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Identity Formation in Adolescents with Concentration Problems, High Levels of Activity or Impulsiveness: A Pragmatic Qualitative Study

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Identity Formation in Adolescents with Concentration Problems, High Levels of Activity or Impulsiveness: A Pragmatic Qualitative Study

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Abstract

Students showing core symptoms of ADHD face additional challenges in school. This study asks how children and adolescents with inattentiveness, high levels of activity or impulsiveness perceive their symptom-like behaviour and how this may affect their identity, friendships and well-being. Researchers conducted individual interviews with 12 students (10–16 years) selected to attend a school programme aimed at improving their concentration. Six students had an ADHD diagnosis. The interviews were analysed, guided by theoretical reading. The students' narratives fit a discursive perspective showing that identity developed through interactions with others. All students told about their disturbing concentration problems. Students disliked having a short fuse and talking before thinking, and they admitted that impulsive behaviour could threaten their friendships. On the other hand, students with high levels of activity described this as fun in interaction with friends. Nobody mentioned that concentration problems affected friendships, and none of the core symptoms seemed to influence well-being. There were no obvious differences between students with or without an ADHD diagnosis. The students' stories, therefore, show that teachers should know their students with inattentiveness, hyperactivity or impulsiveness individually to learn about their challenges and preferences.

Keywords: Core symptoms of ADHD, school wellbeing, friendship, teachers.

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Formación de La Identidad en Adolescentes con Problemas De Concentración, Altos Niveles de Actividad o Impulsividad: Un Estudio Cualitativo Pragmático

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Resumen

Los estudiantes que muestran síntomas básicos de TDAH se enfrentan a retos adicionales en la escuela. En este estudio se pregunta cómo perciben los niños y adolescentes con falta de atención, altos niveles de actividad o impulsividad su comportamiento sintomático y cómo esto puede afectar a su identidad, sus amistades y su bienestar. Los investigadores realizaron entrevistas individuales con 12 estudiantes (de 10 a 16 años) seleccionados para asistir a un programa escolar destinado a mejorar su concentración. Seis estudiantes tenían un diagnóstico de TDAH. Las entrevistas fueron analizadas, guiadas por lecturas teóricas. Las narraciones de los estudiantes se ajustan a una perspectiva discursiva que muestra que la identidad se desarrolló a través de las interacciones con los demás. Todos los estudiantes contaron sus inquietantes problemas de concentración. A los estudiantes no les gustaba tener una mecha corta y hablar antes de pensar, y admitieron que el comportamiento impulsivo podía amenazar sus amistades. Por otro lado, los estudiantes con altos niveles de actividad describieron esto como divertido en la interacción con los amigos. Nadie mencionó que los problemas de concentración afectaban a las amistades, y ninguno de los síntomas centrales parecía influir en el bienestar. No había diferencias obvias entre los estudiantes con o sin diagnóstico de TDAH. Las historias de los estudiantes, por lo tanto, muestran que los profesores deberían conocer a sus estudiantes con falta de atención, hiperactividad o impulsividad de forma individual para aprender sobre sus retos y preferencias.

Palabras clave: síntomas principales del TDAH, bienestar en la escuela, amistad, profesores.

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Inattentiveness, hyperactivity and impulsiveness are core symptoms of attention deficit hyperactivity disorder (ADHD), a neurodevelopmental disorder. Symptoms related to ADHD may affect individuals throughout their lifespan, due to complex genetic and neurobiological factors that hamper self-regulation (Tarver, Daley, & Sayal, 2014). A recent review on perceptions of symptoms related to ADHD calls for research that examines the potential implications of children's recognition of their symptoms for their psychological well-being (Wong et al, 2018). The present study represents a response to this request by exploring perceived identity, friendship and well-being in a group of students in which some had an ADHD diagnosis and others did not.

The study is part of a longitudinal research project on students with concentration problems, high levels of activity and impulsive behaviour, and applies interview data gathered before an intervention. The main aim of this study was to explore how behaviour described as the core symptoms of ADHD, namely inattentiveness, hyperactivity and impulsiveness, affected the daily school life of the participants. Two research questions were formulated: firstly, how do the students with core symptoms of ADHD—either with or without an ADHD diagnosis label—describe themselves in terms of inattentiveness, hyperactivity and impulsiveness? Secondly, how do the students' perceptions of their symptom-like behaviour affect their identities, friendships, and well-being? As concentration problems related to schoolwork will be presented in another publication, the topic is considered outside the scope of this article.

Together with empirical studies, the theoretical perspectives of Gee (2000) constitute the basis to discuss the students' formation of identity. Further, friendship is included in perspectives on well-being because previous research on students with ADHD often report problems in the relationship with friends (Gardner & Gerdes, 2015; Hoza, 2007; McQuade et al., 2014).

Identity Formation: Theory and Empirical Studies

I use Gee's (2000) perspectives on identity and add to it empirical findings that illustrate young people's interaction with peers and their perceptions of symptoms.

Gee proposed four perspectives in the formation of people's identities, of which three are relevant to the present study (Gee, 2000). Of interest is also that Gee used ADHD to illustrate these perspectives. The 'nature perspective' includes what one carries with one from birth or closely afterwards. If born as an identical twin, you will always be so. One common view about ADHD is that a child with ADHD was born with a neurobiological condition or experienced harmful early events that caused the disease (Tarver et al., 2014).

The second perspective is the 'institutional perspective' (Gee, 2000). This can be a position you hold: for instance, you are the head of a school. If a child with an ADHD diagnosis becomes a patient for regular treatment at a medical centre, the child may acquire a patient identity. The 'discursive perspective' is the third. This kind of identity is something you get through interplay with others: for instance, in a dialogue, where a person might be valued as charismatic or smart. A student with ADHD may be valued or characterized in the classroom in another way than by parents at home (Gee, 2000). Furthermore, people in the same setting—for instance, the classroom—may also characterise a student with ADHD differently.

Tegtmejer (2018) observed students with ADHD and their peers in inclusive Danish classrooms for two years. Differently from many studies that have analysed individual behaviour, Tegtmejer looked at the interplay between students. Seeing the classroom as a sociocultural context, his analyses suggested that the actions and behaviour of ADHD students were often intentional and led to interactions with peers. Thereby, the researcher considered these initiatives to be part of the students' identity work.

Wong and colleagues (2018) identified in their review eight studies exploring children/adolescents' perceptions of ADHD and identity. The core symptoms of ADHD (inattentiveness, hyperactivity and impulsiveness) were typically referred to as ADHD symptoms. The results were, however, inconclusive with respect to possible differences in reports of ADHD symptoms between the young people with and without an ADHD diagnosis. One study (Kaidar, Wiener, & Tannock, 2003) reported no differences in ADHD symptoms in a sample of 32 children, comparing those with and without an ADHD diagnosis, whereas others found statistically significant differences in larger samples (Gau et al., 2010; Klimkeit et al., 2006; Wiener et al., 2012). Another study showed that adolescents diagnosed with ADHD reported only a limited number of symptoms when they were asked about their perceptions (Emilsson et al, 2017). It is also interesting to notice that studies

applying interviews agreed that the youngsters in behavioural terms spoke about hyperactivity, concentration problems or being easily distracted, even though some seemed to be unaware of their symptoms (Brinkman et al., 2012; Kendall et al, 2003; Mukherjee et al, 2016).

As the results above do not point to a firm conclusion, Wong and colleagues (2018) synthesized that there are substantial variability in children and adolescents' perceptions related to ADHD, and they suggested that young people's underestimation of their ADHD symptoms could be beneficial to their emotional well-being.

Friendship and Well-being: Theory and Empirical Studies

Most young people in Norway have friends at school, including a best friend (Bakken, 2018). Evolutionary psychology suggests that it is in human nature to develop friendships (Silk, 2003). After spending years observing and interviewing children, the sociologist William A. Corsaro concluded that friendship is about sharing, doing things together, being together and sharing in dialogues, and he underlined its emotional component. Friends will perceive happiness, well-being and satisfaction in sharing (Øksnes, 2015). Furthermore, disciplines like philosophy and psychology have contributed to the knowledge of friendship. Philosophers have over time discussed the importance of friends in a person's ability to understand him- or herself and to develop and confirm his or her self-image (Gadamer, 1999). Psychological theories elaborating on mirroring oneself in other people also point to the role of friends in confirming one's self-image (Blumer & Morrione, 2004).

Most studies investigating the friendships of young people diagnosed with ADHD typically point to problems in the relationships (Gardner & Gerdes, 2015; Hoza, 2007; McQuade et al., 2014). Hoza's (2007, p. 102) findings led her to conclude that the 'peer problems of children with ADHD follow them wherever they go'. Others opposed to the problem-focused perspective finding it promising that children with ADHD are within the average range in terms of number of collaborated friends and demonstrate adequate stability of their friendships, although some friendships had shorter duration than those in a comparison group (Marton et al, 2015). A classroom study (Tegtmejer, 2018) where the researcher defined the behaviour of students with ADHD as communicative initiatives to create fun and amusement supports this more optimistic view.

Furthermore, the literature has debated whether mental health problems influence the peer relationships of young people with ADHD symptoms. A comprehensive review (Becker, Luebbe, & Langberg, 2012) responds by determining that neither externalising nor internalising problems seem to affect the friendships of children diagnosed with ADHD. To my knowledge, no publications have explicitly reported on relational trust or well-being among students with the core symptoms of ADHD. Therefore, I present general knowledge on the topics in the following section.

Turning to the school community, teachers are important to students' satisfaction with school (Samdal et al, 1998) and to their well-being (Løhre, Lydersen, & Vatten, 2010). The teacher may also be essential for students who need someone to turn to in difficult situations (Løhre et al, 2014) and of the utmost significance: well-being and a sense of connection to school predict present and later health (Monahan, Oesterle, & Hawkins, 2010). Researchers further emphasise relational trust as a prerequisite for building strong learning communities (Cranston, 2011), and relational trust between students and teachers (Gregory & Ripski, 2008) supports student achievement.

Method

As mentioned above, the data material in this study is from the baseline in a longitudinal project. The intervention, Shooting for Mastery (SFM), was school-based and offered indoor shooting training guided by certificated instructors. Researchers from the Norwegian University of Science and Technology (NTNU) evaluated the educational program (Østerlie et al., 2018). The setting for the research is a rural municipality about one hours drive to the south of Trondheim, Mid-Norway. In addition to schools with grades 1–7, the municipality has one compulsory public school with grades 1–10 located in the centre of the municipality.

In contrast to studies that search for homogenous groups, the present study has a pragmatic (Salkind, 2012) nature with a heterogenic group of participants of whom half had an ADHD diagnosis and the others did not. The common feature of the group was concentration problems considered by their class teachers to affect their learning. Thus, the participants represent students in typical Norwegian classrooms.

Participants in the Study

The participants attended the 1–10 school and were chosen to take part in the SFM program. The schoolteachers selected students from the fifth through the tenth grade for the programme. The main criterion for selection was concentration problems at school that teachers, counselling services and parents had observed and characterised as harmful to the student's learning. The second selection criterion was that the student had not previously attended the SFM educational programme. In total, 12 students aged 10 to 16 years old participated (five girls and seven boys). Six of the students were diagnosed with ADHD. Because there were more boys than girls, the students will be referred to as males (he) to protect their anonymity.

Data Collection and Analysis

Researchers in the team collaborated to develop a semi-structured interview guide. Two of the researchers performed individual interviews in a quiet room in the school's administration area. All students agreed to have the interview recorded, and the interviewer reminded them they could leave the study at any time. The research team hired a student teacher to transcribe the interviews. Three researchers red and discussed the transcribed text. As responsible for this study, the author did the first steps in the analysis and presented ideas and sketches which were discussed in the research team. Colleagues supported the process and agreed in the analyses. By this triangulation, we consider the results to be trustworthy.

Theoretically informed reading (Brinkmann & Kvale, 2015) guided the analysis. To perform theoretically informed reading the researcher must be sensitive toward the topic that will be investigated and have a conceptual mastery of the applied theories. Additionally, the data must be rich regarding the chosen topic. As no specific methodical procedure is used to validate the theoretical interpretations, much depends on the researcher (p. 273).

I read the written interviews several times and wondered whether and how the narratives would reflect the core symptoms of ADHD. For all students, I found text excerpts that shed light on issues of inattentiveness, hyperactivity or impulsiveness. During repeated reading, I began to assign keywords, or codes, to mark interesting citations. The codes led to three main themes, which I denoted as Identity, Friendship and Well-being. In a back-and-forth process between the empirical data and theory, I decided to explore how concentration problems, impulsiveness and high levels of activity affected each of the main

themes. Thus, the analysing process pointed to the second research question, whereas the setting and the group of participants informed the first question.

Ethics

The researchers informed participants about the evaluation in information letters as well as in meetings with their parents and teachers. The information addressed the option to withdraw from the evaluation study at any time without explanation. Students, parents and other informants signed a written informed consent form. The Norwegian Centre for Research Data approved the research. The present study uses interview data gathered in October 2016, before the shooting training started that year.

Results

The first part of the results describes the students' perceptions and consciousness regarding the core symptoms typically seen in people with ADHD-related challenges. Thereafter, I present the students' experiences and thoughts on the core symptoms in relation to identity, friendship and well-being.

Consciousness on Inattentiveness, Hyperactivity and Impulsiveness

In this section, I let the participants briefly describe themselves with respect to core symptoms of ADHD. Do they typically experience inattentiveness, hyperactivity and impulsiveness?

All the participants told they had concentration problems, although their consciousness about this differed. Student 19 said directly and without any excuses: 'I easily become inattentive and distracted'. Other students had difficulties maintaining concentration over time and described changes throughout a lesson:

> P 15: I can feel that it's okay at the beginning of the lesson, and as the lesson proceeds I can hardly write and then I just wait a bit with writing, but then I lose track of what the others are doing.

Speaking about their concentration, most students mentioned *Shooting for Mastery,* and hoped the training could improve their concentration. Regarding those who were rather unconscious about their ability to concentrate, I would like to recount parts of an interview:

I: What do you think about your concentration?
P 13: I think it is good.
I: Pretend you are sitting in the classroom, concentrating on your own work. Then, something is going on over there . . . what happens?
P 13: Then I only look at that person.
I: Does it become difficult?
P 13: Yes, then it becomes really difficult to concentrate.

This student started to say that his concentration was good and that he did not believe he was easily distracted. The same was the case with everyone who first said they had good concentration. Later in the interview, they described episodes that shed light on their inattentiveness or poor ability to maintain concentration over time.

When the conversation was about hyperactivity, something similar happened. Among the students who had high levels of activity, their thoughts and consciousness about this behaviour turned out to be quite interesting. In response to the interviewer asking whether he experienced himself as hyperactive, the student answered: 'Maybe, a little' (P 20). The interviewer continued: 'In what ways?', and the student replied: 'That I run around all the time' (P 20). From an outside perspective, however, running around all the time sounds like being very active. I can add that this student did not have a diagnosis.

Another student, P 19, felt that it was difficult to sit quietly throughout a whole session at school, and said; 'I have to stand up, walk and move a little'. Furthermore, he said: 'Yes, I fiddle with things all the time', and the interviewer wondered whether that helped with respect to the restlessness in his body. The student replied: 'Yes, it does. I sort of have to fiddle with something'. In spite of the need to move and the experiences of restlessness, this student did not label himself as hyperactive: 'I'm not exactly hyperactive, but there is much that could be perceived as hyper'. This student did not have

an ADHD diagnosis, and perhaps, therefore, thought it was incorrect to say that he was hyperactive but that 'hyper' was acceptable.
None of the students knew the word *impulsive*, but nevertheless, their stories provided insight into different episodes or behaviour related to impulsiveness. I will let the following citation illustrate emotional reactions added to impulsiveness:

> P 25: If they are being rude and unfriendly, then I don't become a little angry; I become furious in a second. I have a very short fuse.

