

Original Papers

Polish Psychological Bulletin
2012, vol. 43(2), 112-123
DOI - 10.2478/v10059-012-0013-6

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Socially oriented preferences in decision making and their relation with work and home environment

The aim of this paper was to create a psychometric instrument for the measurement of socially oriented preferences in economic decisions made in professional and private life as well as at scrutinizing the effects of various environmental variables on these preferences. For this purpose, two surveys were carried out on a group of adult working Poles (N=348+487=835). The idea of the new questionnaire and the results of factor analysis are described herein, along with the other examinations confirming the accuracy of the new instrument. A significant correspondence between eight situational factors: five in professional life (goal setting strategy, work style, role and responsibility, position, non-financial rewards) and three in private life (frequency of family meeting, marital status, parenthood), and the intensity of socially oriented preferences in economic decisions was confirmed. Both surveys showed that these preferences undergo significant alterations along with each slightest change in situational factors, even ones not directly connected with the decision at hand. Moreover, the studies indicate that the intensity of socially oriented preferences vary with respect to gender and age. Practitioner Points: (1) Team goal setting strategy, work style, responsibility and non-financial rewards intense socially oriented preferences. (2) Financial rewards are irrelevant for socially oriented preferences.

Keywords: *Socially oriented preferences, individually oriented preferences, economic decisions, work environment, private life*

Introduction

Socially oriented preferences are constituted by a set of various well-known preferences, such as altruism, inequity aversion, reciprocity, or cooperation. They exert an impact on a number of human behaviours, including economic decisions. Social sciences employ questionnaires measuring preferences in a given, prosocial or individual, type of behaviour, such as competitiveness (see, among others, Franken & Brown, 1995; Ryska, 2003) or envy (Solnick & Hemenway, 1998). In the pioneering study conducted by Radzicki (1973, 1976, after: Grzelak, 1978), preferences were measured by means of ranking a couple dozens of payoff pairs (individual payoff and other person's payoff). However, no tool exists which would enable the study of preferences, both in the material and the non-material sphere, with reference to behaviours both maximizing an individual's utility, and allowing for the needs and interest of other interaction participants.

Furthermore, studies from the verge of economic psychology and experimental economy have shown that situational factors affect a person's inclination to socially oriented or individually oriented behaviours. There is evidence for the influence of factors strictly connected with similar decision-making situations, such as a payoff matrix (Ahn, Ostrom, Schmidt, Shupp & Walker, 2001) or an instruction (Larrick & Blount, 1997), as well as of the situational context. It appears that the introduction of economic context (Pillutla & Chen, 1999; Wang, 1996) or social context (Cronk, 2007) in decision-making games significantly alters human preferences. It seemed reasonable, therefore, to include the situational context in the socially oriented preferences questionnaire, accounting at least for the discrepancies between private and professional spheres of life, and regarding both the strictly material matters, and the non-material ones. Drawing on the influence of the situational context in decision-making games, it may be assumed that the questionnaire research should also reflect dissimilarities between private and professional preferences. Hypothesis 1: *Statistically significant discrepancies are to*

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This paper was prepared as a part of the scientific project sponsored by Polish Ministry of Science and Higher Education NN106128635

be noted in the intensity of socially oriented preferences on private and professional life scales. The extent and orientation of these discrepancies should in turn stem from the characteristics of home and working environment. Hypothesis 2: *The intensity of socially oriented preferences is to be varied according to the environment features (whether it is a type of environment, in which social behaviours – collective or individual – are preferred and occur most frequently)*. Taking into consideration numerous studies indicating a marked inter-sexual discrepancies in socially oriented preferences for economic decisions (Bolton & Katok, 1995; Andreoni & Vesterlund, 2001), the possibility of occurrence of such discrepancies had been foreseen and monitored in the study. Hypothesis 3: *Higher frequency in socially oriented preferences are to be noted for females rather than for males*.

The purpose of the present article was to provide a tool measuring the intensity of various socially oriented preferences in economic decisions made in private and professional life (Socially Oriented Preferences Questionnaire – in short, SOPQ), as well as at scrutinizing the effects of situational factors on these preferences. For the reasons mentioned above, two surveys were carried out on a group of adult working Poles. The results of the first survey served the exploratory factor analysis of the new tool; the confirmatory factor analysis, in turn, was based on the outcomes of the second survey.

