

# Teachers' Perception of Inequity in the Remuneration System and Their Reactions<sup>1</sup>

Anne AIDLA<sup>2</sup>

## **Abstract**

*The aim of this study is to find out how teachers react when they perceive inequity in a school's remuneration system. A sample of 115 teachers in Estonia's second-largest city, Tartu, were questioned. While previous studies have treated a perception of equity or inequity more as an individual construct and discussed reactions to it on an individual level, this research shows that organizational members' shared opinions about equity or inequity can also influence organizational outcomes. Consequently, suggestions are made for better coping with potential inequity perception in the organization.*

**Keywords:** *equity theory, remuneration system, school performance, school management*

**JEL classification:** M52, M12

## **1. Introduction**

One element that may influence individuals' behavior at work is the perception of equity. Evaluating inputs and outcomes and estimating their fairness using some basis for comparison is central to Adams' equity theory (Adams, 1963; Adams & Jacobsen, 1964). Analyzing to what extent individuals see their situation at work as fair or unfair is very important, because perceptions of inequity may cause behavioral reactions, whether unfavorable or favorable. According to Adams (1963), there are six possible reactions. The individual can 1) increase or decrease inputs (including performance); 2) leave the organization; 3) influence outcomes; 4) psychologically distort the situation; 5) influence the inputs, outputs, etc., of others and 6) change the basis for comparison.

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<sup>2</sup> **Anne AIDLA**, University of Tartu, Estonia, Email: Anne.Aidla@ut.ee, Phone: +372 737 6320

One topic often analyzed in the context of Adams' theory is pay equity. Previous research has shown how pay equity influences work productivity (Adams & Rosenbaum, 1962), work quality (Adams & Jacobsen, 1964; Lawler & O'Gara, 1967), and individual performance (Evans & Molinari, 1970; Greenberg, 1988). This means that individuals' work effort may be influenced by the fairness of the concrete amount of money that they receive. Does more money motivate individuals to do better work? In a school context the research results have been contradictory. For example, Verstegen and King (1998) analyzed the role of teachers' salaries in the school academic performance context and found a positive correlation between teacher salary and pupil achievement in 74 percent of cases. However, Dolton and Newson (2003) indicate that extra pay for teachers had only marginal and short-term effects on teacher effort. Hanushek (1989) finds that, out of 69 studies on the effect of teacher salary on pupil academic performance, only 15 were statistically significant. In Estonia, teachers make less than the average Estonian salary ("Statistics Estonia," n.d.; "Homepage of the Estonian," n.d.a), and their salary is also low compared to that of other European countries (Baïdak & Pejnovic, 2012/2013). Furthermore, they are not satisfied with their salary, as was expressed by a general strike from March 7 to 9, 2012, in which about 16,000 teachers participated ("Estonian Teachers," 2012). Consequently, how the money is divided might influence their performance and bring out other behavioral outcomes.

The aim of this study is to find out how teachers react when they perceive inequity in the school's remuneration system. "Remuneration system" here refers only to monetary rewards like basic salary and bonuses. The reason for that choice is the fact that a low salary is very problematic for Estonian teachers. Therefore, it is important to analyze how teachers' behavior is affected by the ways in which teachers' pay is divided up.

The contributions of this study are as follows. To the author's knowledge, remuneration-system unfairness and reactions to it in the context of Adams' theory have not been researched before. Some indications can be drawn from the results of procedural justice studies. However, the procedural justice measure considers not only monetary rewards but also non-monetary incentives in examining reward-allocation justice (Leventhal, 1980). Changing performance and turnover (or turnover intentions) have been the most-researched options among Adams' proposed ways to behave in unequal situations in the context of pay equity and procedural justice. The remaining four possibilities have practically not been researched at all (the author has found only one study that considers all six possibilities [Allen & White, 2002]), and none have been researched in a school context. Furthermore, no previous research has analyzed Adams' six behavioral options related to remuneration-system-inequity perception.

First, the theoretical section of the article will introduce Adams' equity theory. Based on theoretical considerations and previous empirical results, research hypotheses are set. Second, the sample and methodology of the survey will be introduced. Third, the empirical section will present an overview of the

consequences that perception of remuneration-system unfairness has in a school context. Finally, the results are discussed, some suggestions are made, and limitations are put forward.