From the students' stories, it was considered that each of the participants had problems related to one or more ADHD symptoms. Some had many problems and others had fewer in terms of hyperactivity or impulsiveness. Everyone, however, had harmful concentration problems, and thus it seems that the selection of students for the SFM programme was well founded. It was therefore interesting to explore the core symptoms of ADHD in this group of students in relation to identity, friendship and well-being.

Core Symptoms and Identity

This section explores the possible effects of the core symptoms of concentration, hyperactivity and impulsiveness on the students' perceptions of their identities. Would some students describe themselves as, for instance, an ADHD person? The answer to this question was that most of the students seldom thought about symptoms or a diagnosis label. This seemed to be outside their consciousness. Student 15 answered: 'Nooo!' with surprise when the interviewer asked whether he often thought about his concentration problems. Many of the students did not remember how long they had had concentration problems or a diagnosis, while others like P 25 said precisely: 'Since fifth grade. I was not able to pay attention'.

Students with high levels of activity typically perceived this to be fun. One of those without a diagnosis said: 'Yes, I'm hyperactive', and explained that hyperactive suggested being 'very, very, very hyper' (P 25). This student had a clear idea that being hyperactive was positive. When he was asked how he perceived being hyperactive, he replied: 'It's fun'. Other students also used the word 'fun' to describe being hyperactive. I will let a small sequence from another interview illustrate this:

> P 12: I am quite silly.

I: You dally a lot?
P 12: Yes, I dally a lot.
I: Do you like it?
P 12: Yes, it's kind of funny.

The stories reflecting impulsiveness contrasted with the positive thoughts on hyperactivity. Students who described having a short fuse or anger in response to comments from peers often seemed to dislike their own reactions. Some of the participants felt that it was best to remain by oneself after a nasty situation. When the interviewer asked student 19 to come up with suggestions for what others could do in such situations, he answered that for him personally it was best to be left alone:

> P 19: Stay away until I become happy and cheerful again . . . Leave me alone and calm myself down . . . Just be in a quiet room. Almost like a yoga-exercise. You breathe calmly, out and in.

Another student related his disease to worries about bullying. When he was younger, he had experienced bullying from his peers, but this had stopped when he moved to a new school, and thus he felt happy because the disease did not give him trouble any longer:

> P 16: No, because I don't think about that I have ADHD. And I'm not bullied or anything. That is what I am most happy about, that I'm not bullied for it. Because there are very many people who are bullied for their diseases. And it's not their fault that they have a disease.

To illustrate that other circumstances could worry the students more than having a diagnosis, we present another part of the interview with Student 16. The interviewer asked whether he wished something to be different, and the student answered: 'I wish I could have been somewhat taller. . . . I will surely be much taller later. In tenth grade I'll be very tall, surely'.

Overall, the empirical data led to the conclusion that having the core symptoms of ADHD or a diagnosis label did not provide any significant contribution to identity formation in this group of students.

Core Symptoms and Friendship

All the students said that they had friends, including good friends, and nobody expressed the idea that their concentration problems or their diagnosis ruined friendships. Students 13 and 21 said, respectively: 'I have the boys in class and some in the class below me and the class above me, and the girls in the class' and 'I have many friends to be with'. Furthermore, if the students argued with friends, the conflict did not last long: 'Yes, but we became friends again the next day' (P 16).

None of the students mentioned concentration problems in relation to friendships. On the other hand, several described an anger that was difficult to hide or control. The impulsiveness and anger might result in adverse interactions with peers and friends. Student 12 explained how talking before thinking sometimes gave him trouble: 'Sometimes I say things I don't mean to people and then they become very upset'. Another student described his low levels of frustration. When he did not succeed at schoolwork, the emotions took over and anger came to the forefront: 'Yes, I can get angry easily. If there is something I don't manage, I can perhaps get angry quickly' (P 24).

Often the students said that their impulsive angriness came as a reaction to what other people said or did. If their mood was not good at that moment, such as when they were having a bad day, the chances of a negative emotion and thereby, a negative reaction, increased:

> P 16: It doesn't happen suddenly because it happens when people say something to me.
>
> P 19: Occasionally I become angry . . . if I am tired and haven't slept much and someone gives me a rude comment, then it is. . . .

Contrary to impulsiveness, the level of activity did not seem to cause trouble among friends. Common for the students with high levels of activity was a relaxed attitude towards their friends. They experienced having good friends, which I will illustrate with some citations. Student 25 suggested that, if they were asked to characterise him, his friends would describe him with the three words 'hyper, funny and frisky'. Others felt sure that their active behaviour had no negative influence on their friendships. Rather, the stories gave the impression that their friends took care of them and protected them:

P 21: I can be, not upset, but I can easily become irritated and angry. And then my friends understand that I haven't slept well that night.

Thus, impulsiveness could be a problem among peers, but friends seemed to understand, forgive and support when necessary. Hyperactivity was looked upon as positive by those with high levels of activity and expected to be welcomed by their friends. Lastly, concentration problems did not seem to affect friendships.

Core Symptoms and Well-Being

The students typically described their well-being and everyday life as good. One student said: 'During the day I am happy, but at night I'm tired' (P 18) and another uttered: 'No, I think I'm doing well. I'm mostly happy. I do what I want to and then I enjoy myself' (P 14).

None of the students suggested having great problems, and none mentioned the core symptoms of hyperactivity, impulsiveness or inattentiveness when the interviewer asked about their well-being at school or in general.

In response to a question about how they experienced their well-being at school, all of the students expressed satisfaction. They liked it at school, and nobody said anything about poor well-being at school:

P 15: It goes quite well.

P 19: I like it quite well, actually.

P 24: I like to be outside during recess. Play football and do different things. The lessons go well, too.

Some students had variations in mood without knowing why:

P 25: It goes up and down. . . . No, it happens suddenly, so I don't know. . . . I can easily become upset and I can easily become happy.'

P 14: Yes, usually I am mostly happy, but I can get mad occasionally . . . That's mostly at home. It all turns out well in the end.

The empirical data has thus far focused on the students in relation to their peers and friends. It is noteworthy, however, to recognise the value and importance of the class teacher for the students. We must bear in mind that these students live their daily school life with concentration problems, some

are easily disturbed, some have high levels of activity and restlessness and some have great challenges because of their impulsiveness. One student had had some long-lasting challenges outside school. Thoughts about this often came to his mind. Sometimes his thoughts and feelings were mixed up so that he needed to talk to someone, and the class teacher was the person he usually turned to. The family and school had an agreement that the student and teacher could spend time to talk when this student was in need of comfort. Some episodes might empty him of energy, and he had this comment:

> P 21: My reaction to that is to disappear into my own world. … I can't control it either because it kind of shows on me. . . . Of course, I speak with [my class teacher]. He used to speak with me afterward. . . . You kind of get to talk about what's on your mind, then. It always feels good to get it out.

The class teacher was his first choice and the one he turned to when something bothered him. If the class teacher was not at school that day, he turned to his best friend:

> P 21: Yes, or I speak with [my best friend]. He spoke with me last, since my class teacher was gone. And, I feel that if my teacher is gone, it is him I want to speak with.

The students' well-being at school and in general seemed to be good, although some had variations in mood or challenges outside school. Both teachers and friends played significant roles in balancing the school days for some of the students.

Discussion

This study explored individual narratives of 12 adolescents, half of whom had an ADHD diagnosis and half of whom did not. All students perceived themselves as having inattentiveness, describing their major concentration problems; furthermore, the group of students had various degrees of hyperactivity and impulsiveness independent of the existence of an ADHD diagnosis. High levels of activity combined with fun seemed to nurture friendships and well-being and positively affect the students' self-image and identity. Impulsiveness was the only behaviour that had the potential to threaten their friendships and self-image, but impulsiveness did not colour

their identity, and their adverse impulsive behaviour or verbal reactions did not ruin their friendships. Inattentiveness did not turn out to be essential in the students' stories on friendships or well-being.

Formation of Identity

This section will discuss the findings in light of Gee's (2000) suggested perspectives on identity. In line with previous findings (Brinkman et al., 2012; Kendall et al., 2003; Mukherjee et al., 2016), consciousness related to the experiences of core symptoms varied among the students and differed from one symptom to another. For instance, some students verbalised their concentration problems explicitly early in the interview, while others were less aware of the problems; still, everyone at some point in the conversation described situations where such problems bothered them. This tells us that the students experienced concentration problems, although their consciousness about it varied. The experience of *having* concentration problems, however, is far from adopting them as part of one's identity.

On the other hand, those students who struggled with impulsive behaviour typically reflected on their challenges. They disliked and regretted the impulsive behaviour, whether proactive or reactive, that often got them into trouble. Confirming the literature on ADHD (Tarver et al., 2014), they referred to a short fuse, talking before thinking, getting easily frustrated, and becoming furious in a second. From this, we can anticipate that impulsiveness could be a burden for some of the students and thus might have the potential to influence their self-image and the formation of their identity. According to the students, however, their friends forgive them, and the situations normalizes after their impulsive behaviour. Those students had supportive people around and thus, avoided developing a negative self-image that badly might influence their identity. This fits well with theories stating that one's self-image needs confirmation by others (Blumer & Morrione, 2004; Gadamer, 1999).

According to Gee (2000), we can say that the core symptoms were more or less in the nature of the students, but at the same time, their interactions with others shaped their identity in line with Gee's discursive perspective on identity. Let us use high levels of activity as an example. The actual students were fully aware of this behaviour. Some calmed down their restlessness by walking around in the classroom and others did funny things. Those with especially high levels of activity signalled that they strongly appreciated this

behaviour. One undiagnosed student claimed to be hyperactive and explained that this meant to be extremely active or, in his words: 'very, very, very hyper'. Furthermore, the same student had experienced that his friends welcomed his behaviour and suggested they looked upon him as: 'hyper, funny and frisky'. It seems this student mirrored himself in his friends. This corresponds to the philosophical and psychological theories (Blumer & Morrione, 2004; Gadamer, 1999) emphasising the important role of friends in identity formation.

Thus, hyperactivity provided a strong and positive contribution to identity formation in some students. We can easily imagine the eager interaction between peers and a loop of transactions strengthening the student's identity as a beloved friend. This finds support in Tegtmejers' (2018) sociocultural analysis of interplay in classrooms where students with ADHD created amusement as part of their identity work. Several of our participants used the word 'fun' to describe activities in their interactions with peers. This does not represent just a single observation in the present study. Other researchers (Brinkman et al., 2012; Gardner & Gerdes, 2015) have also reported the perception of 'fun' in students' stories about their hyperactive behaviour. From my point of view, it is important to acknowledge students' positive feelings and thoughts about high activity levels and the love they feel for friends in such interplay. High levels of activity may often imply creativity, and many successful adults praise their creative ideas and fast improvisational thinking.

The institutional perspective (Gee, 2000) is also interesting to discuss, but from a different angle than that of the straightforward thinking of someone who monitors the child. As I suggested above, the students typically seemed to develop their identity in interactions with others, and the teachers were of course part of the developmental context (e.g., Løhre et. al, 2010; 2014; Samdal et al., 1998). In this study, we have little explicit information on the interplay between students and teachers. All the same, the narratives give an impression that the actual school and teachers had avoided labelling the students selected for the SFM programme. None of the students described themselves as an 'ADHD person' and thus Gee's (2000) institutional perspective proved irrelevant to the students' identity formation.

Identity Embedded in Friendship and Well-Being

In line with Emilson and colleagues (2017), the students reported few problems, and inattentiveness seemed irrelevant when the students discussed friends. None of the students said anything that indicated that their concentration problems influenced their relationships with friends. Impulsiveness, on the other hand, was a challenge that sometimes led to conflicts, but impulsiveness with verbal or behavioural expressions never threatened the friendship. Their friends understood and forgave them, according to those with impulsive behaviour, so after a while, everything was okay again, underscoring the necessity and nature of friendship (Silk, 2003).

This indicates that the relationship was built on emotional sharing, which Carsaro suggested was basic in friendships (Øksnes, 2015). The friends knew each other and supported each other when necessary. Furthermore, the students characterised their friendships as a source of happiness. Stories about hyperactivity and silliness typically described joy and fun in the togetherness. Such happiness is considered by Corsaro as another active ingredient in friendships (Øksnes, 2015).

The findings contrast former studies (Gardner & Gerdes, 2015; Hoza, 2007; McQuade et al., 2014) with a problem-oriented view in exploring peer relationships. Moreover, the findings definitely oppose Hoza's (2007) words intending that peer problems were black shadows always following a child or adolescent with ADHD symptoms. On the other hand, recent publications (Marton et al., 2015; Tegtmejer, 2018) support the present findings by demonstrating a more positive view in analysing and commenting upon the behaviour of students with ADHD. I will likewise highlight the review by Becker and colleagues (2012), as their research contributes to basic knowledge on peer relationships; concluding that internal as well as external problems apparently do not affect the friendships of children with ADHD symptoms.

In accordance with most Norwegian adolescents (Bakken, 2018), all students clearly expressed that their school well-being was fine. They were satisfied with their daily lives, although some had personal challenges with a quickly changing mood or challenges outside school. It is interesting to notice that none mentioned any of the core symptoms when they were talking about their well-being. Furthermore, the students never used the word *trust* in the interviews, but it is obvious that mutual trust (Cranston, 2011; Gregory & Ripski, 2008) created the basis for the emotional sharing between peers and

between at least some students and their teachers. With these relationships, I suggest that the students are better equipped to meet challenges. Their well-being and trust in peers and teachers are signs of feeling connected to their school and, are promising for their academic achievement and good health, as pointed out by Monahan et al. (2010). Perhaps Wong and colleagues (2018) are right when they suggest that underestimation of ADHD symptoms is actually beneficial to emotional health?

Strengths and Limitations

The United Nations Convention on the Rights of the Child states that every child has the right to express their thoughts and opinions. This suggests the need to let children and adolescents tell their own stories, as done in the present study. It is the students' experiences, thoughts and opinions that I put forward. I consider this bottom-up perspective a strength of the research.

Another strength is the essential knowledge brought to the table, possibly by the pragmatic design. The participants shared one criterion: namely, harmful concentration problems at school. Otherwise, they were different individuals, some with stronger and some with weaker symptoms compatible with ADHD regardless of whether they had a diagnosis label or not. This may reflect the situation in many public classrooms, and therefore the findings are interesting. Other researchers, however, might see the heterogeneous group as a limitation. In line with Kaidar and colleagues (2003), I found no substantial differences in symptoms between participants diagnosed with ADHD and those without this diagnosis. Others (Gau et al., 2010; Klimkeit et al., 2006; Wiener et al., 2012) have reported differences between those groups, but these reports may rely on quantitative samples showing statistically significant differences despite small estimate differences suggesting minimal impact in the real world.

The students seemed to answer honestly. They did not hide emotional information. Although none of the students knew the word *impulsiveness*, those who had personal experiences spoke freely about their short fuses and unwanted behaviour. Likewise, some students mentioned happiness related to high levels of activity, and others talked about hard days because of difficulties sleeping at night. At the same time, we must be aware that some citations may be coloured by positive bias, as is often found in the reflections of adolescents with ADHD (Wiener, 2012).

The pragmatic design of the study may reflect typical classrooms and thereby give valuable insight to local communities. Although the small number of 12 participants is a limitation in terms of making strong conclusions, the findings may give rise to new ideas.

Conclusion

All 12 participants had concentration problems that harmfully influenced their learning at school. Otherwise, the group of students was heterogeneous in age (10–16) and in respect to having an ADHD diagnoses or not. The qualitative analysis showed no significant differences in terms of inattentiveness, levels of activity, impulsiveness, friendship or well-being between the six students who were diagnosed with ADHD and the others. Furthermore, the ADHD label did not seem to affect the formation of identity in students diagnosed with ADHD, and reasons for this is discussed.

