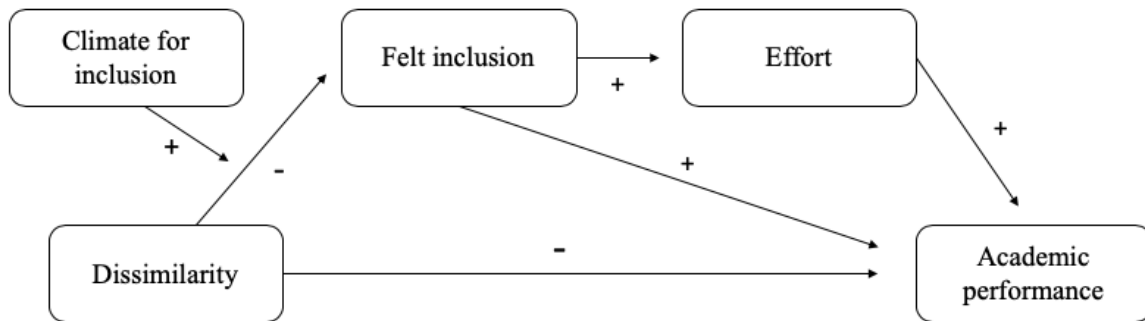


Figure 1. Proposed model of the relationships between the research variables

### **Dissimilarity**

People often tend to categorize themselves and others into all kinds of different groups. According to the self-categorization theory, people categorize themselves as similar or different from others based on certain social categories (Turner, 1987). Automatically categorizing yourself and others into social categories is the basis for the in-group-out-group distinction (Brewer, 1999). People seem to be biased on social categories, which is positive for members of the same social category, the ingroup, and negative for other social categories, the outgroup. The social identity theory for instance, states that people give a higher positive evaluation to others that belong to the same social category in order to maintain their social identities (Tajfel & Turner, 1986).

Feeling dissimilar to the majority affects group processes and group performance. According to Bleijenbergh et al., (2010) and Fiersma & Bantel (1992), perceived similarity among group members leads to better communication among those group members and to better group integration processes. In contrast, group members perceiving themselves as dissimilar to the majority leads to less positive group processes and outcomes. For example, visible demographic dissimilarity increases relationship conflicts and informational demographic dissimilarities, such as educational background, increases task-focused conflict (Jehn, Chadwick, & Thatcher, 1997). These are group level-based outcomes, but as stated before, dissimilarity does not only have an effect on a group level, but also on an individual level. According to Hobman et al., (2004), employees perceiving themselves as dissimilar to

their colleagues were less involved in their workgroup. Dissimilar group members based on ethnicity, for example, are more likely to get negative evaluative reactions from the majority and therefore engage less in learning behaviour (Brodbeck et al., 2011). Besides ethnicity-based dissimilarity, dissimilarity based on cultural background relates to individual academic performance as well. Being similar to the majority within a group leads to more motivation and ability to perform well, because people tend to be more integrated in teams with which they are more culturally similar to (Kooij-de Bode, van Knippenberg & van Ginkel, 2008). Cultural dissimilarity associates decreasingly positive with academic performance for low-cultural status group members due to motivational effects. For high-cultural status group members, however, cultural dissimilarity negatively relates to academic performance (Guillaume, Van Knippenberg & Brodbeck, 2014). In short, people who feel different within a group can experience disadvantages when it comes to their studies. Therefore, the following hypothesis can be stated:

