Capacity building and advancing the understanding of productive youth development in an international context are the objectives of the PATHWAYS Post-Doctoral Fellowship Programme, funded by the Jacobs Foundation. In this third issue of the PATHWAYS newsletter we report on research conducted by the PATHWAYS team, focusing on engagement in school and work.

Ming-Te Wang, a PATHWAYS Fellow based at the University of Michigan reports on four studies he has conducted to assess the multiple dimensions of school engagement (i.e. the behavioural, emotional and cognitive aspects); their development over time; the role of school characteristics in enhancing school engagement; and the association between the different dimensions of school engagement and academic performance, drop-out rates, educational success and mental health. The findings point to the significant role of school climate in promoting engagement and mastery among students, and the usefulness of considering the interplay of the multiple dimensions of school engagement for gaining a better understanding of how to promote successful educational trajectories as well as the mental health of students.

Katja Upadyaya (formerly Natale), a PATHWAYS Fellow also based at the University of Michigan, introduces a new inventory assessing work engagement in post-comprehensive education. Translating assumptions regarding engagement in work-related settings, which has been characterized by similar constructs used in the study of school engagement (i.e. by behavioural, emotional, and cognitive aspects), the new inventory captures dimensions of absorption, dedication and energy within academic settings. The new instrument was tested in a sample of Finnish adolescents who were followed during year 1 and year 2 of their post-comprehensive education. The findings suggest that the inventory provides a valid and reliable measure of engagement in school work. School-work engagement varies by school track, with students on a vocational track being more engaged, and it becomes more differentiated over the school years. School-work engagement is higher among girls than boys, and it is lower for students who feel burned out and depressed.

PATHWAYS programme activities during 2011 included an international workshop held at the Villa Lante in Rome and a seminar on ‘Happy Schools’ held at the University of Helsinki, both co-hosted by the Helsinki Collegium for Advanced Studies. We also organised a number of PATHWAYS symposia at international conferences including the SRCD conference in Montreal (March 2011), the ECP conference in Istanbul (July 2011), and the EDP conference in Bergen (August 2011). Please visit our website to find out more about the symposia and the work of our team at www.pathwaystoadulthood.org
Active engagement in school is critical to a student’s educational success. Research suggests that students who are more engaged in learning earn higher grades and show better personal adjustment to school (Archambault et al., 2009; Wang & Holcombe, 2010). Conversely, students who are disengaged from school are more likely to experience academic failure, school dropout, and a host of other negative psychosocial outcomes. School engagement is of particular interest to researchers because it is both a malleable state that can be shaped by social context and a robust predictor of a wide range of educational outcomes (Fredricks, Blumenfeld, & Paris, 2004).

The construct of school engagement incorporates multiple distinguishable features, including behavior, emotion, and cognition (Fredricks et al., 2004; Wang, Willett, & Eccles, 2011). It has the potential to integrate separate lines of research (e.g., motivation, strategy use) and thus, can provide a rich characterization of how students act, feel, and think. Despite the great amount that we have learned about student engagement, the literature has several gaps. First, the definitions, measures, and designs do not capitalize on what a multidimensional conceptualization of engagement can offer. Second, most existing research has failed to capture the dynamic and interactive nature of engagement. Very few empirical studies have included and studied the different types of engagement simultaneously, either as consequences of multiple contextual antecedents or as influences on different developmental and educational outcomes. Nor is it clear whether contextual factors work additively or interactively to influence engagement, and whether engagement acts as a mediator between context and educational outcomes (Fredricks et al., 2004).

Here we report on a series of studies in which we examined the characteristics of school engagement and the role of school climate in shaping school engagement throughout different school transitions with the aim to help develop policies and school interventions to enhance student engagement.

### Study Sample
Participants of the study were part of the Maryland Adolescent Development in Context Study, a longitudinal study of approximately 1,000 adolescents from 23 public schools in an ethnically and socioeconomically diverse county on the east coast of the United States (56% were African-American, 44% were European-American, and 52% of the students were females).