The results indicate the need for teachers to know each student with symptom-like behaviour of ADHD individually in order to be able to give valuable support and guidance related to concentration problems, high levels of activity or impulsive behaviour. Furthermore, schools and teachers should be aware of the possible effects of the labelling or non-labelling of their students. The students' teachers in the present study may have avoided labelling, as those students who had an ADHD diagnosis were often unaware of the label. This opens the space for reflections in the school systems related to identity formation in students. The topic of identity formation in students with symptom-like behaviour of ADHD calls for more research, however, and schools as well as communities will welcome effective interventions.

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Spanish Teacher Education Students' Values and Satisfaction with Life

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Spanish Teacher Education Students' Values and Satisfaction with Life

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Abstract

The main purposes of this study were to describe teacher education students' values and degree of satisfaction with life, to analyze whether any differences by educational program, gender or living standard and to analyze the association between values and satisfaction with life. A total of 565 students of teacher degree programs (girls 415 (73.5%)) answered a self-administered questionnaire composed by two validates scales about their values (Portrait Values Questionnaire (PVQ) and satisfaction with life (Satisfaction with Life Scale)). The results showed that the most important values were self-direction, benevolence and hedonism, while the least important values were power, tradition and achievements. Females reported higher importance for benevolence, universalism, self-direction, stimulation, hedonism and security. Males reported higher importance for power. Students who live with family reported also more high values for power. Concerning satisfaction with life, it was associated to higher values of power. Current intervention programs have focused different approaches by gender and living standard. Programs focus on increasing satisfaction with life should consider the values structure of students.

Keywords: values, satisfaction with life, teacher education students, gender.

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Valores y Satisfacción con la Vida en Estudiantes de Magisterio en España

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Resumen

Los objetivos principales de este estudio fueron describir los valores y grado de satisfacción con la vida de los estudiantes del Grado de Maestro para analizar posibles diferencias entre programas, género o configuración familiar; y la correlación entre valores y satisfacción con la vida. Un total de 565 estudiantes de los Grados de Educación (415 chicas (73.5%)) contestaron un cuestionario auto-administrado compuesto por dos escalas validadas sobre valores (Portrait Values Questionnaire (PVQ) y satisfacción con la vida (Satisfaction With Life Scale)). Los resultados mostraron que los valores más importantes fueron autodirección, benevolencia y hedonismo, mientras que los menos importantes fueron, poder, tradición y logros. Las alumnas destacaron la benevolencia, el universalismo, la autodirección, estimulación, hedonismo y seguridad. Los varones destacaron el poder. Los estudiantes que viven con familiares también concedieron más relevancia al poder. La satisfacción con la vida está asociada al poder. Los programas actuales de intervención se han centrado en aproximaciones diferentes según género y configuración familiar. Los programas centrados en la satisfacción con la vida deberían considerar los valores del estudiantado.

Palabras clave: valores, satisfacción con la vida, estudiantes magisterio, género.

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Nowadays, society is changing due to the present social, political and economical juncture (Gimeno, 2002). This time of crisis shows as an opportunity to rethink the aims that are to be achieved through the educational system, in which the work of the teacher is crucial (Moreno, Zomeño et al., 2013). According to Alsup (2008) the identity of a teacher will be linked to their activities in the classroom and the relationship that he or she establishes with the students. Consequently, a great deal of the pedagogical content is being transmitted through this relationship (Grosemans et al., 2015). In this teacher's identity, their values, being defined as the qualities of objects which have polarity and a hierarchical order (Frondizi, 1997) are irretrievably expressed. According to Brunso, Scholderer and Grunert (2004, p.196) "values constitute the most abstract to level of cognition, not specific in relation to situations or objects, but influencing the perception and evaluation of these". Schwartz (2012) states that values are beliefs linked to affect, since they instill feelings as well as guiding our actions.

Schwartz (1992), working on Rokeach (1973) assumptions, establishes some dimensions in which the values could be grouped: benevolence, universalism, self-direction, stimulation, hedonism, achievements, power, security, conformity and tradition. These values are grouped in four dimensions: openness to change, self-transcendence, conservation and self-enhancement at shown in Figure 1. In addition, he also explained that values also serve as criteria or standards for the development of our behavior (Schwartz, 2012). Scheler (2000) affirms that values are invariable, independent of goods, linked to emotional aspects of individuals and not captured by reason or intellect.

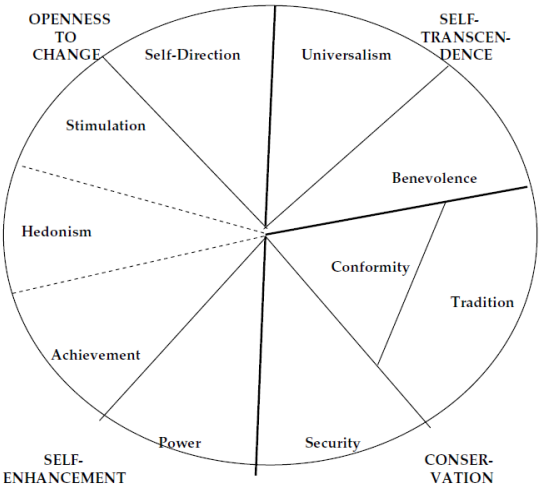

Figure 1. Schwartz's values model (Schwartz, 2012)

Thus, the quality of objects with polarity that is strongly linked to personal beliefs and which guides actions is a fundamental element in the study of teacher education students, since knowledge about the values can help us make predictions about the future of education (Huertas-Delgado, 2011). We cannot forget that education process is often conditioned by a number of factors, and these primarily rest on "beliefs and values which permeate education" itself (Barlett and Burton, 2016, p. 7). In that case, future teachers will be able to carry out their teaching tasks and their educational action, according to their particular values, and this will be linked, in turn, to their own personalities, gender identity and living standard.

Currently, there is a shortage of ethical and values content in initial teacher training (Thornberg and Oğuz, 2016). This concern is consistent with the growing interest in recent years in determining a hierarchy of values both globally (World Values Survey, 2014) and in Europe (Ros and Schwartz, 1995). In the specific case of Spain (Fundación Santa

María, 2010; Megías et al, 2006), studies focusing on the university level (Gervilla, 2010) have sought to identify students' values (Cortés et al., 2008; Elexpuru, Villardón and Yániz, 2013; Imaz, 2010). Studies of what values are held by young people (Megías et al, 2006), and more specifically by future teachers (Elexpuru et al, 2013), lead us to suggest that there is a need for indepth studies to discover what values are held by teacher education students and the relationship between these values and satisfaction with life and gender. Despite everything, it is a priority to study how these values may have changed and how they are related to life satisfaction, furthermore because the values will be according to different factor as the personal and social situation and the cultural background of the person (Schwartz, 1992). On the one hand, the current research tries to show a wider understanding of the students´ values, and that is why we tried to link this perspective to the Educational program and to the gender, to research on a more particular vision about the most striking values in future teachers. On the other hand, this study could offer an original and new perspective on the relation of values with living standard and the association between values and satisfaction with life. As a matter of fact, we can consider that gender construction is often conditioned by social models, and these, in turn, could change depending on living standard owe to this can be an indicator for the different socio-economic factors. Personal values will be developed (and will evolve) according to the studies or work carried out by the respondents (Aguilar-Luzón, Calvo-Salguero and García-Hita, 2007). Furthermore, University studies tend to focus not only on theoretical issues, but also on the comprehensive development of the person (Fernández-Río, Cecchini and Méndez-Giménez, 2014). Babowik, Basabe, Páez, Jiménez y Bilbao (2011) in their research on the relation between values and well-being, show how there is a significant correlation between individual values and life satisfaction. Satisfaction with life is related to well-being, and studies in this area have tended to establish a connection with happiness for over a decade (Diener and Seligman, 2002). Life satisfaction and happiness are so strongly connected that their meaning overlap, in the sense that life satisfaction involves a rating of many different aspects in a given individual´s life and happiness (Diener, Napa y Lucas, 2003). Nonetheless, authors like Chui and Wong (2015) differ from these assumptions. They

affirm that life satisfaction and happiness are completely different concepts. Life satisfaction calls for a more extensive achievement whereas happiness is a shallower notion. Furthermore, life satisfaction is a subjective indicator of wellbeing and it depends on the quality of one's own experiences (Arita Watanabe, 2005).

In Spain, the Foundation for Help Against Drug Addiction (FHAD, 2010) attempted to find differences between men and women in their satisfaction with life. Other studies have investigated the influence of family configuration (single-parent or two-parent) and on young people´s satisfaction (Montoya and Landero, 2008) but they didn't address the current living standard. Yet, authors like Lahelma and Gordon have pointed out how leaving the parental family has a strong impact on a psychological level, especially on young people´s dreams (2010). These authors have assessed the fact that young people´s emancipation involves more independence and more responsibilities and, consequently, a change in their value system ¨A concept like ´independence´ embodies particular moral and political values¨ (2010, p. 377). Recent studies (Moreno, 2018; Seiffge-Krenke, 2006; Cinamon, 2006) indicate that assuming everyday responsibilities is something that makes a difference between those young people who have moved away and those that still stay at their family home and it marks a transition to adulthood.

As for gender´s dissimilarities, there are some differential behaviors regarding the psychological and social wellbeing (mainly focused on student population). A research on students from Buenos Aires showed that women had higher levels of life satisfaction than men, especially in psychological and social wellbeing (Zubieta y Delfino, 2010). By the same token, a research on higher education students in Lima confirms women´s higher levels of life satisfaction (Velásquez et al., 2008). Another study conducted in Buenos Aires reveals that women show a better level of psychological wellbeing and, therefore, a higher possibility to develop to their fullest potential (Zubieta, Muratori y Fernández, 2012). However, according to Chui and Wong, even though women in Hong Kong show more satisfaction with life, men show a higher level of happiness (2015).

Satisfaction with life was also studied in a university environment that sought to describe to what extent students were satisfied (Pérez-Escoda, 2013) and whether they had motivational profiles that could be related to

satisfaction with life (Moreno and Silveira, 2015). Furthermore, life satisfaction is also related to family unrest at a young age and adolescence. Numerous studies state that family conflicts are related with lower levels of subjective wellbeing and, therefore, with lesser life satisfaction. Family conflicts are related to drug abuse, (Chávez et al., 2005) to the rise of depressive episodes among young people (Galicia, Sánchez y Robles, 2009) to the limitation of personal autonomy (Allen et al., 1996) and to the growth of antisocial and agressive behaviors (Cerda, Cerda y Store, 2008). However, other authors (Steinberg, 2001; Smetana, Campione-Barr y Metzger, 2006; Luna, 2012) highlight the low rate of conflicts between parents and their children, in spite of what the most assumed social preconceived notions.

Values and satisfaction are variables that have been extensively and thoroughly studied in recent decades but, to the best of our knowledge, there is no Spanish evidence about the relation of values and satisfaction with life, and satisfaction with life regarding gender or living standard in university students. Therefore, studies that analyze these issues in specific populations are needed if an overall picture of the situation is to be constructed. The main objectives of this study are: to study the values and satisfaction with life of teacher education Spanish students (early childhood and primary), to analyze differences in these variables by gender and models of family and to determine the relation between satisfaction with life and values.

Method

Study Design and Participants

This study involved 565 students (150 men and 415 women) at the " Teacher Training Center La Inmaculada" (University of Granada) who were studying in teacher training degree programs. The data were collected between January and April 2016. Authorization was requested from the Dean of the center, and an explanation of the project was provided both to the professors and to the students. The students who participated in the study filled out a self-administered questionnaire on paper at the end of one of their class sessions. The duration of the questionnaire's answer was ten minutes. Informed consent was asked to students prior to participate in this study and

the Ethics Practices of the University of Granada were followed (approved on April 2014).

Questionnaire

Students were asked about general socio-demographic characteristics (gender, educational program, year, parents' level of education), current residence in relation to their family (students were categorized as "family home" if they live with their parents, children or partner, and "non-family housing" when they live alone or in a student's apartment).

Values

The questionnaire was based on models of values and questionnaires developed by Schwartz (2003). Specifically, in this study we used the short version of the PVQ (Schwartz et al., 2001). It was finally composed by 42 questions and the participants had to select the grade of agreement (Likert Scale from 1 to 6), showing a reliability of 0,66 α (Schwartz et al, 2001). The questionnaire allows for eight value dimensions; benevolence, universalism, self-direction, stimulation, hedonism, achievements, power, security, conformity and tradition. The PVQ has been adapted and used in Spanish population before (Huertas-Delgado 2011, Bobowik et al. 2011). The Conbach's alpha for the overall questionnaire, consisting on 42 items was α=0.86. According to these results, the questionnaire PVQ presented a good internal consistency in this Spanish sample.

Satisfaction with Life

The Satisfaction With Life Scale was used to assess the satisfaction with life (Diener and Griffin, 1985). This scale showed a reliability above 0.90 as measured by Chronbach's Alpha (Diener, Inglehart, and Tay, 2013; Eid and Diener, 2004). It has been used in Spanish and applied to a university population in various studies (Montoya & Landero, 2008; Tamara, Canales, and Domínguez, 2014). The questionnaire consists of five items (my life is the way I want it to be, I have got the important things I want in life, I am satisfied with my life, if I could live my life over I would change almost nothing, and the conditions of my life are excellent). The answers to these questions enable a happiness indicator to be calculated on a Likert scale of 1 to 7, with a maximum of 35 points. The questionnaire was used in Spanish,

after conducting a back-translation process. For that, two experts translate the questionnaire: one expert translated the Satisfaction with Life Scale to Spanish and the other expert translated it back to English. Finally, the two experts agreed through consensus the final version used. The Conbach's alpha for the overall questionnaire, consisting on 42 items was α=0.91. According to these results, the questionnaire the Satisfaction With Life Scale presented a very good internal consistency in this Spanish sample.

Statistical Analysis

Socio-demographic characteristics were analyzed using descriptive statistics. The results are presented as means and standard deviations for continuous variables and as frequencies (%) for discrete variables. Differences in values and satisfaction with life were analyzed by educational program, gender and living standard using a one-way ANOVA test. A linear regression was fitted to analyze the association between values and satisfaction with life, using satisfaction with life as the dependent variable and the eight value dimensions as the independent variables, adjusted by gender. All analyses were calculated using the SPSS statistical program (20.0 for Windows), and the level of significance was set to $p < 0.05$.

Results

The research participants were mostly female (73.5%) and generally lived with their families (61.3%) (Table 1). About 66% of the students' parents had not completed a university degree. There was a greater proportion of women in the Childhood Education degree and a lower proportion of third-year students. The most important values for the Childhood Education and Primary Education surveyed students were self-direction, benevolence and hedonism, while the least important values were power, tradition and achievements (Figure 2).