## 2. Theoretical background

The main components of Adams' theory are as follows. First, a person looks at the inputs that he or she brings to the job. Second, a person looks at the outcomes he or she receives from the job. Third, the input-outcome ratio is weighed against some basis for comparison. In the fourth stage, the potential results of comparisons are discussed. When a person has weighed his or her inputs and outputs against the chosen basis for comparison, three possible results may emerge: negative inequity, equity, or positive inequity. This article concentrates only on negative inequity situations (which show that an individual gives more input compared to gained outcomes), because results about positive inequity have not been as consistent. For example, studies by Evan and Simmons (1969) and Anderson and Shelly (1970) have found no differences between overcompensated and equally compensated groups. In studies by Lawler (1968) and Wiener (1970), some hypotheses have been proven and some not. Critics say that perhaps over-reward is not seen as inequity, that maybe organizational members who are overcompensated take this for granted (Cosier & Dalton, 1983). The fifth stage brings out reactions to unequal situations. When a person perceives inequity, he or she experiences tension. In order to reduce the tension, some actions are taken. In his original work, Adams (1963) suggested six behavioral options when a person perceives inequity as stated in introduction part of the article.

The main focus of this article is remuneration-system unfairness and reactions to it (including six behavioral options proposed by Adams). First, it will be analyzed whether individuals might decrease their performance when perceiving remuneration-system inequity. When teachers feel that salary allocation principles are not fair considering their inputs (education level, experiences, time spent, etc.), they might make less of an effort. Many studies on Adams' equity theory have supported his claims that negative inequity concerning pay may influence performance (e.g. Lawler & O'Gara, 1967; Evan & Simmons, 1969). This shows that fairness regarding the amount of money that individuals get is important to them. Following from that, the author of this article believes, furthermore, that the unfairness of the remuneration system (including only monetary incentives) can be related to performance. There are no specific results on this topic, but some evidence can be drawn from closely related study results. For example, from organizational-justice theory (Leventhal, 1980) aspects, procedural justice deals with how fairly monetary or non-monetary resources are divided.

Colquitt et al. (2001) meta-analysis of 183 studies on the relationship between performance and procedural justice shows that the correlation is moderate (correlation coefficient henceforth  $r = 0.30$ ). Cohen-Charash and Spector's (2001) meta-analysis of 190 studies distinguished between field studies and laboratory

studies, and the results were, respectively,  $r = 0.45$  and  $r = 0.11$  (both statistically significant). Additionally, Gilliland and Beckstein (1996) did not find a relationship between these variables, although the reason could be the unique sample – 220 authors who submitted manuscripts to the *Journal of Applied Psychology* – and this qualifies more as experimental research than a situation in a real-life organization.

Unfortunately, there are no previous results concerning this topic in a school context. Nevertheless, recent field studies by DeConinck and Johnson (2009); and Devonish and Greenidge (2010) show that there is a statistically significant correlation between procedural justice and performance (correlation coefficients of 0.26–0.36). To sum up this part of the discussion, it can be said that generally, previous results support the standpoint that perceiving unfairness in money issues can influence individuals' performance, and thus resource allocation equity is important. Therefore the first hypothesis (part a) is set as follows:

H1a: The more that teachers perceive that the remuneration system is unequal, the more they decrease their individual performance.

All studies presented here have measured individual performance. However, in this article, performance is also measured on the school level. For this purpose, individuals' evaluations of remuneration-system unfairness are aggregated to the school level. This choice originates from Currall et al. (2005) ideas, and with some alterations, the argumentation is as follows: 1) individuals' perception on inequity influences their behavior; 2) these different individual behavioral patterns become shared and either functional or dysfunctional organizational attitudes, norms, and behaviors emerge that subsequently impact organizational performance. Therefore, the first hypothesis (part b) is set as:

H1b: The more that teachers aggregately perceive that the remuneration system is unequal, the lower the school's performance is.

The second option that Adams proposes as a reaction to inequity is leaving the field. In this article, turnover intentions are analyzed in that context. The reason is that some studies have stated that turnover intention is the best predictor of actual turnover (Griffeth, et al., 2000), and in many studies actual turnover and turnover intentions are correlated (Mobley, Homer & Hollingsworth, 1978; Bedeian, et al., 1991; Griffeth & Gaertner, 2001; DeConinck & Johnson, 2009). Therefore, higher turnover intentions are a warning sign for the school administration, and teachers' perception of remuneration-system inequity may contribute to that.

