



Differential patterns of school motivation in students of culturally and linguistically diverse backgrounds

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Abstract

The purpose of this paper was the comparative empirical investigation of school motivation in students of culturally and linguistically diverse backgrounds. Disparities in the levels of multiple adaptive as well as maladaptive dimensions of school motivation between students with and without immigrant backgrounds were investigated. Moreover, the explanatory role of socioeconomic status was examined. Data from 785 students from grade 6, drawn from 36 different German schools were analysed. School motivation was assessed with the eleven translated subscales of the *Motivation and Engagement Scale* (Martin, 2010). This highly differentiated and integrative instrument does not only take into account adaptive cognitive and behavioural dimensions of school motivation, but also maladaptive cognitive and behavioural dimensions. A multivariate analysis of variance (MANOVA) was performed and effect sizes were calculated. School track was included in the model as a control variable. The results showed no differences in the adaptive motivational dimensions between students with and without immigrant backgrounds. At the same time, students with immigrant backgrounds scored higher on all maladaptive cognitive dimensions while no group differences were observed with regard to the maladaptive behavioural dimensions. After the inclusion of socioeconomic status as a covariate in the model, the reported statistically significant differences between students with and without immigrant backgrounds were no longer identifiable with respect to two of the three maladaptive cognitive dimensions. Implications of the results for research and pedagogical practice in the field of scholastic support for students with immigrant backgrounds are discussed.

1. Introduction

Worldwide migration movements have resulted in rising numbers of students with immigrant backgrounds in many European educational systems as well as in the educational system of the United States (OECD, 2010b). As a consequence of im-

migration, the German student body has also become very heterogeneous over the past decades (Autorengruppe Bildungsberichterstattung, 2012). Teachers in German elementary and secondary schools face new opportunities but also challenges as their classrooms are increasingly characterized by a high degree of cultural and linguistic diversity. Numbers concerning the proportion of students with immigrant backgrounds in the German educational system vary depending on which operationalisation of immigrant background is chosen by the respective authors. The most common indicators are: family language, country of birth, parental country of birth, and citizenship. Regardless of this inconsistency, national empirical data demonstrate for Germany rather unanimously disparities in achievement and participation in the educational system to the disadvantage of students with immigrant backgrounds in comparison to their peers without immigrant backgrounds (Gogolin, 2006; Stanat & Edele, 2011). The international student assessment surveys PIRLS (*Progress in International Reading Literacy Study*) and PISA (*Programme for International Student Assessment*) show significantly reduced competence acquisition in children with immigrant backgrounds in comparison to children without immigrant backgrounds in many countries including Germany (Mullis, Martin, Kennedy & Foy, 2007; OECD, 2010a). In the attempt to explain these group differences in scholastic outcome variables and establish approaches to overcome them, it is important to focus not only on achievement itself under conditions of cultural and linguistic diversity, but also to examine variables which are known to be associated with achievement. One of the constructs which take a prominent position in this context is motivation. There is a wide-ranging body of research which theoretically assumes a positive association between school motivation and achievement (Ryan & Deci, 2000). Empirical evidence confirming the proposed relationship is ample (e.g., Chiu & Xihua, 2008; Retelsdorf, Köller & Möller, 2011). At the same time, there is still only limited knowledge on school motivation and its effects under conditions of cultural and linguistic diversity. The objective of the present study was to examine similarities and disparities in various dimensions of school motivation between students with and without immigrant backgrounds and to contribute to the deeper understanding of potential differences in patterns of school motivation between students with and without immigrant backgrounds.

2. School motivation

The construct of motivation is very complex and can be viewed from various theoretical perspectives. The respective individual theoretical approaches differ not only in their emphasis but also in their basic assumptions. According to Pintrich (2003) the connecting element is that “motivational theories are concerned with the

energization and direction of behavior” (p. 669). We assume that students experience various motivational phenomena and as the aim of the present study was the deepening of knowledge on school motivation in the context of migration, it seemed advantageous to us to take into consideration not only one single motivational theory, but rather combine different approaches in order to achieve a more comprehensive understanding.