*H1: perceived dissimilarity negatively relates to academic performance.*

### **Felt Inclusion**

Besides the expected effect of perceived dissimilarity on academic performance, perceived dissimilarity seems to negatively relate to how included someone feels within a group. Social inclusion can be conceptualized as ‘the degree in which an individual perceives that the group provides him or her with a sense of belonging and authenticity’ (Jansen, Otten, van der Zee & Jans, 2014). For example, gender dissimilarity has been negatively associated with perceived social inclusion (Jansen, Otten & van der Zee, 2017). People who felt dissimilar to others within the group on the basis of gender, felt less included. This led to absenteeism at work when the group was perceived to have a negative diversity climate. In addition to surface-level dissimilarity, due to a visible characteristic such as gender, deep-level dissimilarity, such as values and beliefs, as well has been found to negatively relate to felt social inclusion at work (Sahin et al., 2019). Besides research within a work environment, the relationship between dissimilarity and felt inclusion has been examined within the academic setting, again by Brodbeck et al. (2011). Minority students were more likely to be excluded by their peers. Therefore, the following hypothesis can be stated:

*H2: perceived dissimilarity negatively relates to the felt inclusion.*

### **Climate for inclusion**

Even though perceived dissimilarity seems to have a negative effect on felt social inclusion, this may not always have to be the case. An important factor to take into account when examining the relationship between perceived dissimilarity and felt inclusion is the social environment. Diversity climate, perceiving the environment to be open towards and appreciative of differences, has been found to positively relate to felt inclusion. The effect of a diversity climate is especially strong for those who are highly dissimilar to the majority (Jansen et al., 2017). In addition to diversity climate, there are more similar constructs, such as climate for inclusion. An inclusive climate ensures unbiased and fair treatment of people, is open toward and values differences between people and includes all people in decision making (Nishii, 2013). Current research will focus on a climate for inclusion. An inclusive climate reduces interpersonal bias, causing less conflict in a gender divers' group (Nishii, 2013). In addition, climate for inclusion seems to work as a buffer for the negative effect of perceived dissimilarity of employees on the feeling of inclusion (Sahin et al., 2019; Jansen et al., 2017). This moderated effect of an inclusive climate has been tested and confirmed within an organizational setting but is not yet tested within the academic setting. It is expected that students' experiencing an inclusive climate at their faculty will feel more included, as the previous research can most probably be generalized to the academic setting. Therefore, the following hypothesis can be stated:

*H3: The relationship between perceived dissimilarity and felt inclusion is moderated by climate for inclusion.*

### **Academic performance**

Past research on how social processes are related to academic performance of students has mainly focused on how their social background influences academic performance. Social Economic Status (SES) and parents' educational background for example, seem to have a strong influence on students' academic performance (Farooq, Chaudhry, Shafiq, & Berhanu, 2011). Research determined that academic performance is more than a matter of intellectual competence (Elliot & Dweck, 2013). Besides intellectual competence and socio-economic background, social processes and group processes are as well of importance when examining academic performance. Perceptions of how included someone feels in a group and how they

are viewed and judged by their social environment influences competence, motivation and ultimately students' achievement-related self-conceptions (Elliot & Dweck, 2013).

As social inclusion consists of the concepts belongingness and authenticity, the expectation is that similar effects will be found for felt inclusion as was found for sense of belonging. Students who feel a greater sense of belonging at the University are doing better academically (Lee, 2014; Pittman & Richmond, 2007). Student's sense of belonging at the university was found to predict their current academic achievement such as grades and academic competence, even after controlling for demographic and relationship factors (Pittman & Richmond, 2007). The same effect was found by Cho & Mor Barak (2008) and Pearce & Randel (2004) within the organizational setting. They found that the level of felt social inclusion was a predictor for both organizational commitment and job performance. In summary, it is expected that felt inclusion positively relates to academic performance.