### School engagement as a multidimensional construct
In the first study, we examined the structure and measurement invariance of different dimensions of school engagement, by gender and ethnicity. We verified that school engagement is a multidimensional construct, which can be conceptualized as: (a) behavioural participation (type of behavioural engagement), (b) school identification (type of emotional engagement), and (c) self-regulated learning (type of cognitive engagement). In our sample, the factor structure did not substantially differ for boys and girls, nor did it differ for European-American and African-American students, in terms of the underlying constructs of engagement and the composition of these constructs. The findings provide empirical support to adopt a multidimensional approach to investigating different types of engagement rather than combining them in a single measure. This study provided a foundation for the subsequent analyses. Moreover, the findings hold substantive and methodological implications for researchers studying issues relevant to engagement and to educators seeking to enhance educational outcomes that rely in large part on the extent to which their students are behaviourally, emotionally, and cognitively engaged with school.
Given the multifaceted nature of school engagement, future research on the conceptualization and assessment of adolescent engagement in school can be enhanced by the multidimensional approach and empirical strategies presented in the study. Finally, the measurement invariance of the factor structure also has implications for school-based intervention programs. Having such invariant instruments may be valuable for researchers and practitioners who might want to assess group differences within the school contexts or who might want to determine whether interventions have differential effects on various subgroups within their school.

Different dimensions of school engagement contribute differently to academic performance and dropout rates
In the second study, we investigated the trajectories of the three dimensions of school engagement from 7th through 11th grades and examined whether these trajectories differed by adolescents’ gender, ethnicity, and SES. In addition, we investigated whether changes in school engagement predicted changes in educational outcomes (i.e., academic achievement and dropout). Our findings suggest that behavioural participation, school identification, and self-regulated learning decreased between grades 7 and 11, with school identification declining most markedly. When school engagement was examined as a multidimensional construct, the various dimensions of school engagement contributed differently to academic performance and dropout rates. Specifically, changes in both school participation and self-regulated learning were positively linked to GPA. This finding confirmed the basic notion that students are more likely to succeed academically when they attend classes regularly, participate in class, and use self-regulated learning strategies to help understand the class materials. While we found school participation to be a strong predictor of dropout, it appears that dropout was more of a combined function of behavioural participation and emotional belonging than just participation alone. In addition to being well-behaved in school, adolescents need to feel a sense of acceptance, inclusion, and connection with school to motivate them to fulfill the school requirement and finish high school. The use of individual growth modeling enabled us to identify distinct trajectories of behavioural, affective, and cognitive engagement during adolescence and to examine the relationships between these pathways and the change in academic outcomes over time. Our findings indicate that the three types of school engagement are not static and do change over time. Any analysis assessing their mutual influence should take into account the dynamic nature of these processes. In addition, we note that the effects of school engagement on academic outcomes varied with respect to the type of engagement. These results underscore the importance for school personnel to focus on interventions aimed at specific dimensions of school engagement in order to effectively promote students’ academic success. This knowledge will support the development of tools and programs for at-risk students in school.

Adolescents’ perceptions of school climate are differentially associated with their school engagement.
In the third study, we investigated which features of school climate in 7th grade best supported or undermined the different dimensions of school engagement in 9th grade. Based on stage environment theory, expectancy-value theory, and self-determination theory (Deci & Ryan, 2000; Eccles, 2009) we conceptualized competence, autonomy, and relatedness not just as individual psychological feelings, but also as tools for evaluating how well the school environment fulfilled adolescents’ basic needs. In addition, we examined the role of adolescents’ achievement motivation in mediating the relationships between their perceptions of school climate and their engagement in school. Our findings provide empirical evidence that teachers can promote students’ learning motivation and engagement by creating a supportive school environment that stresses and provides opportunities for the students to feel autonomous, competent, and emotionally supported. Such school environments allow all students to be successful at the required academic and social tasks, provide the students with a voice and provide emotional support to all students. Our study thus supports the notion that the quality of both academic and social domains of school environment is important and efficient in developing students’ positive perceptions of the school environment and in turn, promoting students’ motivation and engagement. The multidimensional conceptualization of engagement makes it possible to disentangle the unique contribution of each school factor to different types of engagement. Furthermore, appropriate school climate supports enhance adolescent engagement directly as well as indirectly through increasing achievement motivation. With a thorough understanding of how school environment serves as a protective factor against further disengagement, schools can establish effective preventions and learning environments to support adolescents’ school engagement.