An important theoretical structure with respect to school motivation and engagement was proposed by Martin (2007). Liem and Martin (2012) define motivation as “individuals’ energy and drive to learn, work effectively, and achieve to their potential” (p. 3) and engagement as “the behaviours aligned with this energy and drive” (ibid.). In line with these definitions Martin (2007) takes into account cognitive as well as behavioural dimensions and, moreover, distinguishes between adaptive and maladaptive dimensions. A two-level factor structure with four higher-order factors and eleven first-order factors is assumed. The higher-order structure encompasses adaptive cognitive and behavioural dimensions as well as maladaptive cognitive and behavioural dimensions reflecting positive and negative motivational orientations as well as advantageous and disadvantageous behavioural strategies in achievement situations (Liem & Martin, 2012). As multiple dimensions of motivation derived from different theoretical approaches are integrated in this theoretical framework, an extensive in-depth discussion covering all dimensions would go beyond the scope of this article. Therefore, the remainder of this section will offer only a brief introduction to each dimension.

The three adaptive cognitive dimensions *mastery orientation*, *self-efficacy* and *valuing of school* are all well-established theoretical constructs. The construct of mastery orientation describes a motivational orientation which is dominated by the desire to improve one’s own competence and not so much by outperforming others or doing well on tests (e.g., Pintrich, 2000). The self-efficacy dimension is theoretically rooted in Bandura’s social cognitive theory (e.g., Bandura, 2002). Bandura (2002) describes self-efficacy as the “core belief that one has the power to produce desired effects by one’s actions” (p. 270). Valuing of school expresses the importance attached to school success and learning by the individual students. This dimension is derived from the expectancy-value model (cf. Wigfield & Eccles, 2000). The three adaptive behavioural dimensions *planning*, *task management* and *persistence* serve as indicators of self-regulation (Martin, 2007). Zimmermann (2008) described self-regulated learning as “self-directive processes and self-beliefs that enable learners to transform their mental abilities, such as verbal aptitude, into an academic performance skill” (p. 166).

Additionally, five maladaptive cognitive and behavioural motivational dimensions are included in the theoretical framework. One of the three maladaptive cog-

nitive dimensions is *anxiety*. There is a broad range of research focusing on school related anxiety (e.g., Pekrun, Elliot & Maier, 2009; Tyson, Linnenbrink-Garcia & Hill, 2009). Martin (2007) included two facets of anxiety in his theoretical framework: nervousness and worrying. The construct of *failure avoidance* focuses on the phenomenon that some students are driven by the desire to avoid failure in achievement situations for reasons of self-worth protection (Thompson, 2004). Theoretically derived from attribution theory (Weiner, 1985, 2000), the dimension of *uncertain control* captures the notion of control with respect to success in academic settings. *Self-handicapping* and *disengagement* constitute the maladaptive behavioural dimensions. Self-handicapping refers to the preventive use of success-hindering strategies in achievement situations which can be used as causal explanations in the case of actual failure (Urda & Midgley, 2001). The construct of disengagement, on the other hand, refers to the acceptance of failure in school and concurrent processes of devaluation (cf. Martin, Anderson, Bobis, Way & Vellar, 2012; Schmader, Major & Gramzow, 2001). While all of the previously described eleven motivational constructs are theoretically well-grounded and distinct phenomena, there is still a need for more sophisticated knowledge of peculiarities in the context of migration.

3. School motivation in the context of migration

Assuming a bi-directional positive relationship between school success and school motivation, the comparatively low school success of children with immigrant backgrounds in Germany poses unfavourable conditions for the development of high adaptive school motivation and at the same time facilitates the development of maladaptive school motivation. It can be assumed that children with immigrant backgrounds experience a comparatively high number of negative factors, for example, negative feedback from teachers and comparisons with potentially more competent classmates (Marsh, 1986; Stanat & Christensen, 2006). Moreover, we have to take into account that students with immigrant backgrounds are not only more likely to be confronted with negative stereotypes, but also that they are often aware of group differences in achievement and participation in the educational system to the disadvantage of their own group. On the other hand, factors inherent to the experience of migration as, for example, elevated hopes of parents with immigrant history for their children's future (Kao & Tienda, 1995) make higher adaptive motivation in students with immigrant backgrounds plausible.