*H4: Felt inclusion positively relates to academic performance.*

Besides the expected direct effect of perceived dissimilarity on academic performance, dissimilarity influences performance through more social variables. Perceived dissimilarity negatively relates to felt inclusion (Sahin et al., 2019) and felt inclusion positively relates to academic performance (Lee, 2014; Pittman & Richmond, 2007). Therefore, felt inclusion is expected to play a role within the relationship between perceived dissimilarity and academic performance. This expected effect has also been found in past research. For example, ethnically different group members are usually less integrated on a social level, which leads to students feeling socially excluded (Brodbeck et al., 2011). Baumeister et al., (2002) found a decline in cognitive performance in complex cognitive tasks as a consequence of social exclusion. This indicates an impairment of the students' ability to retrieve information from memory. In addition, ethnically different group members are more likely to experience negative affective and evaluative reactions from their peers, which leads to feelings of anxiety and low psychological safety. As a consequence, ethnically different group members are less likely to engage in learning behaviour, such as asking for help (Brodbeck et al., 2011). Based upon previous research, the following hypothesis can be stated:

*H5: The relation between dissimilarity and academic performance is being mediated by felt of inclusion*

### **Effort**

In addition to social processes influencing academic performance, behavioural variables also relate to academic performance. As mentioned before, effort is one of many factors that are of influence on students' academic performance (Carbonaro, 2005; Kusurkar, Croiset, Glindogarré, & Ten Cate, 2013). Students learn more if they exert more effort. Students in study tracks at a higher level, for example, exert more effort than students in lower tracks, which seems to be a result of prior effort and experiences in their classes (Carbonaro, 2005). The exerted effort a student puts into their study seems to be partly determined by the study environment: the higher the track the higher the effort. Lee (2014) showed that both behavioural engagement, including effort, and emotional engagement, including sense of belonging, were predictive for reading performance. In addition to the direct links there was a mediation effect of effort (behavioural engagement) on the relationship between sense of belonging (emotional engagement) and academic performance. In sum, past research shows a mediating role of effort on the relationship between sense of belonging and academic performance, therefore the following hypothesis can be stated.

*H6: The relationship between felt inclusion and academic achievement is mediated by effort.*

## **Method**

### **Participants and design**

The questionnaire was sent to 764 students of veterinary medicine, a total of 191 students started the questionnaire, but 131 participants completed the questionnaire. Therefore, the data of the 131 participants that filled out the entire questionnaire was used. All of the participants were students of veterinary medicine at Utrecht University. 88% of the participants were female, 12% were male and 97% reported having a Dutch ethnic background. The current cross-sectional study had a 2 X 2 between-subjects design, with dissimilarity as the independent variable and academic performance as dependent variable.

### **Procedure and Measures**

The data has been collected in coordination with the faculty of veterinary medicine at Utrecht University. A digital questionnaire consisting of questions measuring the variables, was send



around by email to all the bachelor students of veterinary medicine of Utrecht University. After providing informed consent, participants first completed questions about demographic information on their sex, ethnic background and when they started their studies. These questions were followed by measures of academic performance, felt inclusion, dissimilarity, climate for inclusion and effort.

*Academic performance.* A distinction between objective academic performance and subjective academic performance was made in order to capture different forms of performance. Objective academic performance has been measured by the grade point average (GPA) of the students. To measure the subjective academic performance, we asked them to what extent they agree with the following statement: ‘I perform well at my studies’. The answers were given on a 5-point likert scale ranging from *I agree* to *I do not agree*.

*Inclusion.* A shortened version of The Perceived Group Inclusion Scale (Jansen et al., 2014) was used to measure the extent to which participant felt included at their faculty. An 8-item scale was used to measure felt inclusion by lectures or other staff members at the faculty and the same 8-item scale was used to measure felt inclusion by fellow students at the faculty. An average of these items has been taken to determine the feeling of inclusion. An example of an item measuring felt inclusion is: ‘the people at my study give me the feeling that I am part of the group’. The response options for every statement ranged from 1 (*completely disagree*) to 7 (*completely agree*) with a higher score indicating that participants felt more included ( $\alpha = 0.97$ ).

*Dissimilarity.* Dissimilarity has been assessed using two items which are adapted from the work of Sahin et al. (2019). One item measured surface-level dissimilarity, whether they perceive themselves as visibly dissimilar to others: ‘in terms of visible characters (age, gender, ethnicity), I am different than most others at my faculty’. The other item measured deep-level dissimilarity, whether they perceive themselves as invisibly different from others: ‘in terms of invisible characteristics (beliefs, preferences), I am different than most others at my faculty’. The response options provided were ‘yes’ and ‘no’. Participants were categorized as dissimilar when they answered ‘yes’ to one or two of the questions.