Variations in engagement profiles predict educational success and mental health.
In the fourth study, we used a multidimensional and person-centered approach to examine profiles and subgroups of adolescents characterized by unique patterns of behavioural participation, school identification, and self-regulated learning. We then tested whether adolescents’ developmental outcomes varied as a function of different combinations of engagement components by using the engagement profiles to predict educational success and mental health. We identified five profiles of school engagement in 9th grade: Highly Engaged, Average Engaged, Minimally Engaged, Emotionally Disengaged, and Cognitively Disengaged. These
five groups differ in their educational and psychological functioning. For instance, the Emotionally Disengaged adolescents exhibited high levels of behavioural compliance and self-regulated learning and therefore were likely to be considered high performing students by their teachers. In contrast to the Highly Engaged or Average Engaged adolescents, however, the Emotionally Disengaged youth had the lowest level of school belonging and the highest risk for mental health problems. In terms of stage-environment fit theory (Eccles et al., 1993), this is the group of students who fit least well into the school context. They have the cognitive skills to do well in school and apparently feel they need to attend but they do not like being there. This should place them at the greatest risk for mental health problems – which it does. Interestingly, the adolescents classified as Cognitively Disengaged, who exhibited the lowest level of self-regulated learning yet still reported relatively high behavioural participation and school belonging, have better mental health than the Emotionally Disengaged even though they are doing worse academically.

This pattern is consistent with stage-environment fit theory in that these youth are emotionally and behaviourally engaged at school and thus may have found a way to fit in the school context (Eccles & Midgley, 1989). They are academically at risk but not emotionally at risk. Unfortunately, these adolescents may be overlooked by teachers even though they are at risk for academic failure precisely because they are doing pretty well socio-emotionally and not causing discipline problems for the teachers.

In summary, our four studies contribute to the literature on school engagement in several ways: We provide empirical evidence supporting a multifaceted nature of school engagement and also demonstrate the usefulness of such a multidimensional conceptualization for the design of interventions aiming to enhance educational success and mental health. We do not intend to suggest that this conceptualization of school engagement represents a comprehensive overview of all indicators of engagement. However, approaching student engagement as a process characterized by multiple dimensions would greatly advance our understanding of why some youth perform well academically and others do not. Further, considering simultaneously multiple dimensions of student engagement from a person-centered perspective, yielding distinct school engagement profiles, suggests a useful approach for addressing sample heterogeneity and understanding different forms of school engagement and their consequences. Finally, these studies underscore the importance of studying development of school engagement within a person-environment fit scenario. Social contexts in which adolescents are embedded work differently for adolescents of different genders and ethnicities. School engagement seems to be influenced by the proximal process in the form of interpersonal relationships and social and academic support and by the resources that adolescents can draw on during this process of development.

Advancing our knowledge about the complex processes and interactions of personal and contextual factors in school engagement can help teachers and parents create environments that support adolescents while they navigate challenges and barriers in their quest for school success and completion.

References

Ming-Te Wang

Ming-Te Wang received his doctorate in Developmental Psychology from Harvard University. Prior to entering graduate school, he was a school counselor in a rural middle school. This professional experience provided him with an insight into the complex web of cultural and contextual processes and their impact on development and the importance of early prevention and intervention. His research has focused on the impact of school and family climate on adolescent motivational beliefs and engagement and the effects of multiple ecological systems on the behavioural, social, and emotional development of youth from diverse socioeconomic and cultural backgrounds. His work is noteworthy in that it emphasizes the interplay of developmental processes across both academic and social domains in adolescence, and situates these processes within family, school, and community contexts.