Previous studies on motivational orientations in different cultural settings have given empirical evidence of higher motivation in students with immigrant backgrounds. Stanat and Christensen (2006) identified heightened motivation in stu-

dents with immigrant backgrounds in comparison to students without immigrant backgrounds in different national contexts on the basis of the PISA 2003 data. Gillen-O'Neel, Ruble, and Fuligni (2011) confirmed this group difference comparing American elementary school students of Chinese, Dominican and Russian descent to their peers without immigrant backgrounds, while Phalet and Claeys (1993) found higher school motivation in students with Turkish immigrant backgrounds in comparison to their peers without immigrant backgrounds in the European context. However, these empirical findings are not conclusive. For example, Verkuyten, Thijs, and Canatan (2001) differentiated between family-oriented and individual-oriented motivation and found that students with Turkish immigrant backgrounds scored higher than their Dutch peers only on family-oriented motivation while no group differences were identified with regard to individual-oriented motivation. Moreover, empirical evidence of differences between students with and without immigrant backgrounds with respect to the previously mentioned maladaptive dimensions (compare section 2) is still scarce. Higher scores of students with immigrant backgrounds on measures of the maladaptive cognitive dimension anxiety were reported, for example, by Gillen-O'Neel et al. (2011) and Stanat and Christensen (2006).

While we have empirical evidence of comparatively high adaptive school motivation in students with immigrant backgrounds, these students exhibit lower school success than their peers without immigrant backgrounds as described in section 1. These results contradict the theoretical assumption of a positive association between school motivation and achievement. Group differences in maladaptive motivational dimensions could serve as a possible explanation for this paradox. Theoretical considerations concerning the group-specific, comparatively unfavourable schooling experiences of students with immigrant backgrounds led us to the assumption that taking into account maladaptive motivational dimensions in addition to the typically investigated adaptive motivational dimensions is essential to understanding the full spectrum of disparities in school motivation between students with and without immigrant backgrounds. Moreover, it is crucial to take into consideration variables which could possibly be confounded with the immigrant status and show a relation to the variable of interest.

4. The role of socioeconomic status

Socioeconomic status is a potential explanatory variable for disparities in school motivation between students with and without immigrant backgrounds. The influence of socioeconomic status on scholastic variables can be interpreted in the framework of human capital theory, which assumes a mediating role of parental

investment (Schmid, 2001). Substantial positive associations between socioeconomic status and competence acquisition have been reported repeatedly (e.g., OECD, 2010a). Fewer studies have examined the relationship between socioeconomic status and school motivation. However, Hodge, McCormick, and Elliott (1997), for example, identified a negative relationship between socioeconomic status and the maladaptive dimension anxiety. Moreover, there are significant differences in socioeconomic status between families with and without immigrant history in Germany. Among others, Carey (2008) could identify a lower average socioeconomic status in families with immigrant history in comparison to families without immigrant history. Knowing about this uneven distribution of socioeconomic status, it seems crucial to investigate to what degree potential disparities in motivation can be explained by differences in socioeconomic status and, thus, are not innately explicable by the immigrant status itself.

5. The present study

The present study examines differences in multiple dimensions of school motivation between students with and without immigrant backgrounds. Moreover, the explanatory role of socioeconomic status is investigated. Based on the assumption that students with immigrant backgrounds face less advantageous scholastic circumstances with respect to their motivational development, while, at the same time, they could possibly benefit from encouraging migration-specific parental attitudes, the following research questions and the corresponding hypotheses were formulated: (1) Is the level of adaptive school motivation higher in students with than in students without immigrant backgrounds in secondary school? (2) Is the level of maladaptive school motivation higher in students with than in students without immigrant backgrounds in secondary school? (3) Can differences in socioeconomic status explain disparities in school motivation between students with and without immigrant backgrounds in secondary school?

On the one hand, beneficial parental attitudes might counteract disadvantageous motivational developments in students with immigrant backgrounds, while, on the other hand, the group of students with immigrant backgrounds faces comparatively low school success, an increased risk of encountering negative stereotypes and the awareness of objective group differences with regard to school achievement. In line with these considerations we hypothesized that the level of adaptive school motivation does not differ between students with and without immigrant backgrounds (Hypothesis 1), while we assume higher maladaptive motivation in students with immigrant backgrounds in comparison to students without immigrant backgrounds (Hypothesis 2). Theoretically assuming an association between socioeconomic sta-

tus and motivation, we hypothesized that the expected disparities in maladaptive school motivation between students with and without immigrant backgrounds can be explained partly by differences in socioeconomic status (Hypothesis 3).