*Climate for inclusion.* The extent to which the participants perceived the climate as inclusive was measured using a 6-item scale which is developed by Sahin et al., (2019) to measure how people talk about, think about and treat others who are dissimilar to most others. The 6 items measured the perceived climate for inclusion by lecturers and other staff members at the faculty and the same 6 items measured perceived climate for inclusion by students. An average of these items has been taken to determine the climate for inclusion. Examples of

statements from the scale are: “they are disadvantaged – they are taken into account” and “they are being seen as an inconvenience – they are being seen as an asset”. The scores ranged from 1 (agreeing most with the left statement) to 7 (agreeing most with the right statement), with a higher score indicating a more inclusive climate ( $\alpha = 0.96$ ).

*Effort.* How much effort the participants put into their studies was measured by the following item: “how many hours per week do you spend on self-study (time you spend studying outside of compulsory lectures)?” This is an open question obtained from the research of Kusrkar et al. (2013).

### **Analysis**

Power analysis. Based on previous research from Sahin et al. (2019) a Cohen’s  $d$  of .45 has been used to execute a power analysis, with a power of .80. By using Gpower, an amount of 124 participants was necessary to find an effect of dissimilarity on social inclusion.

## **Results**

Data were analyzed using the Statistical Program for Social Sciences (SPSS). To test the multiple hypothesis, a moderated serial mediation has been conducted. Descriptive statistics and correlations for all variables are displayed in table 11. A total of 56 (43%) participants indicated that they felt dissimilar to most other at their faculty and 75 (57%) participants perceived themselves to be similar to most others at their faculty.

<sup>1</sup> Objective (GPA) and subjective academic performance are being distinguished as dependent variables. Although objective and subjective academic performance are tested separately, they do positively correlate  $r(129) = .58, p < .01$ .

Table 1. Descriptive statistics and intercorrelations

	<i>M</i>	<i>SD</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1. Dissimilarity	0.42	.50	-					
2. Felt inclusion	5.35	.98	-.38**	-				
3. Climate for inclusion	4.33	.89	-.20*	.53**	-			
4. Effort	18.89	9.95	.11	-.08	-.01	-		
5. Objective academic performance	6.95	.71	-.05	.05	.18*	.22*	-	
6. Subjective academic performance	3.90	.90	-.15	.37**	.21*	.23**	.58**	-

*Dissimilarity was coded as 0 (no) and 1 (yes), meaning that the mean is the percentage of students feeling dissimilar. \* $p < .05$ , \*\* $p < .01$*

In order to check the assumptions for a parametric test, we conducted the Shapiro-Wilk test of normality. The results show that the assumption of normality has been violated for all dependent variables.

### Testing the hypotheses

In order to test Hypothesis 1, stating that dissimilarity relates to academic performance, a Mann-Whitney *U* Test was conducted to assess whether students who perceive themselves as dissimilar will have a lower grade point average (GPA). Students perceiving themselves as dissimilar (*Mean Rank* = 65.90,  $n = 56$ ) did not have a significant lower GPA than students perceiving themselves as similar (*Mean Rank* = 66.07,  $n = 75$ ),  $U = 2094.50$ ,  $z = -.03$ ,  $p = .98$ . In order to assess test the relationship between dissimilarity and subjective academic performance, a Mann-Whitney *U* Test was conducted. The results indicated that students perceiving themselves as dissimilar (*Mean Rank* = 60.27,  $n = 56$ ) did not have a higher subjective academic performance than students perceiving themselves as similar (*Mean Rank* = 70.28,  $n = 75$ ),  $U = 1779.00$ ,  $z = -1.65$ ,  $p = .099$ . In order to test Hypothesis 2, stating that dissimilarity negatively relates to felt inclusion, a Mann-Whitney *U* Test was conducted. The results show that students perceiving themselves as dissimilar to the majority (*Mean Rank* = 51.55,  $n = 56$ ) feel significantly more included than students perceiving themselves as similar (*Mean Rank* = 77.51,  $n = 76$ ),  $U = 1291.00$ ,  $z = -3.86$ ,  $p < .001$ ). An overview of the means per condition (dissimilar and similar) of objective academic performance, subjective academic performance and felt inclusion are displayed in table 2.