Over the past year, his research has focused on three areas: 1) the conceptualization and development of student engagement measures, including general school engagement and classroom engagement across specific subject domains; 2) the examination of antecedents, correlates, and long-term outcomes of youth academic motivation and engagement, as well as the factors and processes promoting the educational and career development of youth; and 3) the developmental impact of school- and community-based interventions targeting adolescents' academic skills as well as mental health.

**Awards:**
This year Ming-Te Wang was given the National Institute of Child Health & Human Development Fellow (2011) award, Applied Research in Child and Adolescent Development Summer Institute, and the American Educational Research Association Fellow (2011) award, Summer Institute on Statistical Analysis for Education Policy.

**Selected Journal Publications:**
- Wang, M. T., & Huguley, J. (in press). The buffering role of racial socialization from parents on the association between racial discrimination and adolescents’ educational outcomes. Child Development.
Schoolwork Engagement Among Finnish Adolescents: Introducing a New Inventory

What Is Schoolwork Engagement?
In previous research, engagement in school has been described as a multi-dimensional construct, comprising behavioural (e.g. students’ involvement), cognitive (e.g. students’ investment), and affective (e.g. students’ enjoyment and interest) components (Appleton, Christenson, Kim, & Reschly, 2006; Fredricks, Blumenfeld, & Paris, 2004). Similar constructs have been used in studies on work engagement, describing one’s absorption (e.g. concentration), dedication (e.g. willingness to learn and invest), and energy (e.g. vigor and enjoyment) (Schaufeli, Martinez, Pinto, Salanova, & Bakker, 2002). These components describe different aspects of engagement and are positively associated with each other. In our study, we wanted to test whether the three aspects of work engagement, i.e. absorption, dedication, and energy also apply in academic settings.

A new instrument to measure schoolwork engagement
We developed a new inventory measuring students’ absorption in, dedication to, and energy towards schoolwork and their studies (Salmela-Aro & Upadyaya, in press). We then tested the schoolwork engagement inventory on Finnish adolescents in post-comprehensive education and validated the new schoolwork engagement inventory. We also tested the underlying dimensional structure of schoolwork engagement and examined possible developmental changes. In addition, we assessed the role of several antecedents of schoolwork engagement, such as students’ burn out symptoms and well-being, self-esteem, and previous academic performance.

The sample and measures used in the analysis
We used the FinEdu data in which a total of 1530 students (769 girls, 761 boys) participated from 13 post-comprehensive (6 upper-secondary, 7 vocational) schools in Eastern Finland. The students were 16 years old at the baseline, and the data was gathered during their first (Time 1) and second (Time 2) year of the post-comprehensive education. The following measures were included in the analyses:

- Schoolwork engagement: the new 9 item inventory contains three subscales (3 items each): absorption (for example: “I feel happy when I am working intensively at school.”), dedication (for example: “I am enthusiastic about my studies.”), and energy (for example: “At school I am bursting with energy.”)
- School burnout [existing inventory measuring students’ exhaustion, cynicism, and sense of inadequacy at school, see Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009].
- GPA of the final comprehensive school report
- Depressive symptoms [DEPS-10; Salokangas, Stengård, & Poutanen, 1994]
- Self-esteem [Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995]

What did we find?
- In our sample of Finnish adolescents the schoolwork engagement inventory offers a valid and reliable assessment of feelings of absorption, dedication, and energy towards schoolwork.
- We found developmental changes in the structure of students’ schoolwork engagement. At the beginning of post-comprehensive education, engagement was better described in terms of overall schoolwork engagement [one-factor model], whereas later on, students’ engagement was best described in terms of three correlated latent factors, namely absorption, dedication, and vigor. These results suggest that during the first year of post-comprehensive education engagement with school reflects one’s overall feeling about school and studies, whereas in the second year, which is closer to the transition to higher education...
or work, engagement becomes more differentiated and similar to one’s engagement in work. Students’ engagement furthermore showed substantial stability over the school years.