6. Method

6.1 Research design and participants

The analyses are based on data of the *Panel Study at the Research School 'Education and Capabilities' in North Rhine-Westphalia* (PARS) (Germany; 2009–2011). Data from 785 students from grade 6, tested in November 2010, were included in the analyses. The students were drawn from 36 different schools and 42.3 % of them attended a grammar school. 50.9 % of the participating students were female. The students' average age was $M = 11.95$ years ($SD = 0.53$). 22.2 % of the students had at least one foreign-born parent and experienced incongruence between school and family language. These students were classified as students with immigrant backgrounds (for a more detailed explanation of this operationalisation please refer to section 6.2.1).

6.2 Instruments

6.2.1 Immigrant background and socioeconomic status

Immigrant background was operationalised through place of birth and language. A dummy-variable was created, which assigned an immigrant status to those students who had at least one foreign-born parent and, additionally, spoke another language besides German in their families (0 = German; 1 = immigrant background). We opted for this operationalisation of immigrant background because of our specific thematic focus. While in the context of research on language-related phenomena it seems theoretically justified to use family language as an exclusive indicator of immigrant background, we argue that the relationship between immigrant background and school motivation is also dependent on a family environment which is influenced by a personal experience of immigration. We assume that the presence of at least one foreign-born parent and the use of a language other than German in the family constitute appropriate indicators of such an environment.

Moreover, the participating students were asked to estimate the number of books available in their homes (1 = 0 to 10 books to 5 = more than 200 books; $M = 3.45$, $SD = 1.19$). These estimations were used as indicators of family socioeconomic status.

6.2.2 School motivation

We assessed school motivation with the eleven translated subscales of the *Motivation and Engagement Scale* (Martin, 2010). The Motivation and Engagement Scale (Martin, 2010) is based on the theoretical framework proposed by Martin (2007) and measures the adaptive cognitive dimensions *mastery orientation*, *self-efficacy* and *valuing of school*, the adaptive behavioural dimensions *planning*, *task management* and *persistence* as well as the maladaptive cognitive dimensions *anxiety*, *failure avoidance* and *uncertain control*, and the maladaptive behavioural dimensions *self-handicapping* and *disengagement*. A hierarchical factor structure can be identified. However, as we were interested in group differences in the individual dimensions, we conducted the analyses of the present study on the level of the first-order factors. Each dimension is measured by four items. Students assess themselves on a seven-point Likert scale (1 = *disagree strongly* to 7 = *agree strongly*). Reliability of the individual scales was adequate and ranged between Cronbach's $\alpha = .60$ and $.84$.

6.3 Statistical analyses

In order to answer the research questions a multivariate analysis of variance (MANOVA) was performed and effect sizes (η^2) were calculated. The model included the variable immigrant background as well as all eleven dimensions of school motivation as dependent variables: mastery orientation, self-efficacy, valuing, planning, task management, persistence, anxiety, failure avoidance, uncertain control, self-handicapping, and disengagement. As the students in our sample were drawn from different school tracks, a corresponding dummy-variable was created (1 = grammar school; 0 = other school track than grammar school) and included in the model as a control variable. In order to answer research question 3, the socioeconomic status was introduced as an additional covariate into the model. All statistical analyses were calculated with SPSS 20.0 (2011).

7. Results

7.1 Descriptive statistics

Means and standard deviations of the multiple dimensions of school motivation included in the analyses are reported in table 1. Means range from $M = 2.65$ (*disengagement* in the group of students without immigrant backgrounds) to $M = 6.29$ (*self-efficacy* in the group of students with immigrant backgrounds). We can observe a tendency of higher means and standard deviations in the group of students with immigrant backgrounds on most dimensions. Table 2 shows the intercorrela-

tions between the individual dimensions of school motivation, immigrant background and socioeconomic status. As expected, we can see statistically significant medium to high positive intercorrelations among the adaptive motivational dimensions as well as among the maladaptive motivational dimensions. Moreover, we identified small positive correlations between immigrant background and all maladaptive motivational dimensions as well as small negative correlations between socioeconomic status and all maladaptive motivational dimensions and between socioeconomic status and immigrant background.