Table 2. Means and standard deviations per condition of dissimilarity

	Objective academic performance	Subjective academic performance	Felt inclusion
1. Similar	6.99 (SD = .66)	4.01 (SD = .83)	5.66 (SD = .74)
2. Dissimilar	6.91 (SD = .77)	3.75 (SD = .98)	4.92 (SD = 1.10)

Furthermore, to test the moderated serial mediation model as a whole, PROCESS v3.0 by Andrew F. Hayes (Hayes, 2017) was used. By testing the moderated serial mediation model, all of the hypotheses can be tested. An overview of the different pathways between the variables is displayed in figure 2.

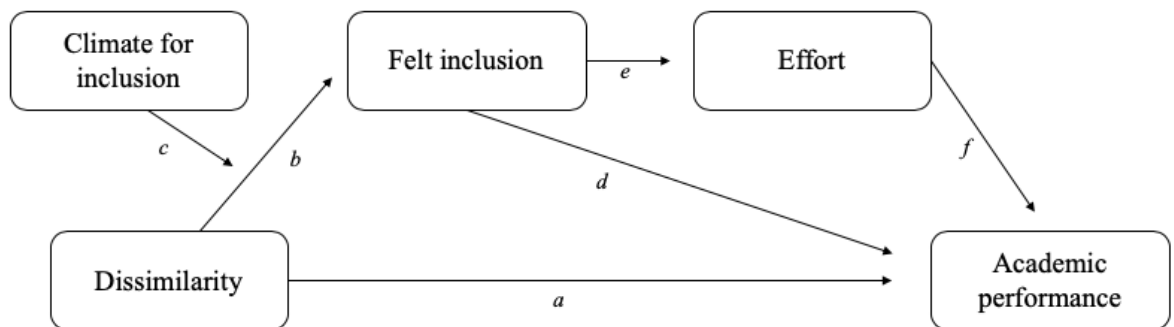


Figure 2. Pathways between the variables.

The main and first hypothesis stated is the direct negative effect of perceived dissimilarity on academic performance. Perceived dissimilarity did not have a direct effect on objective academic performance (pathway *a*),  $b = -.01$ ,  $p = .956$  and also did not have a direct effect on subjective academic performance  $b = -.29$ ,  $p = .769$ , as was also seen in previous analysis. These results do not support Hypothesis 1 (H1). Perceived dissimilarity did have a significant negative effect on felt inclusion (pathway *b*),  $b = -3.18$ ,  $p < .001$ , which indicates that students who are perceiving themselves as dissimilar from the majority at their faculty, feel less included than students feeling similar to the majority. These results support Hypothesis 2 (H2). The negative relationship between dissimilarity and felt inclusion was moderated by climate for inclusion (pathway *c*),  $b = .60$ ,  $p < .001$ . Specifically, participants who perceive themselves as dissimilar to most others at their studies' faculty felt less included compared to those who perceived themselves as similar, when they perceived a negative (-1 SD;  $b = -1.04$ ,  $p < .001$ ) or

average (*mean*;  $b = -.55, p < .001$ ) climate for inclusion. In a perceived positive (+1 SD) climate for inclusion, participants who perceived themselves as dissimilar to most others at their studies' faculty felt as included as participants perceiving themselves as similar, (+1 SD;  $b = -0.60, p = .774$ ). These results support Hypothesis 3 (H3). A positive effect of inclusion on both objective academic performance (pathway  $d$ ),  $b = 2.10, p = .038$  and on subjective academic performance (pathway  $d$ ),  $b = .36, p < .001$  was obtained. This positive effect indicates that the more a student feels included within the faculty the better the student performs academically. These results support Hypothesis 4 (H4).