- When students experienced low-level burn out and depressive symptoms, and high self-esteem and GPA, their schoolwork engagement was high at both measurement times. Previous studies have shown similar negative associations with burn out symptoms (Salmela-Aro, Kiuru, & Nurmi, 2008) and positive associations with high academic performance resulting from school engagement (Ladd & Dinella, 2009). Moreover, the results suggest that high self-esteem and personal well-being may promote one’s engagement in schoolwork.

- Girls and students in vocational school experienced higher levels of schoolwork engagement than boys and students in upper-secondary schools. These results support earlier findings showing that students following the academic track typically experience higher levels of exhaustion because of the high academic demands of their studies (Salmela-Aro et al., 2008). This may also show later on as a decrease in their engagement. Similarly, girls typically experience higher levels of overall school engagement than boys (Marks, 2000).

The findings suggest that engagement of students in their schoolwork can be described in similar constructs as engagement in work-related settings, especially during the final stages of their education transition.

Schoolwork engagement is generally higher among girls than boys; it is associated with how students feel at school. For example, the experience of burnout and depression undermines schoolwork engagement, while high levels of self-esteem and academic attainment increase it. Schoolwork engagement furthermore varies by school track, with students on the vocational track being more engaged, maybe because it is more closely work-related.

**Impact of the Research**
The schoolwork engagement inventory has been shown to work successfully in school and work settings.

The Ministry of Education in Finland has shown interest in the results, and the findings are being taken into account in the current planning of new education policies.

The next step of our study is to follow the same students further and to identify the different developmental trajectories of their engagement from school to higher education or work. Moreover, it will be important to test the schoolwork engagement inventory in other countries, for which the ongoing collaboration between the PATHWAYS research groups will provide a good context. In addition, more knowledge and high self-esteem and GPA, their associated outcomes, such as subsequent personal well-being and life satisfaction.

**References**

Fellow Profile

Katja Upadyaya

Dr. Katja Upadyaya joined PATHWAYS in May 2009 as an associate fellow. Her research interests are parent-child and teacher-student interaction, and particularly how these relationships influence children’s and student’s learning and motivation at school.

Katja Upadyaya (formerly Natale) wrote her PhD thesis in 2007 at the University of Jyväskylä, Finland concerning parent's causal attributions and children's academic achievement. Following this her research focused on teacher's beliefs and their association with children's academic skills and motivation. In 2009 she received a three year funding from the Academy of Finland for her postdoctoral research project concerning teachers' beliefs and children's learning. Currently she is a visiting post doctoral researcher at the Research Center for Group Dynamics (RCGD) at the University of Michigan, and continues to do research on teacher-student interaction in the Childhood and Beyond (CAB) study. Katja has also done research related to the development of motivation and self-concept of adolescents (MSALT Study), and school engagement and its possible antecedents and consequences (FinEdu Study).

Awards
In August 2011 Katja Upadyaya received the Jacobs Foundation fellowship award for excellent young researcher.

Publications

- Natale, K., Vida, M., & Eccles, J. S. [in preparation]. How teachers’ perceptions of ability and effort contribute to children’s interest in different academic domains?.
School engagement as a predictor of political trust

The role of school engagement in promoting successful career development has been demonstrated in a number of studies across different cultural contexts (Eccles, 2004; Fredricks, Blumenfeld & Paris, 2004; Wang & Holcombe, 2010). There is furthermore evidence to suggest that school engagement is an important resource capacity for younger students planning their careers (Salmela-Aro, Tolvanen & Nurmi, 2009; Schoon, 2008) and promoting their mental health (Wang, Willet & Eccles, 2011). It is also a resource for students who encountered a problematic transition, such as leaving school early (Schoon & Duckworth, 2010). In addition, recent evidence points to a significant role of school engagement in shaping political trust, i.e. the confidence people place in their government and institutions (Schoon and Cheng, 2011).