From previous research, Cohen-Charash and Spector's (2001) meta-analysis of 190 studies reported a moderately negative relationship between procedural justice and turnover intentions ( $r = -0.40$ ), which indicates that the higher the level of unfairness is, the more likely it is that a person is considering leaving the organization. More recent results confirm that tendency (Loi et al., 2006; DeConinck & Johnson, 2009; Nadiri & Tanova, 2010), with correlation coefficients ranging from -0.26 to -0.51. In a school context, De Gieter et al. (2012) have also found a negative correlation ( $r = -0.38$ ). As before, no previous results

are available to the author about remuneration-system unfairness in the context of turnover intentions, but procedural-justice results may indicate some tendencies. Following from this, the fourth hypothesis is set:

H2: The more that teachers perceive that the remuneration system is unequal, the higher the turnover intentions are.

Finally, besides decreasing performance and leaving the organization, Adams proposed another four ways to react to inequity. As author has not found any previous research about how perception of remuneration-system unfairness or procedural justice is related to these four ways, the assumptions are made purely according to theoretical consideration based on Adams' theory principles. The final hypothesis is therefore:

H3: The more that teachers perceive that the remuneration system is unequal, the more they are changing the outcomes, psychologically distorting their own inputs and outcomes, increasing the inputs of others, and changing the referent.

### 3. Sample and Method

The study was conducted in March 2013 among teachers of secondary schools with daytime classes in Estonia's second-largest city, Tartu<sup>3</sup>. Out of the 12 such secondary schools in Tartu, nine agreed to participate, and a total of 115 individuals took part in the survey<sup>4</sup>. This is 19.9 percent of the teachers from these nine schools ("Homepage of the City," n.d.). Most of the participants in the sample were women (86.1 percent), which is in accordance with the general situation in Estonia: according to statistics, 85.7 percent of teachers in Estonia were women in the 2012/2013 school year ("Homepage of the Estonian," n.d. b). Almost half of the participants were 46 years old or older. Participating teachers are quite experienced, because about 81 percent of them have worked as a teacher for six or more years. Tenure in their current school is also quite high (about 67 percent have worked at their current school for six or more years). A little over half of the respondents have a bachelor's degree, and a little over a third have a master's degree. Participating schools included both those whose curricular language was Estonian and those whose curricular language was Russian<sup>5</sup>.

To analyze reactions to the perception of remuneration-system unfairness, a questionnaire was designed. The scale ranged from 0 to 4 (in which 0 means "not at all" and 4 means "very often"). The statement about the remuneration system was as follows: "I think salary and bonuses are distributed fairly in our school" (for further analysis, this statement was reversed in order to show inequity). According to the reactions to inequity, all six choices from Adams' original work were

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<sup>3</sup> The sample did not include special-needs schools

<sup>4</sup> A questioner handed out questionnaires in the teachers' common room; participation was voluntary.

<sup>5</sup> Fifteen percent of Tartu's inhabitants are of Russian nationality (*Tartu in Figures*, 2013), and there are two secondary schools that use Russian as their curricular language ("Homepage of the City," n.d.)

considered in the questionnaire. By changing the inputs, work effort was considered with the statement “When I am treated unfairly, I make less of an effort at work.” To analyze how many respondents might leave the field, turnover intentions were investigated using the statement, “I have thought about leaving the school because of the unfair situation.” Turnover intentions were selected as a replacement because numerous previous studies in this field have considered turnover intentions according to equity research (e.g., Nadiri & Tanova, 2010; Parker, Nouri & Hayes, 2011), and also in the school context (Baakile, 2011; De Gieter et al., 2012).

The remaining four statements were as follows: 1) “I have discussed the unfair situation with a supervisor” (measuring changing the outcomes); 2) “I find justification for the unfair situation (I don’t know how much others work, I deserve such treatment)” (measuring psychological distortion of the situation), 3) “When I feel that my work contribution is greater than others, I encourage others to work harder” (measuring changing inputs of others), 4) “I feel that although my situation is unfair, compared to some others, I am better off” (measuring changing the referent). In addition, questions about the following socio-demographic variables were added: gender, age, school curricular language, pedagogical tenure, tenure in the current school, and educational level. To compare school performance, aggregated evaluations of remuneration-system-unfairness perception for each school were calculated; otherwise, individual evaluations were considered.