A significant mediation effect of felt inclusion was found on the relationship between perceived dissimilarity and subjective academic performance (pathway  $b - d$ ), when climate for inclusion was perceived negative, (-1 SD;  $b = -.37, 95\% \text{ CI } [-.63; -.14]$ ) or average (*mean*;  $b = -.19, 95\% \text{ CI } [-.35; -.07]$ ). There was no mediation effect of inclusion when climate for inclusion was perceived as positive (+1 SD;  $b = .02, 95\% \text{ CI } [-.15; .09]$ ). The moderated mediation effect of felt inclusion in the relationship between perceived dissimilarity and objective academic performance was not found,  $b = -.08, 95\% \text{ CI } [-.01; .20]$ . The results indicate that Hypothesis 5 (H5) can be partially supported.

The direct effect of effort on academic performance has been tested (pathway  $f$ ) and results show a significant direct positive effect of effort on objective academic performance (GPA),  $b = .02, p = .006$  and on subjective academic performance,  $b = .02, p < .001$ . That is, students who exceed more effort have a higher GPA and also think they perform better academically than students exceeding less effort. No serial mediation of felt inclusion and effort on the relationship between perceived dissimilarity and subjective academic performance has been found. The results show there is no mediation of effort on the relationship between felt inclusion and subjective academic performance (pathway  $e - f$ ),  $b = .01, 95\% \text{ CI } [-.04; .03]$ . Furthermore, there is no mediation effect of effort on the relationship between felt inclusion and objective academic performance (pathways  $e - f$ ),  $b = -.00, 95\% \text{ CI } [-.03; .02]$ . Given these results, Hypothesis 6 cannot be support.

## Discussion

The current study tested whether students who see themselves as dissimilar to most others also perform worse in their studies. The aim was to build upon previous research which has mostly focused on the effects of dissimilarity within the organizational setting. Sahin et al. (2019)

demonstrated how feeling dissimilar negatively relates to felt inclusion. Felt inclusion, in turn, is found to be related to both job performance and academic achievement (Cho & Mor Barak, 2008; Pittman & Richmond, 2007). This study has extended previous research by looking at the relationship between perceived dissimilarity and academic performance, considering felt inclusion, the climate for inclusion and effort as moderator/mediator in this process.

The results reveal that perceived dissimilarity did not relate to objective academic performance. Students who perceive themselves as dissimilar to most other students at their faculty indicate that they perform as good or bad as students who perceive themselves as similar to most others. These findings do not support hypothesis 1. Perceived dissimilarity did negatively relate to felt inclusion. Students who perceived themselves as dissimilar felt less included than students who perceived themselves as similar. This result supports the second hypothesis. The negative relationship between perceived dissimilarity and felt inclusion was found to be moderated by the climate for inclusion. Specifically, the negative effect of perceived dissimilarity on felt inclusion was stronger when the climate for inclusion was weak, while this relationship disappeared when the climate for inclusion was strong. These results support the third hypothesis. As for academic performance, we found that it was predicted by felt inclusion. The more a student feels included within the faculty, the better the student performs academically. The fourth hypothesis has therefore been supported. Despite the lack of a direct effect of perceived dissimilarity on objective and subjective academic performance, mediation analyses showed that dissimilarity did relate to subjective academic performance through a complete mediation effect of felt inclusion. This effect was only found for subjective academic performance and was not found for objective academic performance. Even though objective and subjective academic performance were correlated, it seems that these two constructs do differ. Therefore, the fifth hypothesis has been partially supported. The effort that students put into their study had a direct positive effect on both objective and subjective academic performance but did not appear to have a mediating effect for the relationship between felt inclusion and academic performance. This means that the number of hours students put into self-study is not predicted by their feelings of inclusion. These results did not support the sixth hypothesis.