Ingrid Schoon, Kathryn Duckworth and Helen Cheng, Institute of Education, University of London

The topic of political trust has become increasingly important in recent debates and academic research, following a downward trend regarding people’s trust in institutions across most industrialized as well as developing nations (Inglehart, 1997; Lerner, 2004; Putnam, 2000). As most countries are currently undergoing rapid economic, political, and social change, it becomes more and more important to understand how and why individuals develop trust and commitment in society and its institutions. Based on evidence from longitudinal data collected for two nationally representative samples of the British population Schoon and Cheng (2011) developed and tested a lifetime learning model of political trust, examining the role of early as well as later experiences with institutions in shaping the formation and expression of political trust in adulthood.

The findings suggest that attitudes towards institutions and the political system appear to be shaped by both early childhood experiences within the family and the school context as well as later experiences in the economic system. High levels of school engagement, which can be understood as a marker of early experiences with institution, were directly associated with high levels of political trust in adulthood. However, trust in institutions is not completely ingrained at an early age and develops over time and context. The findings underline the importance of conceptualizing the formation of social attitudes as a developmental process, shaped through the accumulation of experiences and psycho-social resources over time.

While the experience of cumulating advantages and resources was found to be associated with trust placed in the institutions that created opportunities and life chances, the persisting experience of disadvantage appears to be associated with a loss of trust in institutions. Increasing and promoting the engagement of young people in the school context can provide a crucial window of opportunity to enhance political trust and the engagement of young people in society at large. Early and later experiences with institutions can exert similar and reinforcing effects, although later revisions of developmental trajectories are possible.

Future research of the PATHWAYS team will examine in more detail the dynamic processes involved in the formation and maintenance of engagement across different settings, i.e. school-, work- and community-related activities, the wider implications of early experiences, and ways to promote effective functioning across contexts and over time.

References

The Happy School seminar, organized by PATHWAYS Principal Investigator, Katarina Salmela-Aro at the University of Helsinki, brought together compelling evidence from different countries of how characteristics of schools and the larger educational systems matter for young people’s educational transitions and their productive development. As a result of this conference a position paper was written. The findings presented underscored the importance of an interdisciplinary perspective, integrating sociological, psychological and pedagogical approaches. Schools can support educational transitions by promoting positive motivation, school engagement and school success of all students, immigrant and non-immigrant alike by addressing four key developmental needs of young people:

- **Relatedness:** Increase adult-youth contacts, positive role models, career guidance and sense of whole school and community
- **Mattering:** Provide opportunities for students to be authentic and to matter
- **Competence:** Make sure everyone can feel competent in the school context
- **Autonomy:** Increase democratic organisation of schools to enable students to feel connected to their schools and help them to develop a positive view of their experiences.

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**Upcoming Seminar**

**HAPPY SCHOOL 2: Peers and School**

**October 10-11, 2011**

**Venue:**
Helsinki Collegium for Advanced Studies, University of Helsinki

**Organizers:**
- Professor Katarina Salmela-Aro, Helsinki Collegium for Advanced Studies, University of Helsinki
- Professor Christina Salmivalli, University of Turku
- National Doctoral Programme of Psychology, Academy of Finland, Jacobs Foundation

The “Happy School 2: Peers and School” seminar brings together prominent and emerging researchers to share new methodological ideas, innovative approaches and advances in the field of peer relationships. The first day of the seminar focuses on peer relations in context, including dyadic contexts. The second day has a methodological focus in deepening the understanding of methodological issues concerning peer research, with emphases on dyads and social relations modeling, peer networks and classrooms.

The seminar is free and open for everyone. Please register by contacting Mette Ranta: mette.ranta@helsinki.fi, tel. (+358) 9 191 22643.

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