It is often debated what criteria to use to measure schools’ performance. Probably the most-used criterion in empirical studies is pupils’ academic performance (e.g. Roscigno & Crowley, 2001; Lan & Lantier, 2003; Stewart, 2008, etc.). The author of this article acknowledges that enhancing academic performance is not schools’ only objective, because their contribution is much broader and more profound. However, national examination results are some indication of school success, and in this study, three-year (2011–2013) average exam results in mathematics, English, and native language for each of the participating nine schools were calculated based on statistics on the homepage of Foundation Innove (“Homepage of Foundation,” n.d.). These subjects are compulsory for finishing secondary school in Estonia, are often considered when selecting students for university admission in Estonia, and have also been chosen in previous studies for measuring school performance (e.g., Ross & Lowther, 2003; Machin, et al., 2004). A three-year period was chosen to mitigate outlier results for specific schools. Based on the average national examination result among this group of schools, the schools were divided into higher-performing and lower-performing schools.

The data were analyzed using frequency analysis, descriptive statistics (average and standard deviation), and correlation analysis (Spearman correlation coefficient-  $r_s$ ). The acceptable significance level chosen was 0.05. The next section summarizes the results of the empirical study.

#### 4. Results

The first hypothesis (part b), which stated that the more the remuneration system is perceived as unequal by teachers (aggregately), the lower the school's performance is, was not supported by this study ( $r_s = 0.00$ ). Individual evaluations of the remuneration system and decreasing efforts are also not related ( $r_s = 0.08$ ). Only 5.2 percent have decreased efforts in an unequal situation very often and 11.3 percent rather often. Consequently, we can say that some individuals may decrease their efforts, but perhaps not by a considerable amount, or perhaps other teachers' efforts mitigate the effect (since the results presented here are for the entire school).

However, analyzing each school's standard deviations creates an interesting result. In all schools with higher performance, individuals have more of a consensus of opinion, regardless of whether they believe that the remuneration system is more fair or less fair. For example, in school A, which has higher performance, individuals have a rather high evaluation of remuneration-system fairness, and standard deviation is low, which means that there is a significant consensus on this matter. In school G (also with higher academic results), opinions about remuneration-system fairness are quite negative, but here too, there is consensus. On the contrary, all schools that have a higher standard deviation, meaning less consensus about the fairness of the remuneration system, have lower national examination results.

Hypotheses two was supported by this study. More perception of inequity in the remuneration system contributed to higher turnover intentions ( $r_s = 0.34$ ). Generally, about a fifth of respondents have thought about leaving their school because of an unfair situation.

The final hypothesis about the remaining four options when inequity is perceived was supported in only one aspect. It turned out that respondents who feel more unfairness in the remuneration system are more likely to have discussed the situation with a supervisor ( $r_s = 0.20$ ). However, generally this option is used quite rarely: only 2.6 percent of participants have discussed an unfair situation with their supervisor very often, and 9.6 percent have discussed it rather often.

Contrary to expectations, individuals who believe more strongly that the remuneration system is unfair do not encourage others as much to increase their efforts ( $r_s = -0.25$ ). This means that they would prefer to go to their supervisor than discuss the situation with a colleague with whom they have a problem. Generally, encouraging others to work harder is the more favored option; about a third of participants have used that option very often or rather often. The other two options (psychologically distorting one's own inputs or outcomes and changing the referent) were not related to remuneration-system-unfairness perception. Generally, the psychologically distorting option is the least favored by participants; less than 10 percent have chosen this way very often or quite often. Changing the referent is slightly more popular, with almost 20 percent using it very often or quite often. The results of this study will now be further discussed.

## 5. Discussion and Limitations

Out of three hypotheses, one was supported by this study, one was not supported, and one was partially supported. Next, possible explanations for these results are proposed, some suggestions are made, and limitations are put forward.