Table 1

Descriptive data of students in Primary and Childhood Education programs

	Total n= 565 n (%)	**Primary** n=357 n (%)	**Childhood** n=208 n (%)	**P**
Gender				**<.001**
Male	150 (26.5)	131 (87.3)	19 (12.7)	
Female	415 (73.5)	226 (54.5)	189 (45.5)	
Year				**<.001**
1	127 (22.5)	65 (51.2)	62 (48.8)	
2	151 (26.7)	94 (62.3)	57 (37.7)	
3	170 (30.1)	130 (76.5)	40 (23.5)	
4	117 (20.7)	68 (58.1)	49 (41.9)	
Father's education				.083
No degree	361 (65.5)	220 (60.9)	141 (39.1)	
University degree	190 (34.5)	130 (68.4)	60 (31.6)	
Mother's education				.184
No degree	372 (66.4)	228 (61.3)	144 (38.7)	
University degree	188 (33.6)	126 (67)	62 (33)	
Living situation				.437
Family home	344 (61.3)	222 (64.5)	122 (35.5)	
Non-family housing	217 (38.7)	133 (61.3)	84 (38.7)	

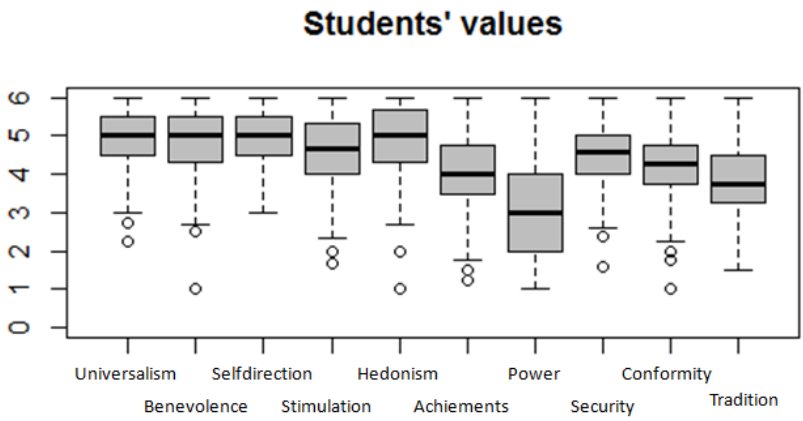

Figure 2. Students' values

Values and satisfaction with life reported by students related to Education program, gender and living standard, are shown in Table 2. Students of Primary Education presented higher importance to power and achievements (both $p<0.05$). There were differences in values by gender and living situation. Significant differences by gender were found in hedonism, security (both $p <0.05$), universalism, self-direction, stimulation ($p <0.01$ for all three), benevolence and power ($p = 0.000$ for both). Women had higher results than men as far as benevolence, universalism, self-direction, stimulation, hedonism and security were concerned. Males reported greater importance to power than females. Power also showed relevant differences ($p = 0.010$), depending on the student's living standard. Those who lived with their families gave greater importance to power than students not living with their families.

Table 2

Values by Education program, gender and living standard

	Primary Education	**Childhood Education**	**p**	**Male**	**Female**	**p**	**Family home**	**Non-Family Housing**	**p**
	n=354 mean (SD)	n= 203 mean (SD)		n=150 mean (SD)	n=407 mean (SD)		n=344 mean (SD)	n=217 mean (SD)	
Values									
Benevolence	4.93 (.74)	5.01 (.72)	.302	**4.77 (.74)**	**5.03 (.72)**	**<.001**	4.93 (.71)	4.99 (.76)	.149
Universalism	4.82 (.74)	4.91 (.75)	.147	**4.67 (.82)**	**4.92 (.70)**	**.003**	4.85 (.69)	4.58 (.82)	.432
Self-direction	4.97 (1.07)	4.98 (.67)	.858	**4.88 (1.45)**	**5.00 (.67)**	**.001**	5.01 (1.07)	4.92 (.71)	.480
Stimulation	4.59 (.88)	4.62 (.93)	.818	**4.44 (.89)**	**4.66 (.89)**	**.008**	4.57 (.89)	4.65 (.91)	.290
Hedonism	4.92 (.82)	4.95 (.79)	.746	**4.81 (.88)**	**4.98 (.77**	**.049**	4.94 (.76)	4.65 (.91)	.461
Achievements	**4.10 (.91)**	**3.91 (.98)**	**.019**	4.16 (.88)	3.98 (.95)	.071	4.02 (097)	4.05 (.86)	.711
Power	**3.22 (1.15)**	**2.74 (1.07)**	**<.001**	**3.40 (1.10)**	**2.91 (1.13)**	**<.001**	**3.14 (1.1)**	**2.90 (1.19)**	**.010**
Security	4.51 (.76)	4.54 (.82)	.570	**4.38 (.77)**	**4.57 (.77)**	**.023**	4.51 (.78)	4.52 (.77)	.977
Conformity	4.27 (.81)	4.29 (.87)	.757	4.21 (.86)	4.29 (.82)	.377	4.27 (.84)	4.28 (.82)	.725
Tradition	3.74 (.82)	3.76 (.94)	.862	3.71 (.85)	3.76 (.87)	.541	3.79 (.88)	3.70 (.83)	.258
Satisfaction with Life	19.14 (8.01)	19.87 (7.67)	.293	19.33 (7.43)	19.44 (8.04)	.860	19.16 (7.74)	19.81 (8.17)	.421

The linear regression analysis showed a relationship between satisfaction with life and the value structure of the student (Table 3). Satisfaction with life is related to the value power (β = 1.345, CI 0.584–2.038). The students who gave more importance to power obtained higher satisfaction with life scores.

Table 3

Association between satisfaction with life and values

	Satisfaction with life	
Values	β (95% CI)	p-value
Benevolence	(0.675; -0.657, 2.006)	.320
Universalism	(0.219; -0.968, 1.406)	.717
Self-direction	(0.245; -0.534, 1.024)	.537
Stimulation	(-0.042; -0.915, 0.832)	.925
Hedonism	(-0.539; -1.508, 0.431)	.275
Achievements	(-0.128; -1.104, 0.848)	.797
Power	**(1.311; 0.584, 2.038**)	**<.001**
Security	(0.542; -0.575, 1.659)	.341
Conformity	(-0.812; -1.844, 0.221)	.123
Tradition	(0.454; -0.472, 1.380)	.336

Discussion

The key findings of this study were: students reported a higher importance to self-direction, hedonism and benevolence and less importance to power and tradition. The values were different regarding sociodemographic characteristics (for instance, female students reported higher importance to benevolence or universalism); and, higher satisfaction with life was associated with higher importance to power.

The results showed that of the values analyzed in the study, these teacher education students hold hedonism as one of their most important values.

This is consistent with the longitudinal series of reports published by the Santa María Foundation on young people in Spain (2010). This report noted in particular on the subject of values that Spanish youth are hedonists, less rule-breaking than in the past, and pessimistic about the future in terms of their potential for success or of having a good quality of life. The aspects they valued most were family, health and friends, with aspects such as free time, leisure and the desire to earn money being less important to them. In this sense, we could take into account the perspective of Pérez-Jorge, Barragán and Molina-Fernández (2017), who underscore the importance of education values in the promotion of positive attitudes in a holistic way and concerning to human values.

Benevolence was important for students. In this sense, Cortés et al. (2008), showed that students in teaching degree programs tend more to hold values of benevolence and universalism, being inclined towards proactive and prosocial behavior. In contrast, the data collected by Parenkov, Parenkov and Rubtcova (2015) showed the importance of altruism as a key element in the professional identity of teachers. In relation to teachers' self-identity, Beauchamp and Thomas (2009) argue that a teacher's self-image, whether personal or social, is very important, since it will be projected and will influence the students.

The different socio-educational changes may contribute to tradition being considered one of the less important values, as stated in this study. According to Imaz (2009), young people place more importance on values related to everyday life and the people closest to them. Tradition is related to the importance of family and friends as center of life, while values related to political change or selfdirection are given less priority, as in other previous reports by the Santa Maria Foundation (2000, 2005). This trend differs from the traditional image of the teacher, which evokes the vocation and role of the teacher as a political agent. It may be due in part to the status of education since the third educational revolution (as Esteve (2003) termed it), which was characterized by education up to age 16 being made compulsory, and by the societal changes this entailed. Esteve (2003) points out that education is no longer a privilege (in the 1970s, only 9% of students finished high school in Spain), but rather that it became an obligatory element that in effect helps carry the development of society forward but also brings new problems and

conceptions to the educational system. According to Sánchez–Lissen (2003), this has influenced a new vocational profile of teacher education students. After going through a decision-making process, they enter the program with different motivations than before, but this does not prevent them from successfully concluding their teaching degree and discovering a love for teaching along the way. It is important to deepen the importance of different values to correctly profile teacher education students and develop the most effective training programs.

Women reported higher importance to benevolence and universalism, due to its greater relationship with community or universalist values, such as a feeling of protection toward the most needy – especially children – equality, solidarity or tolerance and respect, in contrast to the individualistic values prevalent in men (Robles, 2015, Cortés Pascual, 2009). For women, from a traditional perspective, the teaching profession has been seen as a more professionalized extension of the task of caring for children, since it is usually more focused on the practice of teaching than on the vision of the teacher as a social agent. San Román (2015) speaks of the 'social mothers of the village,' referring to women teachers in Spain during the period of National Catholicism in relation to their predominantly collectivist values and their strengthening of social ties. Education in Spain has been closely linked to Catholicism and, according to Moreno (2015), Catholic discourse extols a type of dignity for women and a woman's role within the family and society as the guarantor and defender of religious values and beliefs. It gives women an opportunity for active participation in the life of the Church through religious associationism, but still linked in apparent contradiction to their subordination to male ecclesiastical authority. In the same vein, Morcillo (1988) points out that the woman's traditional workplace, supported by a Catholic vision, was the home: motherhood and family were her primary occupations, and she was considered the basic pillar of the Catholic family when it came to the defense and transmission of beliefs.

Selfdirection and stimulation were also higher in women than their male counterparts. These differences between men and women, in the interplay between more traditional models and other models virtually opposite to them, they also could be seen in the results showing that benevolence and universalism are equally high among women, while these values are associated with the traditional female construction of gender, being linked to

the cultivation of social relationships (Moreno, 2015). However, other studies suggested that women's transition from the private household sphere and from social invisibility to a normalized status in the labor market, earning income and having greater access to positions of responsibility – that is, to a status overall more equal with men – could lead to women having a greater desire for social recognition. Women's ascent in society, as Campo Ladero (2003) says, has led to a change in their social and family role in recent decades, especially in traditional women's roles due to their ascent and greater social visibility. Torres (2010) argues that the desire for recognition is directly related to the concept of self and to social support. In the current social structure based on patriarchy, women have been made invisible, resulting in inequality with respect to men (Moreno and Avendaño, 2012). The desire to break this traditional role may be one of the reasons why women seek this social recognition.

On the other hand, men reported higher importance to Power than women. In this same vein, Schwartz & Rubel-Lifschitz (2009) support the idea that power and achievement are inherent values to men, according to their research, based on the analyses of students belonging to 68 different countries. Nevertheless, there are divergences we should take into account. On the one side, the cultural and social context: United States versus Europe. Apart from that, this graduated population analyzed by the researchers belonged to science studies, and we must underscore that initial motivations and goals could be differing if we consider professional future: transmitting values may be the key for the main pursuit of future teacher´s life. At this regard, these authors underscore that education and the effects of gender education contribute to shorten differences in the perception of values according to gender.

It is notable that the value of hedonism (closer to individualism and opposed to collectivism) is also predominant in women. This may be related to the consolidation of postmodern values, linked in turn to aesthetic demands, since the values most strongly linked to the construct of femininity are those related to strengthening relationships and interpersonal ties. Ryckman and Houston (2003) found no significant gender differences in these values, while in the present study there were more women associated with collectivist and moral values, which was also the finding in the studies by Comas (2003) and Moreno (2007).

Cultural factors may exert their influence, as far as family importance as a main value is concerned, on university students. This idea is supported by Campaña, Giménez and Molina (2015), who consider that social roles and family relevance is deep-rooted in families belonging to cultures where this is a basic value. In this sense, we could find divergences between our findings and the thesis supported by these researchers

These values are part of the construction of identity, and they also include gender identity; that is, the social construct that associates different attitudes, behaviors and values with male roles than with female roles (Ramos, 2015). In this study we have linked the female role to women and the male role to men and have found differences. These can be related to aspects that each stereotyped gender marks as its own, differentiating between male and female to achieve life satisfaction (Chui et al., 2013).

In relation to the Education program, students of Primary Education reported higher importance to achievements and power than Early Childhood Education students. In this way, there are evidences that the educational program conducted determines largely teachers' beliefs and values as well as the development of attitudes and habits (Chroinin and O'Sullivan, 2014).

On power and its relationship to living standard, in this study students who lived with their families placed more value on power than those who lived outside the family home, since the latter have been released from parental control and enjoy greater freedom. In this direction, we must underscore that families exert and importance influence on the relevance young people attach to fundamental values (Cortés-Pascual, Cano-Escoriaza, & Orejudo, 2014).

Satisfaction with life (Diener, Shigehiro and Lucas, 2003) did not differ by Educational program, gender or living situation. Myers & Diener (1995) found that neither gender, race nor age in themselves are associated with greater life satisfaction. In a similar way, Deb et al. (2019) did not find differences in gender in the context of the Indian university students. Even spirituality, an innovative component they introduced, did not make any difference. On the contrary, the researchers underscore that good interpersonal relations and interactions contribute to increase the level of satisfaction with life, Furthermore, and taking into account specifically the Education Degree Students, Cabras & Mondo (2018) conducted a study to

analyze the importance of age and gender in the acquisition of coping strategies for new university students. At this regard, they compare values, attitudes and satisfaction with life in this sample. The results they obtained concluded similar outcomes to our research: no gender differences were found in satisfaction with life. Only age could become a conditioning factor in this case. However, recent studies have taken this issue further. In this same vein, Denegri Coria et al. (2018) carried out an analysis with a University sample in Chile to measure satisfaction with life in four dimensions: overall, family and friends, context (neighborhood and University) and self satisfaction. The results these researchers obtained showed significant differences in gender. Females tended to be more satisfied with family, friends and university than males. This same circumstance could also be applied to the overall satisfaction. Even though there are convergences between this research and the study we have implemented, we can also find relevant divergences in this regard.

Other studies (Moyano and Ramos, 2007; González and Landero, 2008; Cantú et al., 2010) showed lower life satisfaction among women than men and it may be due to the fact that women are subject to higher levels of stress (Lepp, Barkeley & Karpinski, 2014).

One interesting research, by Hawi & Samaha (2017) added an interesting component: the role of the addiction or high dependence to social media among young university students. The researchers highlighted there is an unavoidable link between dependence and low satisfaction with life. In this case, the authors also found important differences between males and females. Women expressed less satisfaction in case of more dependence to social media. This element could be an interesting perspective to take into account in future researches. Therefore, further studies in different population are necessary to fully understand the satisfaction with life relation with gender. It may also be interesting to conduct a longitudinal analysis to check if this trend continues or changes over time. Furthermore, satisfaction with life is associated to values. Students who reported higher importance to power presented higher satisfaction with life. This is found to be related to a study which reported that society currently finds life satisfaction though the acquisition of material goods (Burroughs et al., 2002). This surprising association is important to

determine the values we must focus to increase satisfaction with life. In any case, more studies focused on the association between values and satisfaction with life would be interesting to confirm this relation.

The study presents some limitations merit to be mentioned. The first one is that since the subjects are teacher education students, and given the feminization of teaching, as documented by authors such as San Román (2010), Mínguez (2010), Ballarín (1994) and Flecha (2000), differences may not be so strong, since classroom environments are highly feminized. A high level of feminization or masculinization of groups may lead to an identification with the predominant values, both for men and women in the group, or it may function in the opposite way, to highlight gender differences which may reinforce male and female identities. The second limitation is that it is inherent in the nature of the study that measurement of values or life satisfaction involves quantifying personal beliefs and constructions, which is difficult to be done objectively; however, the high validity of the questionnaire used in this study may moderate this limitation.

First of all, the limited sample of only one University makes difficult to generalize the results. Moreover, longitudinal studies may be important to establish the direction of the association between power and satisfaction with life. On the other hand, the valid instruments used to assess the values and satisfaction with life is a strength to correctly assess these topics. In this same vein, it could also be interesting to analyze the relations between age and satisfaction with life, and the role of social backgrounds in the acquisition and development of coping strategies. These skills may show, or at least measure, the level of satisfaction with life university students along the time. This turns into a priority to know their needs, and develop, in turn, adequate programs to implement in future. Combining these with qualitative tools such as interviews or discussion group and semi-structured surveys could provide more information on the reasons for the answers given. This could bring us closer to a real reading of the underlying factors (Rodríguez et al., 2014).