The finding that perceived dissimilarity is negatively related to felt inclusion is consistent with past research (Jansen et al., 2017; Sahin et al., 2019). The same applies to the moderating effect of climate for inclusion on this relationship. There are several points that the current study adds to the existing knowledge of the possible effects of dissimilarity. First, previous research only tested the relationship between perceived dissimilarity and felt inclusion

within an organizational and work environment, while the current study tested this relationship within an academic environment. This means that the negative effect of perceived dissimilarity on felt inclusion and the importance of climate for inclusion within this relationship is a broad effect that occurs in multiple environments.

Second, current study extends the findings obtained by Lee (2014) and Pittman & Richmond (2007) who found the importance of sense of school belonging on academic performance. The results demonstrated that, in addition to sense of belonging to the school, the sense of inclusion within the group also positively relates to academic performance. This finding is also in line with earlier research done by Cho & Mor Barak (2008), who suggested that felt inclusion and performance are related to each other in the organizational environment.

While a couple of hypotheses have been supported, there are also some unexpected results. Academic performance was measured by asking participants about their GPA (objective performance) and by asking them whether they thought they performed well (subjective performance). The results in this study show that perceived dissimilarity only relates to subjective academic performance, through felt inclusion. However, this effect was not observed for objective academic performance. Objective- and subjective academic performance do correlate ( $r = .58, p < .01$ ), but the correlation is medium which means that these constructs are to a large extent the same, but also differ a substantial proportion from each other. One possible explanation for the fact that there is a relationship of perceived dissimilarity with subjective performance through felt inclusion and not with objective performance is that subjective performance is mainly a feeling, just like social inclusion. How well you think you perform at your studies could be influenced by feelings and emotions at that time, just as inclusion might be affected by one's feelings and emotions at that time. Perhaps, a construct which is dependent on the affective state of a person is more affected by another construct which is dependent on the affective state of a person. Brodbeck et al. (2011) found that dissimilar group members are more likely to get negative evaluative reactions from the majority, which in turn can lead to a lower felt inclusion. Due to negative evaluative reactions from peers, people create a lower self-esteem. It is possible that a lower self-esteem explains part of our results, in which dissimilarity has greater effect on how a student thinks they perform than on how they actually perform because of a lower self-esteem.

Furthermore, another expectation we had was that effort mediates the relationship between felt inclusion and academic performance. Consistent with previous research effort does positively relate to academic performance (Carbonaro, 2005; Kusrkar et al., 2013). The more effort is exerted, the higher their grade point average and the higher students think they perform

at their studies. However, effort did not act as a mediator between the relationship between felt inclusion and academic performance, even though previous research did find that effort mediated the relationship between sense of belonging and academic performance (Lee, 2014). A possible explanation might be that Lee (2014) measured effort as a part of behavioral engagement, consisting of the items: working hard, working despite difficulty, trying one's best to acquire knowledge and skills and putting forth one's best effort. Perhaps the measurement of behavioral engagement in studying is a more accurate mediator for the relationship between felt inclusion and academic performance than the measurement of the amount of self-study hours.

Another possible explanation could possibly be that the amount of effort put into one hour could differ from person to person. Effort is measured by the number of hours on self-study, but this does not have to be all of the motivated study hours. Students' motivation influences the amount of effort exerted (Goodman et al, 2011; Kusurkar et al., 2013) and perhaps does motivation determine the extent of effectiveness of the hours. This limits the research and could explain the lack of expected effect. To examine this, future research can look into the relationship between felt inclusion and academic performance mediated by motivation instead of effort.