7.2 School motivation of students with and without immigrant backgrounds

To answer research questions 1 and 2, whether or not the level of school motivation differs between students with and without immigrant backgrounds, a multivariate analysis of variance (MANOVA) was performed (compare table 1). The MANOVA identified a significant main effect of immigrant status, $F(11, 763) = 3.65, p < .001$. The effect size was small, $\eta^2 = .05$. Based on the Bonferroni correction the significance level was set to $p < .005$ for the following univariate tests in order to keep down the risk of false positives as a result of multiple comparisons (Bortz, 2005). No significant differences in the adaptive motivational dimensions mastery orientation, self-efficacy, valuing, planning, task management and persistence were found. Thus, hypothesis 1 was confirmed. Hypothesis 2 was partly confirmed as students with immigrant backgrounds scored significantly higher than their peers without immigrant backgrounds on the maladaptive cognitive dimensions anxiety, failure avoidance and uncertain control, but no differences were identified with regard to the maladaptive behavioural dimensions self-handicapping and disengagement. Effect sizes were small.

7.3 The role of socioeconomic status

To answer research question 3, whether or not differences in socioeconomic status can explain disparities in school motivation between students with and without immigrant backgrounds, socioeconomic status was introduced into the model as a covariate. This expansion of the model altered the results significantly. The MANOVA again identified a significant main effect of immigrant status, $F(11, 725) = 2.47, p < .01, \eta^2 = .04$. However, taking into account socioeconomic status resulted in non-significance of the previously identified disparities in the maladaptive motivational dimensions failure avoidance and uncertain control. A difference with regard to the maladaptive cognitive dimension anxiety was still identified. This result confirms our third hypothesis.

Table 1: Means, standard deviations and group differences in school motivation

| | Without immigrant background | With immigrant background | Differences in school motivation between students with and without immigrant backgrounds ₁ | Differences in school motivation taking into account socioeconomic status ₂ |
|---------------------|------------------------------|---------------------------|---|--|
| | <i>M</i> (<i>SD</i>) | <i>M</i> (<i>SD</i>) | <i>F</i> (1, 774) | <i>F</i> (1, 737) |
| | | | η^2 | η^2 |
| Adaptive | | | | |
| Mastery orientation | 5.97 (0.86) | 5.98 (0.96) | 0.09 | 0.55 |
| Self-efficacy | 6.16 (0.77) | 6.27 (0.86) | 3.55 | 5.29 |
| Valuing | 6.26 (0.75) | 6.29 (0.86) | 0.32 | 1.14 |
| Planning | 4.96 (1.24) | 5.17 (1.30) | 2.26 | 2.00 |
| Task management | 5.80 (1.04) | 5.86 (1.13) | 0.35 | 0.70 |
| Persistence | 5.41 (1.05) | 5.55 (1.04) | 2.40 | 3.49 |
| Maladaptive | | | | |
| Anxiety | 4.28 (1.52) | 5.10 (1.42) | 33.90* | 19.99* |
| Failure avoidance | 3.91 (1.70) | 4.52 (1.66) | 10.34* | 4.37 |
| Uncertain control | 4.19 (1.62) | 4.71 (1.40) | 10.22* | 4.97 |
| Self-handicapping | 2.95 (1.73) | 3.39 (1.96) | 2.48 | 0.58 |
| Disengagement | 2.65 (1.26) | 2.98 (1.40) | 4.12 | 1.19 |

Note: MANOVA Wilks' Lambda₁ = .95. *n*₁ = 603 students without immigrant backgrounds; *n*₂ = 173 students with immigrant backgrounds. Wilks' Lambda₂ = .96. *n*₂ = 579 students without immigrant backgrounds; *n*₂ = 160 students with immigrant backgrounds. *M* = mean; *SD* = standard deviation; *F* = test statistic; * *p* < .005; η^2 = effect size.