Conclusion

In the present study, higher values reported by students were selfdirection, hedonism and benevolence, and they were influenced by Educational program, gender and living standard. Gender differences presented the higher differences in values. On the other hand, satisfaction with life was associated with values, more importance to power was related to higher satisfaction with life. Future interventions in University context about the development of certain values must take into account the current living standard of students, their gender, and must be different according to the Education program where students are involved. Furthermore, programs focused on the increasing of satisfaction with life must take into account the students' values hierarchy, specially the importance of power.

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Probing the Underlying Structure of Modern Expectancy-Value Theory in Multicultural Education: A Bayesian Exploratory Factor Analysis

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Probing the Underlying Structure of Modern Expectancy-Value Theory in Multicultural Education: A Bayesian Exploratory Factor Analysis

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Abstract

Expectancy-Value (EV) theory has been widely used in a plethora of domains except for multicultural education, a distinct and critical field in many countries due to increasing student diversity. In light of the domain-specific nature of the EV theory and the discrepancy between the theoretical framework and empirical models found in previous studies, the purpose of the present study was to explore the factors of the EV theory in multicultural education. Participants were 187 college students who completed the Multicultural Expectancy-Value Scale (EVS). Exploratory factor analysis (EFA) with Bayes estimation and GEOMIN rotation resulted in two factors: Value and Expectancy. The two factors had a positive significant correlation of .42, $p<.001$. Participants with a Master's or Doctoral degree had significantly higher Expectancy beliefs in multicultural education than those with a Bachelor's degree ($t(47.727)=-2.90$, $p<.01$). Although our finding was consistent with the major tenets of the theory that expectancy and value beliefs are two primary motivating factors, it did not fully support the theoretical model, indicating a more parsimonious factor structure may be more appropriate. The distinct factor model in our study suggests a need for further research in examining the structural validity of the EV theory in multicultural education.

Keywords: Expectancy-Value (EV) theory, multicultural education, Bayesian exploratory factor analysis, value, expectancy.

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Probando la Estructura Subyacente de la Teoría Moderna del Valor de la Expectativa en la Educación Multicultural: Un Análisis Factorial Exploratorio Bayesiano

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Resumen

La teoría de la expectativa de valor (EV) se ha utilizado ampliamente en una gran cantidad de dominios, excepto para la educación multicultural, un campo distinto y crítico en muchos países debido al aumento de la diversidad estudiantil. A la luz de la naturaleza específica del dominio de la teoría EV y la discrepancia entre el marco teórico y los modelos empíricos encontrados en estudios anteriores, el propósito del presente estudio fue explorar los factores de la teoría EV en la educación multicultural. Los participantes fueron 187 estudiantes universitarios que completaron la Escala de valor de expectativa multicultural (EVS). El análisis factorial exploratorio (EPT) con la estimación de Bayes y la rotación de GEOMIN dio como resultado dos factores: valor y expectativa. Los dos factores tuvieron una correlación significativa positiva de .42, $p < .001$. Los participantes con maestría o doctorado tenían una expectativa significativamente más alta ($t(47.727) = -2.90$, $p < .01$) creencias en la educación multicultural que aquellos con un título de bachiller. Aunque nuestro hallazgo fue consistente con los principios principales de la teoría de que la expectativa y las creencias de valor son dos factores motivadores principales, no apoyó completamente el modelo teórico, lo que indica que una estructura de factores más parsimoniosa puede ser más apropiada. El modelo de factor distinto en nuestro estudio sugiere la necesidad de más investigación para examinar la validez estructural de la teoría EV en la educación multicultural.

Palabras clave: Teoría del valor de la expectativa (EV), educación multicultural, análisis factorial exploratorio bayesiano, valor, expectativa.

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As an important motivation approach to learning, Expectancy-Value (EV) theory (Eccles & Wigfield, 2002) has been widely used in a plethora of fields including physical education (Grasten, 2016), music education (Burak, 2014), and STEM education (Lykegaard & Ulriksen, 2016), all of which consistently show that higher expectancy of success and task values tend to result in more motivation, persistence, resilience, and success; however, to date, no known studies to date have examined the utility of EV theory in multicultural education. To meet the needs of increasing student diversity and globalization and promote a more equitable and just education, multicultural education has become essential in the United States for almost four decades (Banks, 1981) as well as in other countries such as Malaysia and UK (Phoon, Abdullah, & Abdullah, 2013; Sleeter, 2018). Multicultural education is defined as a field of study on various diversity topics including but not limited to race and ethnicity, socioeconomic status, language, religion, and sexual orientation to increase educational equity for all students (Banks & Banks, 1995). It focuses on celebrating cultural differences while also recognizing the need to challenge all forms of discrimination. Given the proven important roles of EV theory in many disciplines as documented in prior studies aforementioned, it merits research on its utility in multicultural education due to its domain specific nature (Eccles et al., 1983). Therefore, this study was an attempt to bridge the gap between motivation and multicultural education by exploring the structure of EV theory in the context of multicultural education.

Previous study results suggested a discrepancy between the EV theoretical framework and empirical models (Lykkegaard & Ulriksen, 2016; McCormick & McPherson, 2007; Trautwein et al., 2012). For example, in a study on students' longitudinal reflections about their choice of a STEM education, Lykkegaard and Ulriksen (2016) questioned the validity of the EV model as it did not agree with their qualitative results or predict students' choice considerations. In another study (Au, 2006), only interest and utility value were found to fit the sample population of 97 students aged 7 to 11 from three elementary schools, hence failure to support the EV model. Given the domain-specific nature of the EV model and the disagreeing empirical factor solutions in previous research findings, the purpose of the study was to explore the underlying structure of the EV theory in multicultural education.

Expectancy-Value Theory

Proposed by Eccles and colleagues (e.g., Eccles et al., 1983; Eccles & Wigfield, 1995, 2002), EV theory was initially situated in mathematics achievement with the proposition that student motivation is jointly influenced by their expectancy of success and values they attached to the task. Eccles et al (1983) defined and measured expectancy of success as the beliefs of children about how well they can do on a particular task. Although it is empirically related to children's ability beliefs, Wigfield and Eccles (2000) argued that it is conceptually different, in that expectancy of success focused more on the future than ability beliefs. The other major component of the theory is task values, consisting of attainment value, intrinsic/interest value, utility value, and cost (Eccles et al., 1983). *Attainment value* addresses the personal importance of doing well on a task based on one's identity. It refers to how important it is for a student to perform well on the task. *Interest value* is the enjoyment one gets from doing the task. In the context of multicultural education, it concerns personal enjoyment and satisfaction that a student derives from learning about human diversity. *Utility value* refers to the usefulness of the task to reach the proximal and distal goals, which is prone to the extrinsic value of learning. Finally, *cost* is conceptualized as a negative component of task value: the negative aspects of engaging in a task or activity, including anxiety, fear, efforts needed to succeed, and lost opportunities to perform other tasks or activities (Burak, 2014). According to the EV theory (Wigfield & Eccles, 2000), expectancy and values are not only assumed to directly influence achievement, but also performance, effort, and persistence.

As a motivational approach to education, expectancy and value beliefs have been widely used in a variety of disciplines such as STEMS education (Abraham & Barker, 2015; Andersen & Ward, 2014), music education (McCormick & McPherson, 2007; Wigfield, 1997), physical education (Zan, Lee, & Harrison, 2008; Zhu, Sun, Chen, & Ennis, 2012), K-12 education particularly in math, English and reading literacy (Durik, Vida, & Eccles, 2006), physics (Abraham & Barker, 2015), and gifted education (Rodgers, 2008). EV beliefs have been shown to predict student enrollment (Abraham & Barker, 2015), STEMS persistence (Andersen & Ward, 2014), choice-making (Durik, Vida, & Eccles, 2006; Guo et al., 2015), and career plans (Jones et al., 2010; Lauermann, Tsai, & Eccles, 2017). Further, Trautwein and colleagues (2012) found that expectancy and value beliefs predicted the

students' performances in math and English differentially, echoing that the EV theory is domain specific.

Expectancy-Value Theory and Multicultural Education

As a result of increasing student diversity in the United States, multicultural education has become essential for four decades (Banks, 1981) to raising diversity awareness and promoting educational equity to ensure all students to learn. In examining the issue of cross-cultural relevance of the expectancy-value theory, Sun and colleagues (2013) found that Chinese and American middle school students differed in their expectancy and value beliefs in physical education, suggesting the important cultural influence on expectancy-value motivation. Similarly, in developing a culturally framed application of Eccles et al.'s expectancy-value motivation model, Rogers (2008) found that race and ethnicity plays an important role in students' expectancy and value beliefs in gifted programs.

However, the utility of EV beliefs in multicultural education has yet to be explored. Although EV theory has been widely used in a plethora of fields including physical education (Grasten, 2016; Grasten, Watt, Hagger, Jaakkola, & Liukkonen, 2015), music education (Burak, 2014), and STEM education (Lykegaard & Ulriksen, 2016), no known studies to date have examined the utility of EV theory in multicultural education.

Instrumentation Studies of Expectancy-Value Theory

Despite the maturity and wide utility of the EV theory, the instrumentation is far less established and further validation studies are needed (Wigfield & Eccles, 2000). In particular, there are several major flaws in the previous instrumentation studies of EV theory to capture expectancy and value beliefs. First, as noted by Eccles and colleagues (1983), much of the empirical work only focused on three of the task value constructs, namely, intrinsic value, attainment value, and/or utility value (Chouinard & Roy, 2008), and cost has been largely ignored in empirical research (Flake et al., 2015). A recent study (Symes & Putwain, 2016), for example, only focused on attainment value using an instrument with less than ideal internal reliability (Cronbach's α = .65). In another measurement study, Zhu et al. (2012) only found partial measurement invariance in physical education between elementary and middle school students. However, the scalar invariance is missing, cost was

not studied, and it is unclear how the measurement would relate to the field of multicultural education. Measurement invariance is critical to the validation of an instrument as it requires that the association of items and the constructs/latent factors independent from group membership or measurement occasion (Mellenbergh, 1989; Van De Schoot, Schmidt, De Beuckelaer, Lek, & Zondervan-Zwijnenburg, 2015). Flake and colleagues (2015) developed an instrument aimed at measuring the cost component of the task values. However, it is unknown how cost would fit in an integrative instrument as a subscale derived from the EV theory.

The cost of multicultural education is well documented in literature. For example, when taking a multicultural education class, students typically experience discomfort and anxiety, a typical emotional cost when their belief systems or unconscious biases are challenged (Jackson, 1999). Another typical cost is the cognitive load and workload students carry (Feldon, Callan, Juth, & Jeong, 2019) in the course of multicultural education when they are expected to carry out diversity projects which involve a lot learning and uncomfortable social interactions as a result of their sensitive nature. Therefore, it is critical to examine cost as a major component in EV theory in multicultural education in the present study.

Second, there has been a lack of integrative instrumentation derived from the well-established comprehensive EV theory. No known instrument thus far is endowed with both expectancy and four value dimensions as posited by the EV theory (Eccles et al., 1983). In a recent study, Heyder et al. (2017) measured task values using single items representing three value components of the expectancy-value model, which only yielded less than ideal internal consistency for the combined measure (Cronbach's $\alpha = .75$). Heyder and colleagues (2017) not only left out the cost dimension, but also approached expectancy through assessing ability self-concept as an independent measure composed of four items. It was unknown whether using an integrative EV measure would have led to the same findings in their study. Similarly, in investigating high school students' competency beliefs and utility value, instead of using an integrative measure based on the EV theory, Chouinard and Roy (2008) used a subscale to assess the competence beliefs in mathematics and another subscale from a different measure to assess students' utility value.

Third, there has been a consistent discrepancy between the modern EV theory and its empirical structure. In one study involving 723 instrumental

music students, McCormick and McPherson (2007) found out the structural model based on the EV theoretical framework had a poor fit to the data, and the four subjective task values and expectancy were all positively correlated with one another. In another study involving a sample of 2508 students at the end of secondary education, Trautwein and colleagues (2012) found high associations between expectancy and value beliefs and somewhat surprisingly, some of the relationships among the value components were weaker than those between the expectancy and value beliefs when the value components were supposed to be more similar to one another than expectancy as posited by the EV theory. The discrepant empirical finding once again raised concerns about the structural validity of the EV theory for the empirical data. More recently, Lykkegaard and Ulriksen (2016) questioned the validity of the EV model due to a discrepancy between the quantitative EV survey results and the qualitative interviews as well as a failure to detect significant changes in the students' educational choice processes, leading to a call for further validation studies of the EV model.

Fourth, as EV theory is domain specific (Wigfield & Eccles, 2000), it is unclear whether the existing instruments measuring expectancy and value beliefs predominantly in other disciplines such as math (Lauermann & Eccles, 2017), reading (Wigfield, 1997), and physical education (Zhu, Chen, & Ennis, 2012) would hold in multicultural education. As expectancies for success, and various task values vary across disciplines (Durik et al., 2006; Wigfield, 1997) and races (Rodgers, 2008), it merits research to examine the underlying empirical structure of EV theory in the field of multicultural education.

The Present Study

In light of the scanty validation research of EV theory, the discrepancy between the EV theoretical framework and empirical models found in previous studies, and domain-specific nature of the EV theory, we endeavored to explore the empirical structure of the EV theory in the context of multicultural education by identifying common factors in college students' perceptions of the expectancy and value beliefs of multicultural education using Bayes exploratory factor analysis (BEFA).

Method

Participants

A total of 187 college students with education majors in the Southeastern U.S. participated in a survey including Expectancy-Value Scale (EVS) and demographic items (all valid observations, with no missing values) as an option to earn course credit. Therefore, the convenience sampling method was employed. IRB guidelines were followed in the data collection process. The majority of participants were females (*N*=153, 81.82%), very typical of the education population makeup in the United States. Most of them identified as White (*N*=118, 63.10%), had a bachelor's degree (*N*=99, 52.94%), came from a hometown with a 10,000-50,000 population (*N*=89, 47.59%), and reported English as the first language (*N*=178, 95.19%). Overall, it is a rather homogenous sample with limited diversity, making multicultural education all the more important in the study context.

Measures

The Expectancy-Value Scale (EVS) contains four items measuring expectancy beliefs and 16 items measuring task values, including three items on attainment value, five items on intrinsic value, four items on utility value, and four items on cost. Most of the items derived from a previously published instrument in math and English (Trautwein et al., 2012), which only included two items each for cost and utility value subscales. We included four additional items (two items each for cost and utility value), suggested by Raubenheimer (2004), to ensure no fewer than three items per subscale. All items were adapted to make them subject specific (e.g., multicultural education). Exemplar items include "I have always been good at cross-cultural communications" (expectancy), "Diversity issues are important to me personally" (attainment value), "I'll need multicultural proficiency for my later life including my career" (utility value), "I enjoy learning about human diversity" (intrinsic value), and "The amount of time I spend on learning about human diversity keeps me from doing other things I would like to do" (cost). Participants responded on a seven-point scale from 1 ("not at all true of me") to 7 ("very true of me"). All negative items were reverse coded to allow consistency in directionality of all items. A higher score on the metric represents a higher expectancy or stronger value belief. All the 20 item scores of EVS from the participants were included in the analyses. Based on previous

research results highlighting the participants' more positive responses to motivation (Yang, 2019), we utilized an unbalanced Likert scale skewing more towards the positive end to allow more variance.

Bayesian Exploratory Factor Analysis

The distribution of survey data was examined by calculating item response frequencies. This procedure allowed researchers to determine the prevalence of survey responses and to identify the survey items with the largest and the lowest proportions of favorable responses. No missing values were recorded; therefore, imputation procedures were not necessary.