### **Limitations and Future Research**

There are several limitations of the current study. Future research can potentially solve the following limitations. The first issue regards to the time and place in which the participants had to fill in the questionnaire. The participants completed the questionnaire at a time when there was a pandemic caused by the covid-19 virus. Because of this, the universities in The Netherlands were closed and the students hadn't been to their faculty for a while. As a result, the students had to fill in the questions about a situation in the past instead of the current situation. According to Tourangeau (1999), it is difficult to recall attitudes someone had in the past. The current state of a person and new information, such as embellishments we add in recounting it, seem to impact the recollection of our memories. It may be possible that the difficulty of retrieving situations in the past has affected the results.

Furthermore, the second limitation regards to the assessment of academic performance. Grade point average is used to measure objective academic performance. However, there is a chance that the participants did not know their exact grade point average at the time they completed questionnaire. Therefore, they may have estimated their grade point average, which makes it a more subjective measure. Future research can solve this problem by asking the



students to look up their grade point average before starting the questionnaire. Another solution might be to look up the students' grades in the school system and to link the grades to the research. In doing so, the privacy of the students must be taken into account.

Perceived dissimilarity is measured by a dichotomous item. A dichotomous item makes it clear which students perceives themselves as dissimilar to the majority and which students feel similar to the majority, but it does not tell us anything about the degree of dissimilarity. This information may be interesting, it could be the case that a certain degree of dissimilarity is needed for it to affect felt inclusion or to affect academic performance for example. Future research can solve this problem by using more items or a scale measurement.

Furthermore, as discussed before, the measurement of effort is limited due to the fact that students had to estimate the number of hours per week spend on self-study. This estimation makes the measurement more subjective than objective. Future research can possibly solve this by a diary study, where students keep a diary in which they have to indicate each day, for a number of weeks, how many hours they have spent on self-study. This makes the measurement more objective. The objective number of hours spent on self-study is clear, but it is still difficult to estimate what the effort really is. It is possible that one student exerts more effort in one hour than the other student for example.

### **Practical Implications**

In this research it is proved that feelings of inclusion affect academic performance. Students feeling socially included within their faculty perform better than students feeling less included. This implies that it is important for universities to take the felt inclusion of their students into account when aiming for the optimal academic performance. Climate for inclusion seems to have an effect on the extent of felt inclusion of students and universities are for a great deal responsible for an inclusive climate at faculties. Past research distinguished three dimensions that contribute to an inclusive climate. An inclusive climate ensures unbiased and fair treatment of students, is open towards and values differences between students and includes all students in decision making (Nishii, 2013).

First, it is important to ensure unbiased and fair treatment of all students. An effective start to improve a faculties' climate for inclusion could be to monitor students' perceptions on the fairness of student treatment in order to reveal potential biases that may stand in the way of an inclusive climate. Another way to ensure unbiased and fair treatment of students is to make the battle against unfair and biased actions visible, in order to show the collective intolerance of discrimination within the faculty.

Furthermore, universities can make sure all students, including those who have not already been involved in decision-making, participate in important decisions of the university or a specific faculty. With giving all students a say in important issues and questions, universities can create a more inclusive climate. For example, asking all students to vote for an important organizational issue of the faculty. Next to including students in decision-making, it is valuable to follow structured rules to ensure a feeling of safety and inclusion (Nishii & Rich, 2014). Inclusion can be facilitated by providing structural guidelines, such as pre-chosen workgroups with a designated leader who has a define set of responsibilities.

### **Conclusion**

In summary, this research demonstrated that, within an academic environment, perceived dissimilarity relates to felt inclusion and it is demonstrated that the climate for inclusion is important for this relationship. The results, furthermore, suggest that felt inclusion relates to academic performance and that felt inclusion explains a relationship between perceived dissimilarity and subjective academic performance. Feelings of inclusion seem to be more important for academic performance than perceived dissimilarity. Therefore, more research is needed to understand the relationship between felt inclusion and academic performance, such as how this relates to motivation. Furthermore, more research can be done in order to understand how to get students feel more included within the faculty and how to create a more inclusive academic environment.

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