Table 2: Descriptive statistics: Correlations between school motivation, immigrant background and socioeconomic status

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|-------------------------|-------------------|------------------|---------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|----|
| 1 Mastery orientation | 1 | | | | | | | | | | | | |
| 2 Self-efficacy | .56*** | 1 | | | | | | | | | | | |
| 3 Valuing | .57*** | .61*** | 1 | | | | | | | | | | |
| 4 Planning | .31*** | .31*** | .29*** | 1 | | | | | | | | | |
| 5 Task management | .47*** | .50*** | .53*** | .46*** | 1 | | | | | | | | |
| 6 Persistence | .48*** | .49*** | .46*** | .42*** | .51*** | 1 | | | | | | | |
| 7 Anxiety | .02 | .04 | .02 | .24** | .07* | .06 | 1 | | | | | | |
| 8 Failure avoidance | -.04 | .01 | -.05 | .31*** | .06 ⁺ | .05 | .47*** | 1 | | | | | |
| 9 Uncertain control | -.06 ⁺ | -.03 | -.04 | .24*** | .05 | .05 | .63*** | .51*** | 1 | | | | |
| 10 Self-handicapping | -.19*** | -.17*** | -.20*** | .18*** | -.10** | -.10** | .39*** | .51*** | .40*** | 1 | | | |
| 11 Disengagement | -.27*** | -.26*** | -.32*** | .05 | -.24*** | -.15*** | .32*** | .45*** | .36*** | .64*** | 1 | | |
| 12 Immigrant background | .01 | .06 ⁺ | .02 | .07 ⁺ | .02 | .06 | .22*** | .15*** | .14*** | .10** | .11** | 1 | |
| 13 Socioeconomic status | .09* | .04 | .08* | -.02 | .03 | .06 | -.23*** | -.29*** | -.23*** | -.22*** | -.21*** | -.29*** | 1 |

* $p < .10$.; ⁺ $p < .05$.; ** $p < .01$.; *** $p < .001$.

8. Discussion

The findings demonstrate the complexity of school motivation and highlight the importance of taking into account maladaptive motivational dimensions when dealing with diverse student populations. While no differences between students with and without immigrant backgrounds with respect to the adaptive motivational dimensions were found, significant differences were identified with respect to the maladaptive cognitive dimensions. This result gives first support to the assumption that group differences in maladaptive rather than adaptive motivational dimensions could serve as a possible explanation for the paradox of combined comparatively high adaptive motivation and low competence in students with immigrant backgrounds. Future analyses providing a detailed reconstruction of group-specific differential patterns in the interrelations of the investigated motivational variables will allow for a deeper understanding of the identified group-differences (cf. also Grice & Iwasaki, 2007).

The analyses could not confirm previous reports on higher adaptive motivation in students with immigrant backgrounds (e.g., Gillen-O'Neel et al., 2011; Stanat & Christensen, 2006) in comparison to students without immigrant backgrounds. However, the fact that we did not find any significant differences in the adaptive motivational dimensions between students with and without immigrant backgrounds also leaves room for further discussion, as this result does not reflect the assumed positive relationship between motivation and achievement. Lower achievement in students with immigrant backgrounds has been reported repeatedly by other authors (e.g., Stanat & Edele, 2011). The inclusion of achievement data constitutes an important desideratum for research.

The analyses also revealed that the relationship between immigrant status and maladaptive school motivation partly disappears when socioeconomic status is taken into account. This result implies that not immigrant status itself but rather socioeconomic status could be the source of the identified disparities in failure avoidance and uncertain control. However, as we cannot disentangle these two variables in our analyses, we cannot yet resolve whether it is the immigrant background or the socioeconomic status which causes the observable differences. Moreover, the number of books is a rather limited indicator of socioeconomic status. Another limitation of the present study is that we focused only on one specific age-group. Future studies should examine whether or not our findings can be confirmed with respect to elementary school children.

The findings of the present study have implications for researchers and practitioners designing measures to increase school motivation and school achievement

in the context of migration. We have empirical evidence supporting the assumption that it is important to focus not only on the adaptive but also on the maladaptive motivational dimensions in order to achieve beneficial results. Moreover, the paradox of low achievement in many countries, including Germany, in combination with comparatively high adaptive motivation calls for further in-depth research on differential relationships between motivation and achievement in heterogeneous student populations. In addition, further research will need to elaborate on the relevance of the suggested theoretical structure of school motivation and engagement for alternative cultural settings as well as to clarify the significance of the findings for specific subgroups of students with immigrant backgrounds.

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