The 20 survey items were then used as input for exploratory factor analysis (EFA). This procedure is commonly employed in social sciences to examine the structure of associations within a set of observed variables (Fabrigar &Wegener, 2011) and to identify the latent dimensions, also referred to as common factors, that underlie the data (Hair, Anderson, Tatham, & Black, 1998). In the current study, we used M*plus* 7.4 (Muthén & Muthén, 1998-2017) to conduct EFA with Bayes estimation (BEFA) and Geomin rotation. This estimation procedure does not require a multivariate normal distribution, provides accurate results with smaller samples, and permits the computation of models that are more complex than maximum likelihood (ML) (Asparouhov & Muthén, 2010a; Heerwegh, 2014; Schmitt, 2011). Bayes estimation was also shown to outperform the mean- and variance-adjusted weighted least squares procedure with ordinal data (Asparouhov & Muthén, 2010a; 2010b); it incorporates prior information thus increasing the accuracy of parameter estimates and reducing the number of Heywood solutions (Lee, 1981; Martin, & McDonald, 1975; Mayekawa,1985). Geomin is an oblique rotation procedure; oblique procedures are employed when factors may correlate (Browne, 2001). If relationships may exist among factors, using an orthogonal rotation procedure may lead to a loss of information and biased estimates (Fabrigar, Wegener, MacCallum, & Strahan, 1999).

We estimated and compared solutions with a different number of factors, and selected the optimal model based on the quality of the factor structure, interpretability of the factors, and goodness of fit indices. One of the goodness of fit indices used in this study is the posterior predictive *p* value (*PPP*), which indicates the extent to which the posterior distribution fits the data. The performance of *PPP* in the Bayesian approach is stable and outperforms the chi-square goodness-of-fit test in the ML approach (Lee & Song, 2004). The

PPP is estimated on every 10th iteration and is further used to describe posterior probabilities. This probability estimate is based on a fit index *f*, which represents the likelihood ratio chi-square test of the null model against the proposed model (Muthén & Asparouhov, 2010). Another goodness of fit index is the 95% confidence interval of the difference in the *f* statistic between the real and the replicated data. When the middle point of this interval is close to zero, the *PPP* value is close to .5 and the model has an excellent fit (Muthén & Asparouhov, 2010). Items with non-significant factor loadings at alpha =.05 and cross-loading items were sequentially deleted until an optimal factor structure was reached.

After reaching an optimal model, we estimated the location of each individual on the identified factors through the computation of Bayes plausible values. While frequentist estimation procedures such as ML or WLS may yield negative error variances with small samples, the Bayes estimator allows the computation of factor estimates by producing imputed plausible values. Bayes plausible values were shown to be more reliable than ML estimates with smaller samples and allow for a more accurate estimation of factor variances and correlations (Asparouhov & Muthén, 2010c). A plot of mean plausible values was used to illustrate the distribution of individual scores on the identified factors. Further, mean plausible values were compared across demographic subgroups.

Results

Overall, survey items measuring the cost of multicultural education recorded lower proportions of favorable responses, whereas items measuring its perceived value recorded higher proportions of favorable responses. The positively worded survey item with the largest proportion of favorable ratings was "I think I'll be able to use what I learn about human diversity in other settings." (*N*=170, 90.9%), suggesting the majority of the participants perceiving multicultural education as highly valuable. The positively worded item with the lowest level of agreement was "The amount of effort it will take to be good at cross-cultural communications is worthwhile to me. (N=103, 55.1%). This result shows that only slightly over half of the participants were willing to put in the effort to learn about diversity issues, suggesting the relatively high cost of multicultural education. In contrast, the negatively worded item with the highest proportions of unfavorable ratings was "I am

never good at communicating with people from different cultures (*N*=123, 65.8%), indicating that most participants had considerable confidence in cross-cultural communication. The negatively worded item with the lowest level of disagreement was "I'd have to sacrifice a lot of free time to be good at cross-cultural communications" (N=65, 34.8%), which, again, suggested the high perceived cost of multicultural education among the participants. Table 1 reports the distribution of responses on all survey items by aggregating ratings into three categories: a) untrue of me (1-2), b) neutral (3), and c) true of me (4-7).

Table 1.
Item Response Distribution

	Untrue of Me (1-2)		Neutral (3)		True of Me (4-7)	
I think I'll be able to use what I learn about human diversity in other settings.	3	1.6%	14	7.5%	170	90.9%
I think it is useful to learn about human diversity.	7	3.7%	18	9.6%	162	86.6%
I enjoy learning about human diversity.	5	2.7%	20	10.7%	162	86.6%
I am good at interacting with people from different cultures.	4	2.1%	21	11.2%	162	86.6%
I'll need multicultural proficiency for my later life including my career.	5	2.7%	23	12.3%	159	85.0%
Diversity issues are important to me personally.	8	4.3%	21	11.2%	158	84.5%
The amount of effort it will take to be good at cross-cultural communications is worthwhile to me.	7	3.7%	25	13.4%	155	82.9%
Good grades in diversity classes can be of great value to me later.	11	5.9%	23	12.3%	153	81.8%
I am really keen to learn a lot in multicultural issues.	12	6.4%	23	12.3%	152	81.3%
It is important to me personally to be proficient in cross-cultural communications.	11	5.9%	25	13.4%	151	80.7%

	Untrue of Me (1-2)		Neutral (3)		True of Me (4-7)	
If I can learn something new in human diversity, I am prepared to use my free time to do so.	12	6.4%	28	15.0%	147	78.6%
I always look forward to diversity classes.	13	7.0%	28	15.0%	146	78.1%
I would like to take more classes on human diversity.	14	7.5%	32	17.1%	141	75.4%
I have always been good at cross-cultural communications.	10	5.3%	36	19.3%	141	75.4%
When I am working on a diversity project, I sometimes don't notice time passing.	19	10.2%	50	26.7%	118	63.1%
The amount of effort it will take to be good at cross-cultural communications is worthwhile to me.	49	26.2%	35	18.7%	103	55.1%
I'd have to sacrifice a lot of free time to be good at cross-cultural communications.	65	34.8%	49	26.2%	73	39.0%
The amount of time I spend on learning about human diversity keeps me from doing other things I would like to do.	79	42.2%	47	25.1%	61	32.6%
I have difficulty understanding people from different cultures.	113	60.4%	28	15.0%	46	24.6%
I am never good at communicating with people from different cultures	123	65.8%	22	11.8%	42	22.5%

All seven-item response options were used for BEFA. Two eigenvalues were larger than one, and the scree plot suggested a three-factor solution; therefore, researchers estimated and compared models with one, two, and three factors. Cross-loading items were sequentially removed until a simple structure was reached. The optimal model included two factors and nine observed variables (Table 2). This solution had a *PPP* value of 0.49 and the 95% confidence interval for the difference between the observed and the replicated chi-square values was (-30.53; 30.95), indicating excellent model fit.

Table 2.
Matrix of Factor Loadings

Item	F1	F2
I think it is useful to learn about human diversity.	.93*	
I enjoy learning about human diversity.	.93*	
It is important to me personally to be proficient in cross-cultural communications.	.90*	
Diversity issues are important to me personally.	.89*	
I am really keen to learn a lot in multicultural issues. (attainment)	.88*	
If I can learn something new in human diversity, I am prepared to use my free time to do so.	.82*	
I am never good at communicating with people from different cultures.		.97*
I have difficulty understanding people from different cultures.		.80*
The amount of time I spend on learning about human diversity keeps me from doing other things I would like to do.		.66*

Note: * Significant at alpha=.05

The first factor (F1 *Value*) included six items measuring students' value beliefs in learning about human diversity, with one item from the original *Utility*, two from *Intrinsic*, and three from *Attainment Value* subscales. Factor loadings ranged between .93 and .82 and were all statistically significant at alpha=.05 level. The marker item of this factor was "I think it is useful to learn about human diversity." The second factor (F2 *Expectancy*) included three items with statistically significant loadings ranging between .97 and .66 respectively, with two items from the original *Expectancy* and one from *Cost* subscale. These items refer to expectancy beliefs students hold in a diverse society, including their perceived challenges to understand and communicate with individuals from other cultures, and the amount of time taken away from them in learning about human diversity. The marker item of this factor was "I am never good at communicating with people from different cultures."

Mean plausible values ranged between -1.61 and 2.34 (M=.00, SD=.91) for F1 *Value*, and between -2.85 and 1.64 (M=.02, SD=.94) for F2 *Expectancy*. The distribution of F1 and F2 mean plausible values is illustrated in Figure 1. The two factors had a small positive correlation (r = 0.22, p<.01).

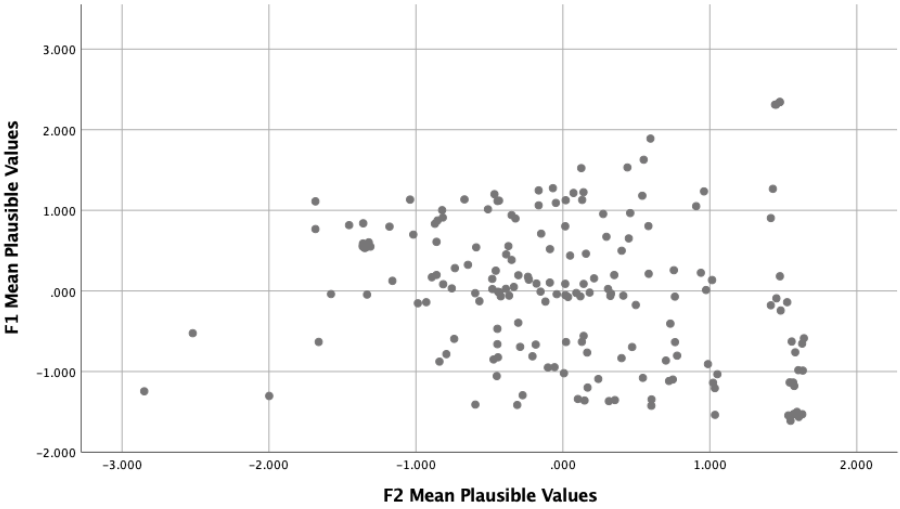

Figure 1. Distribution of mean plausible values on F1 and F2

Using the 1.5xIQR rule, four cases with very high scores on F1 and two cases with very low scores on F2 were identified (Browne, 2001). When these cases were removed, the factor correlation increased to r = .42, p<.001. As indicated in Table 3, mean plausible values did not differ significantly by gender, ethnicity, or hometown size; however, students with a Master's or Doctoral degree had significantly lower means on F2 *Expectancy* ($t_{(47.727)}$=-2.90, p<.01) than respondents with a Bachelor's degree, meaning those who obtained graduate degrees reported less difficulty, more confidence, and more willingness in diversity than those at undergraduate level.

Table 3
Mean Plausible Values by Demographic Subgroups

	F1		F2	
	M	*SD*	*M*	*SD*
Gender				
Male (N=33)	-.05	.92	.00	.91
Female (N=153)	.02	.91	.03	.96
$t_{(df)}$, p	$t_{(46.400)}$=-.36, p=.72		$t_{(88.614)}$=-.16, p=.88	
Hometown size				
Below 10,000 (N=42)	.00	.88	.05	.95
10,000-50,000 (N=89)	.04	.94	.03	.96
Above 50,000 (N=55)	-.05	.90	-.02	.94
$F_{(df)}$, p	$F_{(2,183)}$=.18, p=.84		$F_{(2,183)}$=.08, p=.92	
Ethnicity				
Caucasian (N=118)	-.03	.83	-.24	.87
Minority (N=68)	.06	1.04	.10	1.06
$t_{(df)}$, p	$t_{(116.612)}$=-.66, p=.51		$t_{(118.529)}$=-.81, p=.42	
Highest Degree				
Bachelor's (N=99)	-.09	.95	.07	.98
Master or Doctoral (N=27)	.12	.82	-.48	.83
$t_{(df)}$, p	$t_{(46.857)}$=1.15, p=.26		$t_{(47.727)}$=-2.90, p<.01	

Discussion

In this study, we probed the underlying structure of the modern expectancy-value (EV) theory in multicultural education in response to calls for more validation studies on the constructs of expectancy and value beliefs as an important issue for further research (Wigfield & Eccles, 2000). Although the EV theory posits five dimensions including expectancy of success and four types of task values including intrinsic value, attainment value, utility value and cost, the BEFA results in our study suggests a two-factor model may be more appropriate in multicultural education, which conflicted with previous results about the theoretical distinctions of the three task values in the Eccles et al. model (Wigfield & Eccles, 2000). Most of the value items from the original EV scale loaded on one single value factor instead of different value subscales in our study. It is plausible since previous research results have

shown relatively high correlations among the four value components that have often been incorporated into a general value scale (e.g., Eccles et al., 1993).

The discrepancy between the factor solution in the study and the five-dimension model of EV theory (Eccles et al., 1983; Wigfield & Eccles, 2000) may be a result of several elements. First, as Eccles and colleagues have argued, EV model is domain specific, which was supported by our study results. As Wigfield (1997) held that what matters in math may be totally different from reading, the values of learning about math or English may be very different from learning about human diversity. As multicultural proficiency is a lot harder to assess (e.g., Prieto, 2012) than learning outcomes in other disciplines such as math or English proficiency, expectancy of success in interacting with diverse individuals may be more elusive and hence less salient than the values of learning about human diversity. Instead, value beliefs have been found to be more potent than expectancy beliefs in predicting some motivation variables including effort or choice (Nagengast et al., 2011; Trautwein et al., 2012), echoing the conceptual differentiation of expectancy and value beliefs as two factors found in our study: value and expectancy. It partially supported the modern EV theory which posits that expectancy and value beliefs of the tasks are two primary motivating factors (Eccles & Wigfield, 2002). Given the synergistic predictive power of expectancy and value beliefs in a previous study (Trautwein et al., 2012), it merits more research on the structural validity of the EV model in multicultural education.

Second, the current five-dimension EV model may have complicated the construct of motivation in multicultural education. The more parsimonious fit of the two-factor model from the BEFA results of the present study suggests that perhaps motivation for multicultural education should be considered as a two-factor construct, value and expectancy. Rather than focusing on all the five dimensions of the theoretical EV model, it may be more helpful for teacher educators to focus on the values of learning about student diversity and the support needed to help improve the expectancy beliefs in interacting with diverse students. According to Flakes and colleagues (2015), it could be achieved by improving the efficacy beliefs or lowering the difficulty level of learning, which may help reduce the amount of task effort or outside effort. Additionally, providing emotional support (Wang, 2008) may be a critical way to help motivate multicultural learning which inevitably involves overcoming negative emotions as one challenges one's own biases, beliefs, and faces what

had happened in history due to prejudice and discrimination. Resonating with a previous study (Trautwein et al., 2012) which called for the need to reexamine EV instrumentation, our study results of the distinct Bayesian model suggest a need for more research inquiry to examine the structural validity of the EV theory and the instrument development and validation in multicultural education.

Third, we found positive associations between value and expectancy, resonating with previous studies showing positive associations between expectancy and value beliefs (e.g., Eccles et al., 1998; Trautwein et al., 2012). Although somewhat unexpectedly, one cost item loaded together with two expectancy items on expectancy factor, it is consistent with a previous study result showing that some of the associations among value beliefs were weaker than those between value and expectancy beliefs (Trautwein et al., 2012), suggesting the need for further studies to attend to the nature of the value and expectancy constructs in improving their theoretical clarity. However, our results partly support the previous empirical results showing cost and value as distinct constructs (Mosyjowski et al., 2017).

Fourth, by examining the distribution of plausible values, the current study examined potential group differences in their value and expectancy perceptions of student diversity. Unexpectedly, we did not find a significant gender effect on the participants' expectancy or value beliefs in multicultural education, conflicting with previous research indicating that boys and girls differ in their competency beliefs in math (Chouinard & Roy, 2008; Fredricks & Eccles, 2002). However, we found that education made a difference: participants with masters' and doctor's degrees reported higher expectancy beliefs in interacting with student diversity, consistent with a previous study result (Yang, 2018).