The first hypothesis – about relationships between teachers' aggregated evaluations of remuneration-system unfairness and a school's academic performance – was not supported by this study. Furthermore, individual evaluations did not reveal that respondents who see the remuneration-system situation as unfair decrease their efforts more. The reason could be that in schools in Estonia (including in Tartu), the salary is based mainly on how many hours a person works and his/her qualification. There is a fixed minimum salary for a full-time pedagogue, senior pedagogue, and pedagogue methodologist; thus their pay differences are about 100 EUR (“Õpetajate palgatõus,” n.d.). There is an additional bonus for class teachers, also depending on qualification level. Mostly, the schools do not have additional resources for pay-for-performance, and only about a third of schools implement some form of performance-related pay (Türk et al. 2011). It is obvious that when the salary does not depend mainly on performance, there is no motivation for additional effort. However, the study by Irs (2012) among Estonian schools (n = 2,165 teachers) shows that schools that implement pay-for-performance have higher national examination results on average and also have more pupils who go on to university. Teachers from Irs' (2012) study gave quite high evaluations for the following statements: “Pay-for-performance is very motivating for teachers” and “Pay-for-performance supports achieving school's objectives”. Thus it could well be that broader implementation of pay-for-performance could be beneficial for the school's performance.

Hypothesis 2 was supported by this study. Perception of the remuneration system as unfair increased turnover intentions. The author is aware that turnover intentions are not entirely predictive of actual turnover, but there is a relationship (see the theoretical part of the article). Although many Estonian teachers have long tenure at the same school, they are increasingly thinking about leaving the school in unequal situations, and when the opportunity comes, they may use it. Therefore, ensuring more equity in the organization is crucial.

The hypothesis about the four remaining options was partially supported. The results showed that teachers who feel more strongly that the remuneration system is unfair tend more to go to the supervisor in unequal situations but, contrary to expectations, do not try so much to increase others' efforts. In general, discussing the unfair situation with a supervisor is not a very popular option among respondents, which is a quite different result from the one available previous study (Allen & White, 2002), in which this was the most used option. One possible consequence is that the school administration is not aware of problems among school members. Often individuals in a leading position have a more positive opinion about the situation. For example, Türk et al. (2011) have discovered that



the school administration thinks, more than teachers do, that the teachers' appraisal is fair.

Among the reactions to unequal situations, increasing others' efforts is quite popular and much more used than in Allen and White's (2002) study, where this alternative was used the least. However, this option should be used even more often; in the author's opinion, increasing others' efforts is (aside from increasing outputs) the most reasonable reaction to inequity among Adams' proposed six possibilities. Both are active and potentially more positive ways to solve unequal situations than decreasing performance or turnover intentions, or passive ways tending toward denial, like changing the referent and psychologically distorting the situation. One reason why both active ways (changing one's own outcomes or others' inputs) are not as widespread as they could be might be the fact that Estonians try to avoid conflicts (Lukk, 2014). This is the most popular way to deal with conflicts, and bringing problems to the administration and implying to others that their efforts are not sufficient is certainly potential ground for tensions.

One encouraging result was that, in higher-performing schools, teachers have more of a consensus regarding the remuneration system. In all lower-performing schools the standard deviations on this issue were higher, which indicates less consensus. Consequently, when attitudes and beliefs are shared, it contributes to performance. Furthermore, shared attitudes and beliefs are the center of organizational culture, which has been in some cases proven to influence organizational performance (e.g., Desphande & Farley, 2004; Balthazard et al., 2006). The same is true for schools: organizational culture and academic performance were correlated in Gruenert's (2005) and van der Westhuizen et al (2005) study. In Estonian schools one study proved that organizational culture is related to academic performance in larger schools and in city schools like Tartu (Aidla, 2009). Therefore, it is useful to invest in organizational culture management. Some examples indicate that changing the organizational culture can improve a school's academic performance (Reavis et al., 1999; Eilers, Camacho, 2007).

The main limitation here is that this study relies on the statements of the respondents. In future research, questionnaires could be complemented with evaluations of real individual performance, actual turnover, and so on. According to this study, some principles of Adams' theory were confirmed, but some aspects were not supported. Additional studies in Estonia could be conducted to find out whether the reason is cultural differences, whether there are any sector differences, and so on. This study explored the extent to which individuals use different options to react to inequity. Future projects could study how these options are ranked, meaning what behaviors individuals choose as their first response to cases of inequity. Additionally, some in-depth interviews could be conducted with both the management and organizational members to obtain a deeper understanding of individuals' behavior and its causes in the context of equity theory.

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