Overall, the BEFA findings on EVS developed from EV theory produced a two-factor model compared to the five-dimensional models of EV theory proposed by Eccles and colleagues (e.g., Eccles et al., 1983; Wigfield & Eccles, 2000). The discrepancy between our BEFA results and the theoretical EV model calls for further psychometric studies before a definitive conclusion can be made to reconsider the empirical structure of EV theory in a more simplified and parsimonious fashion in multicultural education. The significant difference in expectancy beliefs among participants based on the highest degrees attained confirmed the importance of higher education on improving efficacy beliefs in cross cultural communication. Future research

may examine whether the degree of higher education may actually lead to higher cultural competence beyond the efficacy beliefs.

Limitations and Future Directions

The failure of the BEFA results of the current study to fully support the EV model (Eccles et al., 1983) raised concerns of understanding and operationalizing expectancy and value beliefs in multicultural education. The two-factor solution suggests a more parsimonious model for teacher educators to understand what motivates students and what is essential in promoting multicultural education. More studies are needed to probe the underlying structure of the modern five-dimension EV model in multicultural education. Further, as previous research (e.g., Flakes et al., 2015; Mosyjowski et al., 2017) indicates different types of cost such as financial cost, balance cost, emotional cost, etc., future studies may incorporate more cost items to the measurement and test if cost factor may be present in the empirical model.

The positive low factor correlations between *value* and *expectancy* disclosed in the BEFA results posed an intriguing question: which one should teacher educators highlight more in multicultural educations to motivate students, promoting the value of learning about diversity or improving expectancy beliefs? Future research should endeavor to test the two factors through confirmatory factor analyses and replicate to bigger samples before we can reach a definitive conclusion. Only when we know what's essential in motivating students in multicultural education, will we as teacher educators be better able to motivate students in multicultural education and help create a more inclusive society. As a previous study suggests that the associations between expectancy and value beliefs within a domain increases over time (Wigfield et al., 1997), future research can also investigate if age is a factor in the relationship between expectancy and value beliefs in multicultural education.

Last but not least, future research should link the *value* and *expectancy* factors of multicultural education with cultural competence and related outcomes to examine the criterion-related validity. Previous research results showed that expectancy- and value-related constructs predicted outcomes differently. In particular, expectancy beliefs have been shown to particularly predict performance and achievements, and value beliefs are more closely associated with choice, effort, and persistence (e.g., Jones et al., 2010;

Nagengast et al., 2011; Trautwein & Lu¨dtke, 2007; Wigfield et al., 1997). In examining academic-track boys' underachievement in language grades, Heyder and colleagues (2017) challenged the stereotypical belief that boys' lower grades are due to lower verbal aptitude and disclosed the critical roles of motivational beliefs such as parental perceptions. In light of this, future research can examine whether students' expectancy beliefs in multicultural education predict their cultural competence and whether their value beliefs predict their choices and efforts in the process of learning about human diversity. Further, Chouinard et al. (2007) found that effort in mathematics is mainly explained by competence beliefs, valuing of mathematics by parental support, and competency beliefs by teacher support. Future research can investigate the antecedents and consequences of expectancy and value beliefs of multicultural education and examine whether the associations found in mathematics would translate to the field of multicultural education.

Significance of the Study

Overall, although we found partial conceptual support of EV theory into two distinct factors in multicultural education: value and expectancy (Eccles & Wigfield, 2002), we did not find empirical support for the different types of values in line with the EV theory (Wigfield & Eccles, 2000). Our study results revealed the importance of boosting both students' perceived values and expectancy beliefs in multicultural education to improve student motivation. In a study involving 173 first-semester students, Cole and colleagues (2011) found that students taking diversity courses were more aware of white privilege and less likely to deny the existence of blatant racism at the end of a semester than those in a comparison course that is not diversity related, confirming the value of multicultural education. However, due to the various emotional challenges students have to overcome as a result of cognitive dissonance, Jackson (1999) revealed student resistance in the learning process, suggesting the low expectancy beliefs in students. As such, understanding students' value and expectancy beliefs in multicultural education will better equip educators in highlighting the benefits of multicultural education and lifting students' efficacy beliefs in the difficult learning process that is challenging and emotionally charging. Resonating with previous results (McCormick & McPherson, 2007; Trautwein et al., 2012), the findings of our study suggest a need for further research replicated to larger and more diverse

samples to further examine the structural validity of the EV theory in multicultural education.

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Social Competencies and Expectations Regarding the Impending Transition to Secondary School

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Social Competencies and Expectations Regarding the Impending Transition to Secondary School

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Abstract

Changing from elementary to secondary school is a life event that every child has to pass. Previous research has shown that some children feel more threatened by the transition than others. In the present study children's expectations concerning the impending transition to secondary school were analyzed and it was investigated how individual levels of social competencies, aggressive behavior, peer-acceptance and victimization experiences are related to the expectations regarding the transition to secondary school. The results demonstrated that empathy and aggression are strongly related to the perception of the impending transition as challenge whereas victimization and peer-acceptance were related to the perception of the transition as threat. Furthermore, with the help of a cluster analysis, four groups of children showing different patterns of expectations were identified. The findings give valuable information about children's perceptions of the impending school transition. It is discussed how teachers could support children to cope better with transition processes.

Keywords: expectations, school transition, secondary school, elementary school, challenge.

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Competencias y Expectativas Sociales en Relación con la Inminente Transición a la Escuela Secundaria

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Resumen

El cambio de la escuela primaria a la secundaria es un acontecimiento de la vida que todo niño tiene que pasar. Investigaciones anteriores han demostrado que algunos niños se sienten más amenazados por la transición que otros. En el presente estudio se analizaron las expectativas de los niños en relación con la inminente transición a la escuela secundaria y se investigó cómo los niveles individuales de competencias sociales, el comportamiento agresivo, la aceptación de los compañeros y las experiencias de victimización se relacionan con las expectativas relativas a la transición a la escuela secundaria. Los resultados demostraron que la empatía y la agresión están fuertemente relacionadas con la percepción de la transición inminente como un desafío, mientras que la victimización y la aceptación de los compañeros estaban relacionadas con la percepción de la transición como una amenaza. Además, con la ayuda de un análisis por conglomerados, se identificaron cuatro grupos de niños que mostraban diferentes pautas de expectativas. Las conclusiones ofrecen información valiosa sobre las percepciones de los niños acerca de la inminente transición escolar. Se examina cómo los maestros podrían apoyar a los niños para afrontar mejor los procesos de transición.

Palabras clave: expectativas, transición escolar, escuela secundaria, escuela primaria, desafío.

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Major developmental tasks in late childhood include the development of social skills, academic skills and the formation of social relationships with peers (Havighurst, 1956). Especially social skills are of high relevance for the school context, as previous research has shown that social skills are strongly connected with interpersonal interaction (Jurkowski, 2011) and with better academic achievement (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Therefore, it can be argued that on the one hand, the school context offers opportunities to develop those abilities and on the other hand the school context demands those abilities for a successful participation in school life. Elias et al. (2007) argued that personal bonds influence the learning in schools. It might thus be hypothesized that the educational process is influenced by relationships with peers and teachers and emotional and social relatedness (Durlak et al., 2007). These relationships usually persist for longer time periods. However, at the end of elementary school significant changes in relational structures take place due to the transition from elementary to secondary school (Sirsch, 2003).

From previous research it is well known that the transition to a secondary school can be perceived as a severe threat or a big challenge (Sirsch, 2003). The term threat describes the perception of the impending transition as negative and is associated with fear. Perceiving the transition as a challenge has a more positive focus. Children may show feelings of excitement and joy and look forward to the new situation. Perceiving a transition as challenge however does not automatically mean that it is not perceived as a threat. Instead, both expectations can be described as independent rather than as two ends of one continuum (Sirsch, 2003). Neuenschwander, Rösselet, Niederbacher and Rottermann (2018) recently demonstrated the school transitions do also impact the academic self-concept of students. The academic self-concept of students who made a transition experience was strongly influenced by the new reference group. Further evidence for the importance of analyzing school transitions can be found in Vierhaus, Domsch and Lohaus (2018). The authors argued that most students cope successful with the transition experience. However, they

also mentioned that it is important to consider variables that might influence the transition experience.

As the transition from primary to secondary school is an experience that every child makes, the present study focused on fourth graders' expectations concerning the impending transition to secondary school in Hesse (Germany). Fourth graders were chosen, because the transition from primary to secondary school in Hesse takes place after the fourth grade. In addition, the present study sought to examine the relation of transition experiences with social competencies, problem behavior and relatedness (peer-acceptance and victimization). It can be assumed that social competencies might function as a buffer of the stress that a school transition process can cause for children according to Dubow and Tisak (1989) who described that children who had better social problem-solving skills showed fewer behavior problems and achieved better grades after stressful life-events. These findings indicate a stress buffering effect of social competencies. This is of central relevance for the present study, even though Dubow and Tisak (1989) did not directly assess school transition processes as a stressor. It can be argued that comparable effects might be found with respect to school transition (Ball, Lohaus, & Miebach, 2006).

Further evidence that periods of transition can be experienced as stressful life events that affect current and future psychological adjustment and well-being was presented by Rice, Frederickson, and Seymour (2011). Due to the severe consequences that stressful life events can have on the future development it is important to investigate how children perceive school transitions and which factors influence these perceptions, as it can be assumed that not all children feel the same about the transition.

In previous studies it could be demonstrated that some children cope better with stressful situations than others (Noeker & Petermann, 2008). Social competencies might function as factors facilitating the handling of stressful life events while negative interactions in the classroom might function as risk. This idea is based on studies that identified characteristics that are related to a poor transition (Anderson, Jacobs, Schramm, & Splittgerber, 2000; Rice et al., 2011). Higher levels of social competencies and good interactions with peers were predictors of a more successful school transition process. One specific expression of a lack social competencies is aggressive behavior, which is associated with a less successful school

transition. Berndt and Mekos (1995) showed that adolescents who engaged in more misconduct adjusted less positively after the transition to secondary school (junior high-school) although they previously had positive expectations. This result can be interpreted as evidence that behavior problems influence the coping with stressful life-events. Even though the reported studies investigated the transition process itself and its correlates, it might be assumed that similar effects and correlations would be found for children's expectations regarding the transition. In detail, this illustrates that social competencies and positive peer relations are important for the school transition.

According to Lord, Eccles, and McCarthy (1994), positive self-concepts in both academic and social domains can also facilitate school transitions. The assumption that peer-acceptance and sociometric status would influence later school adjustment was also supported by Wentzel (2003). Furthermore, positive correlations between social relatedness in school and children's quality of life after school transition could be found (Gillison, Standage, & Skevington, 2008). These findings indicate a connection between social variables and school transitions processes. However, there is little research regarding the expectations of children regarding the transition, but there are studies indicating that peer problems are related to children's concerns about school before as well as after school transition (Rice et al., 2011). For that reason, it can be assumed that children's expectations about transitions are related to social competences and experiences as well. Many studies reported gender differences for empathy and aggression. These studies indicated that girls have higher levels of empathy whereas boys show higher levels of aggression (Garaigordobil, 2009; Scheithauer, 2003). Therefore, the analysis of gender differences can be important with respect to expectations of an impending school transition as well.

School transition in Germany

In some federal states in Germany (e.g., Hesse), the transition from primary to secondary school takes place after fourth grade when children are about 10 to 11 years old. The German school system offers the opportunity to visit one out of three types of schools after the elementary school. The school type is chosen according to the academic and cognitive abilities that children

have. Usually teachers make the decision which school seems suitable for each child based on their judgment of the children's abilities. Due to the structure in the German educational system the children do not stay in their well-known classes and with their well-known teachers. Instead, the children have to adjust to a new classroom and to a new school after the transition, which includes new teachers and new classmates as well.

Goals of the Present Study

The major goal of the present study was to assess the relations between individual levels of social competencies and students' expectations of the impending transition from primary to secondary school. These expectations reflect children's perceptions of the impending stressful life-event. As has already been outlined by Sirsch (2003) personal and environmental antecedents as well as situational variables might shape children's perceptions. In this study empathy, aggression, and emotion regulation were chosen as personal antecedents that could exert influences on the perceptions. It was expected that higher levels of empathy and emotion regulation abilities would be related to more positive and less threatening expectations of the impending transition. For aggression it was hypothesized that children showing higher levels of aggressive behavior would perceive the impending transition as more challenging, but not more threatening (Berndt & Mekos, 1995). Previous research has mainly used a correlational approach to analyze relations and predictors of expectations to transition processes. The present study also uses this approach, but moreover it adds a cluster analysis to get better insights in the role that social competencies have in the perception of transition processes. In the cluster analysis it should be analyzed if there are certain groups of children sharing comparable patterns of expectations. This could be helpful for teachers who support children before the transition. Moreover, it was in the research focus to outline how these groups of children differ with respect to personal antecedents and situational variables.

Beside the influence of personal antecedents on the expectations of the school transition it was investigated what influence victimization and peer-acceptance as situational variables would have. It was expected that higher levels of peer-acceptance and lower levels of victimization would be related to more positive expectations.

Method

Participants

For the present study data from 144 children (71 boys and 73 girls). The mean age of the children was 9.68 years (*SD* = 0.54 years). All children were attending a fourth grade of a primary school in Hesse. The data collection was realized during the second term of the fourth grade. The participating schools were located in urban areas with mostly middle-class families. Approximately 84% of the children participating in the study were German without a migration background. The 16% of children with a migration background also spoke German fluently. The contact to children and their families was realized with the help of the schools, after the necessary applications had been made (Ministry of Education and the Arts and Supervisory School Authority, respectively). For all children, written active informed consent was obtained from their parents and assent from the children themselves. The children received small presents as a compensation for their efforts.

Material

To assess the constructs of interest questionnaires were handed out to the children and their teachers.

Empathy. We used the empathy scale from the IVE (Inventory to assess empathy, impulsivity, and risky behaviors) for 9- to 14-year-old children (Stadler, Janke, & Schmeck, 2004). The scale has 16 items that have to be answered with 1 (*yes*) or 0 (*no*) by the children (Cronbach's α = .84). A sample item reads: “I get sad when one of my friends is unhappy.”

Anger regulation strategies. We asked the children to complete 14 items (Cronbach's α = .88) taken from the Feel-KJ measuring adaptive anger regulation strategies (Grob & Smolenski, 2005). This scale had to be answered on a 5-point Likert scale from 1 (*nearly never*) to 5 (*nearly always*). A sample items reads: “When I am angry I tell myself that it’s not so bad.”

Aggression. To assess the level of aggressiveness of children the scale developed by Little, Jones, Henrich, and Hawley (2003) was used. This scale measured direct and indirect aggression via a self-report and it allows distinguishing between reactive and instrumental forms of

aggression. Altogether the scale consisted of 12 items, measuring pure overt aggression (e.g., "I'm the kind of person who often fights with others"; α = .86) and pure relational aggression (e.g., "I'm the kind of person who tells my friends to stop liking someone"; α = .77). The children in the present study rated how true each item was for them on a 4-point scale from 1 (*not at all true*) to 4 (*completely true*).

Peer-acceptance. To measure peer-acceptance a scale from the German version of the Self-Perception Profile for Children (SPPC-D; Asendorpf and van Aken, 1993) was chosen. The items contain a description of two groups of children that have certain features. The child that is surveyed has to decide which children have characteristics that are comparable to own characteristics. In a next step the child has to decide whether they are very similar or only a little bit similar. A sample item reads "Some children have many friends. Other children don't have many friends". The internal consistencies for the scale was α = .72.

Victimization. Victimization was assessed with the German Bullying and Victimization Questionnaire for Children (BVF-K; von Marées & Petermann, 2009). This instrument is a self-report questionnaire for children between 4 and 12 years of age. For the present study eight items assessing victimization experiences were used. The items had to be answered on a 3-point scale ranging from 0 (*never*), 1 (*sometimes*) to 2 (*often*). The victimization scale consists of two subscales assessing direct victimization (e.g., "How often do other children purposely hurt you?") and indirect victimization (e.g., "How often do other children keep you from playing along?"). The internal consistencies for the scales were α = .80 for direct victimization and α = .73 for indirect victimization.

Achievement self-ratings. To assess pupils' perceived academic achievement the children were asked to indicate on a 4-point scale if they regarded their achievement in math, German, and social studies as 1 (*very weak*), 2 (*below-average*), 3 (*average*) or 4 (*above-average*).

Expectations concerning the impending transition from primary to secondary school. In order to assess the expectations regarding the impending transition to secondary school the children completed the Impending Transition to Secondary School Perceived as Challenge or Threat questionnaire (ITCT; Sirsch, 2003). This measure comprises 28 items that belong to four scales and assesses the perception of the impending transition

as academic or social threat or academic or social challenge. The items had to be answered on a 4-point scale ranging from 1 (*I strongly disagree*) to 4 (*I strongly agree*). The internal consistencies for the scales ranged from $\alpha = .87$ to $\alpha = .92$. Items were introduced by the sentence "When I think of the fact that I will go to a new school next year then I …" and read like "… look forward to it, because I can show what I have learnt" (academic challenge), "… look forward to it, because I may get nice classmates" (social challenge), "… worry since I may not be smart enough" (academic threat), or "… worry since I may not find nice friends" (social threat).

Procedure

All children filled in the questionnaires during regular school lessons in a group setting. During the data collection a research assistant was present to give instructions and to answer questions that the children had. As the data collection took place in the framework of a larger study, the children were additionally required to answer other measures that are not relevant for the present contribution. After the completion of the study the families and the teachers received a general feedback about the results of the study.

Results

Descriptive statistics

In a first step of the analysis the items that belonged to one scale were summed up and means and standard deviations for each scale were computed. The descriptive statistics are given in Table 1. In the introductory section it has already been outlined that other researchers found gender differences with respect to aggression and empathy. Therefore, the data of the present study were checked for gender differences with the help of *t*-Tests for independent samples. The results can be found in Table 1.

Table 1
Descriptive statistics for the scales used in the study (N =144)

Scale	Sample		Boys		Girls		*t(142)*
	M	*SD*	*M*	*SD*	*M*	*SD*	
Child Reports							
Empathy	11.60	3.62	10.11	3.88	13.05	2.67	-5.32**
Direct aggression	7.72	2.56	8.51	3.13	6.96	1.50	3.80**
Indirect aggression	7.70	2.30	8.03	2.50	7.38	2.06	1.69*
Anger regulation	45.71	11.08	44.72	11.91	46.67	11.91	-1.06
Peer-acceptance	17.37	4.02	17.70	3.79	17.04	4.23	<1
Direct victimization	6.13	2.03	5.76	1.85	6.48	2.15	-2.15
Indirect victimization	5.30	1.71	4.97	1.51	5.62	1.84	-2.30
ICTC academic challenge	24.38	5.35	22.87	5.58	25.85	4.70	-3.47#
ICTC social challenge	18.85	3.81	17.62	4.10	20.04	3.10	-4.01#
ICTC academic threat	16.33	5.66	16.31	5.83	16.36	5.53	<1
ICTC social threat	11.78	4.14	11.61	3.81	11.96	4.46	<1

Notes. *$p < .05$, **$p < .01$.

The analyses showed that boys and girls differed. Girls showed higher values in empathy than boys and boys reported higher values in aggression than girls. With respect to the expectations regarding the impending school transition there was a marginally significant effect for academic and social challenge. Girls reported higher values on these scales than boys.

There were no correlations found between children's perception of transition as academic challenge and academic threat (r = -.07, p = .43) or social challenge and social threat (r = -.06, p = .46), respectively. Seeing the transition as a challenge, however, was highly correlated between the

academic and social domain (r = .75, p < .01). Similarly, the perception as an academic threat and as a social threat was positively correlated (r = .80, p < .01).

Correlations of the expectations with social competencies and self-ratings of academic achievement yielded some interesting results (Table 2). First, there is no correlation between academic achievement self-ratings and any of the transition expectation scales (all ps > .07). Peer-acceptance, direct, and indirect victimization seem to correlate with the perception of the transition as a threat, whereas empathy, anger regulation, direct, and indirect aggression are associated with the perception of the transition as a challenge.

Table 2
Correlations between expectations and social competencies

	Academic challenge	*Social challenge*	*Academic threat*	*Social threat*
Peer-acceptance	-.03	-.02	**-.22****	**-.29****
Direct victimization	.04	.07	**.17***	**.25****
Indirect victimization	.03	.10	**.23****	**.30****
Empathy	**.38****	**.36****	.01	.02
Anger regulation	**.28****	**.23****	.01	.02
Direct aggression	**-.40****	**-.42****	.07	.04
Indirect aggression	**-.24****	**-.16**$^{\#}$	.08	.03
Acad. self-concept German	-.04	.04	-.15$^{\#}$	-.08
Acad. self-concept science	.14$^{\#}$	.15$^{\#}$	-.02	-.03
Acad. self-concept math	-.02	-.09	-.03	-.04

Note. $^{\#}$ p < .10, * p < .05, ** p < .01

Clusters of children according to their ITCT answers. The correlation analyses demonstrated that the expectations regarding the impending transition to secondary school were related to social competencies rather than academic achievement self-rating. In a next step of the analysis it was therefore decided to analyze if there would be groups of children showing comparable patterns of their expectations of the transition. In order to determine the prototypes of expectations toward the impending transition, a hierarchical cluster analysis using Ward's procedure (squared Euclidian distances between subjects) was performed on the ITCT data. A four-cluster solution will be presented because the other solutions that were considered (two, three, and five clusters) did not add further information or were not clearly interpretable. The four emerging clusters can clearly be described by their values on each of the ITCT scales. The values are given in standardized z-scores in Figure 1.

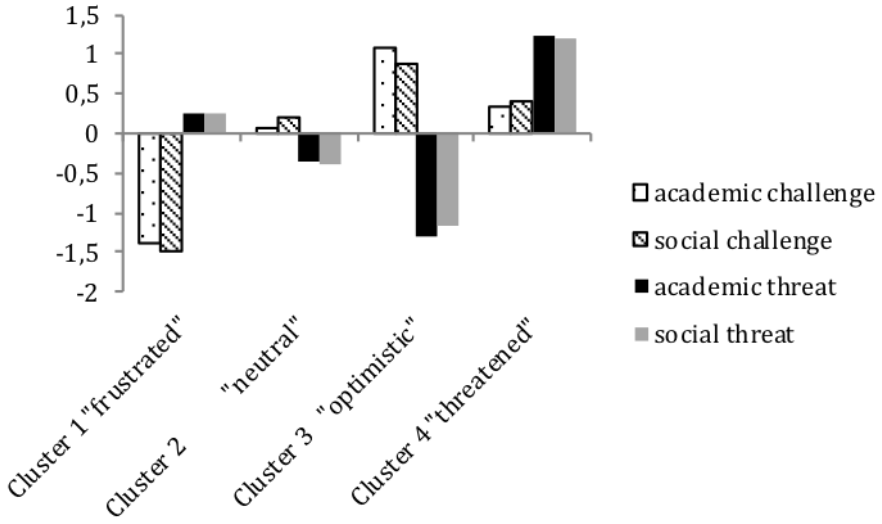

Figure 1. Clusters for children's expectations regarding the impending transition to secondary school

The first cluster was characterized by negative values in expected academic and social challenge and low values in academic and social threat. Therefore, this cluster includes children who seem to be a bit frustrated by school. These children (N = 28) do definitively not see any challenge and positive aspects in the school transition, but at the same time they are unimpressed by potential threats. The next cluster can be described as neutral. Children falling in this cluster (N = 53) are unimpressed by the impending transition. These children feel neither particularly challenged nor threatened. To the contrary, the children in the third cluster seem to be moderately challenged and they definitively do not experience any threat by the impending transition. Therefore, this cluster might be termed the optimistic one (N = 20). Finally, the fourth cluster was characterized by high values in academic and social threat and moderate values in academic and social challenge. Therefore, the children who fell in this cluster seem to experience a severe threat by the impending transition (N = 30). All four clusters contained a comparable number of children, and the patterns of challenge and threat experiences could be well interpreted. There were 13 children who could not be included in the clustering process due to missing values.

After the cluster solution was found, it was decided to compare the levels of social competencies that the children of the four groups had with the help of analyses of variance. In the ANOVAs the cluster affiliation was used as between subject factor, the means for the different groups can be found in Table 3.

Table 3
Descriptive values for social competencies in the four expectation clusters

Scale	Cluster 1 "frustrated"		Cluster 2 "neutral"		Cluster 3 "optimistic"		Cluster 4 "threatened"	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Empathy	9.11	4.43	12.25	3.28	12.65	2.13	11.90	3.52
Direct aggression	9.50	3.71	7.36	1.68	6.25	0.72	7.90	2.95
Indirect aggression	8.39	2.91	7.40	1.78	7.10	2.20	7.97	2.57
Anger regulation	41.68	11.68	46.55	10.03	49.10	15.70	46.97	8.01
Peer-acceptance	17.04	3.50	18.13	3.55	18.05	3.86	15.43	4.71
Direct victimization	6.04	1.90	6.19	1.81	5.15	1.84	6.57	2.37
Indirect victimization	5.25	1.35	5.17	1.64	4.70	1.17	6.07	2.30

The ANOVA with empathy as dependent variable revealed a significant effect for the factor Affiliation to a certain cluster, $F(3, 131) = 6.09$, $p < .01$, $\eta^2 = 0.13$. Pairwise comparisons clarified that children who belonged to the group of pupils who seemed to be a bit frustrated with regard to the impending transition had the lowest values on empathy. They differed from all three other groups (*p*s < .01). The children in the other three groups did not differ in their empathy values. In the next ANOVA the differences in the level of adaptive anger regulation strategies were analyzed. It got obvious that the children of the four groups did not differ in their levels of anger regulation, $F(3, 131) = 2.08$, $p = .11$, $\eta^2 = 0.05$. With respect to direct aggression significant differences were found between the groups, $F(3, 131) = 7.56$, $p < .01$, $\eta^2 = 0.15$. The children who seemed to be frustrated by school had the highest values in direct aggression and their aggression scores were significantly higher than the ones in the other three groups (all *p*s < .01). The pattern of results that could be found for indirect aggression was different. No group differences could be demonstrated, $F(3, 131) = 1.73$, $p = .16$, $\eta^2 = 0.04$. The next ANOVA analyzed the differences for peer-acceptance. For this dependent variable a significant differences could be found, $F(3, 131) = 3.41$, $p = .02$, $\eta^2 = 0.08$. Children who perceived the transition as a threat had significantly lower values than children who were

neutral or optimistic about the transition. Finally, the differences for indirect and direct victimization experiences were checked. With respect to direct victimization no differences between the four groups could be found, $F(3, 131) = 2.15$, $p = .10$, $\eta^2 = 0.05$. Different results could be identified with respect to indirect victimization, $F(3, 131) = 2.96$, $p = .04$, $\eta^2 = 0.07$. The children who reported to be threatened by the impending school transition were the ones with the highest values in direct victimization (all ps $\leq .07$). The children in the other three groups did not differ in their direct victimization values (all ps $> .05$).

Discussion

The present study investigated children's expectations regarding the impending transition from elementary to secondary school. It was expected that the individual level of social competencies as well as aggression and the level of victimization experiences or peer-acceptance would be related to the transition expectations.

All in all, children showed higher levels of perceiving the impending transition as a challenge than as a threat. This finding is encouraging, because it demonstrates that children have a rather positive attitude about their transition to a new school. In our sample, children had relatively high levels of empathy and peer-acceptance, and very low levels of direct and indirect aggression. Gender differences were as expected, showing that girls reported more empathy and less direct aggression than boys. Interestingly, girls tended to perceive the impending transition more as an academic and social challenge than boys. There were no gender differences in the perception of the impending transition as a threat.

An especially interesting result was the pattern of correlations between social variables and transition expectations. It could be demonstrated that constructs that reflect one's own behavior towards others (empathy, anger regulation and both direct and indirect aggression) are correlated with expectations as challenge. Children with higher levels of empathy and anger regulation skills, and lower levels of direct and indirect aggression, tended to perceive the impending transition as a challenge. The four constructs did not correlate with the perception of the transition as a threat, though.

In contrast, those constructs that merely reflect how children are treated by others (peer-acceptance, direct, and indirect victimization) are correlated with perceiving the transition as a threat, but not with perceiving the transition as a challenge.

All in all these social variables have a higher relation to transition expectations than children's self-ratings of academic achievement. This further emphasizes the importance of a positive class climate and good peer relations. These findings can be of importance for teachers who educate children before their school transition. If teachers want their students to look positively forward to the impending transition, they should not only teach individual social competencies and academic skills, but they should also try to establish a positive classroom climate by means of classroom management.

A further result of the present study is the identification of four groups of children who perceive the impending transition in different ways. These four groups can be described as frustrated, neutral, optimistic, and threatened. Low levels of challenge and average levels of threat perception classified children who belonged to the group of frustrated children. These children do not seem to experience joy when imagining the transition to a new school. However, they also do not perceive the transition as threatening. The second group (neutrals) consisted of children with average levels of challenge and average levels of threat perceptions. It seems as if those children neither experience much of a challenge nor high levels of joy when changing their schools. The third group had a more positive attitude towards the transition. Those children had high levels of perceived challenge and average levels of perceived threat. Finally, the fourth group consisted of children who reported to feel highly threatened by the impending transition and experienced average levels of challenge.

Those four groups did not only differ with regard to their perception of the transition as challenge or threat but also in their social competencies, their levels of aggression, peer-acceptance, and victimization. Especially the group of frustrated children showed lower levels of empathy and higher levels of direct and indirect aggression. Children of the "threatened" group were significantly more directly and indirectly victimized. The differences in individual competencies and situational variables between the four groups highlight the necessity of individually tailored offers in the accompaniment

before a school transition. Of course, it will be difficult for teachers to satisfy every individual student's requirements. What teachers can achieve, however, is to create a classroom environment that fosters positive peer relations and individual social competencies (Eichhorn, 2012). Moreover, the requirements of four groups of children are easier to meet than lots of individual needs. Thus, the finding that students can be divided into four groups according to their expectations of the impending school transition can be of high practical relevance.

Nevertheless, the present study suffers some limitations. First of all, it was not investigated how expectations are related to actual transition experiences. This would be especially important, as it would clarify how victimized students develop after the transition. A second aspect concerns the self-rating of academic achievement, which was not validated by grades. Therefore, no clear conclusion can be drawn according to the predictive validity of grades for the perception of the impending school transition. However, as known from self-concept research, the subjective perception of one's abilities can have a great impact on interests and achievement (Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2005). Especially in a context of expectations it was therefore chosen to focus on children's self-ratings of academic achievement rather on their actual grades.

To sum up, the results of the present study give valuable insights in children's expectations concerning school transition. It could be demonstrated that social competencies, aggression, victimization experiences and peer acceptance have a noticeable impact on the perception of the transition as a challenge or a threat. With respect to these two dimensions it has to be distinguished between positive and negative perceptions of the transition. It cannot be said that the perception of the transition as threat or challenge represents two endpoints of one dimension but rather, they are two independent dimensions that can occur separately or in combination. This is also confirmed by the fact that both dimensions correlate with different social competencies and experiences. However, children did not differentiate between academic and social challenge or academic and social threat, respectively. This indicates that perceiving a school transition as threat or challenge does not depend on the specific domain and can be regarded as stable. It should be important, though, to support children in facing a new school with a positive attitude as research

shows that self-fulfilling prophecies about social rejection can affect social behavior and acceptance (Stinson, Logel, Shepherd, & Zanna, 2011). This means that children who expect to make negative experiences at their new school might unintentionally induce these experiences. Helping children to perceive the new school as a challenge or a chance should therefore be an important task for primary school teachers.

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