The first survey involved the representatives of two professions with considerably distinct economic and social positions (teachers vs. managers). The choice of the sample enabled an initial study of the impact of situational context on socially oriented preferences, owing to a vast discrepancy in the job characteristics of teachers and managers. Teachers devise and conduct classes with students on their own and are individually responsible for the form and effects of their work. The choice of this profession is for many of them connected with vocation and not finances, teachers being a profession with one of the lowest income rates in Poland (Sedlak, 2011). Managers, in contrast, more often than teachers practice teamwork in achieving the set goals. The way they are held responsible for the effects of work of their teams, as well as their assessment, motivation and financial rewarding is also different when compared with teachers (they are oftentimes awarded bonuses for the overall effect of the work done by all team members). Financially, they are also usually better situated than teachers; however, the price to be paid for it are non-standard working hours and frequent business trips. On the basis of distinct profiles of both of these professions, major contrasts might be expected to appear in socially oriented preferences concerning professional life. Even so, differences in material status and in the amount of time dedicated to work may indirectly affect their preferences in private life as well. Regarding the above, I assumed that

(Hypothesis 2.1): *The discrepancies between teachers and managers with respect to their socially oriented preferences shall occur predominantly in professional life scales*.

The sample selected for the second survey represented a professionally-diversified group, holding miscellaneous posts. Apart from filling in the SOPQ, they were asked to answer a set of questions concerning their professional and private lives. This enabled the study of influence of home and work environment on socially oriented preferences.

In the subsequent section, the article introduces the main idea of the questionnaire, as well as the results of the tool factor analysis. Next, the results of the first survey are presented, regarding the comparative analysis of both the differences in preferences concerning professional and private lives, and the variation between teachers and managers. The paper then proceeds to discuss the idea, proceedings and outcomes of the second survey, aimed at researching the influence of home and work environments on SOPQ. The article ends with general discussion of the results, and conclusions.

Study 1

The idea of the questionnaire – generating test items

The new socially oriented preferences questionnaire (SOPQ) was initially developed by a group of economic psychologists from the Center for Research in Economic Behavior at Warsaw School of Social Sciences and Humanities (Anna Helka, Zbigniew Piskorz and Tomasz Zaleskiewicz). The initial item pool was drafted on the basis of the previous categorization of socially and individually oriented preferences (Kozielecki, 1970; McClintock, 1972; Grzelak & Jarymowicz, 2001; Grzelak, 2004; Fehr & Schmidt, 1999; Fehr & Fischbacher, 2002). According to the classical work by Grzelak (1978), in economic decisions people tend to take into consideration both their own benefit and the heights of other people's payoffs. However, the salience of each of these two aspects is not identical among all people. Furthermore, they are also dependent on the situational factors. A continuum may be therefore proposed, having on the one end the strictly individually oriented preferences, in which other people's payoffs are insignificant or are important only in the context of gaining advantage (competitive preferences), and the strictly socially oriented preferences on the other end, where there is a priority of the collective benefits or even altruism. The discussion at hand, thus, is concerned with socially oriented preferences understood as preferences for choices positively affecting other people's well-being, and not as ones accounting for other people, but in the context of harming their interests, as postulated by Benedict Herrmann (2011; Herrmann, Gächter & Thoeni, 2008).

Henceforth, in the item generating process, the viability of depicting preferences a continuum scale from

individually to socially oriented behaviour was assumed. In consequence, each test item involved two opposite options referring to the preferred form of behaviour (individually-oriented or socially-oriented), between which a pool of 10 points was to be distributed by the participants in whatever proportion they wish and according to their own preference. In this way, the participants were able not only to indicate the direction of a given preference, but also clarify its intensity. The rate of socially oriented preferences for each question was arrived at by subtracting the amount of points given in answer to A from the amount of points given in answer to B. Owing to the above procedure, a set of answers was generated for each question, ranging from 1 (indicating individually oriented preferences) to 10 (socially oriented preferences).

Generating the test items, consideration was given both to the situations connected directly with money and material goods, and to those concerning non-material matters. The above distinction is based on contemporary research concerned with the way money activation affects prosocial behaviour (Vohs, Mead & Goode, 2006); it also refers to the assumptions of the classical behaviorist theory of learning (Skinner, 1953), according to which money occupies an exceptional position in our minds. Furthermore, Ariely (2008) observed that people change their preferences when they switch from the material to the non-material world. In line with its main idea, the questionnaire is divided into two parts: regarding professional life and regarding private life. Each test items from the initial pool was modified so as to provide two items – for work environment and for private life. As a result, there emerged a set of 14 items (7 for each of the two parts of the questionnaire, professional and private). Four items in each of the questionnaire parts referred to non-material matters, including aims, ambitions, attitudes towards success, assessment, work style, and responsibility for task-performance. The three items remaining in each part concerned material matters. The following step involved a group of adults with secondary education (amateurs) who were asked to assess the test items and instructions with respect to their clarity and explicitness. Next, the test items and positions were adjusted according to their suggestions. The tool devised in this mode was employed in Survey 1, which aimed at the validating the factor structure of the questionnaire.

The method: the sample and the data collection strategy

The survey involved 348 people: professionally active teachers (48%), managers (21%) and private entrepreneurs (29%), aged 19-65, 68.39% of whom was constituted by women. It was carried out at the break of June and July 2007 in Polish kindergartens and schools, as well as in private and state-owned companies. Irrespectively of the survey form, all participants were granted full anonymity.

The results of Study 1

Validation of the scale

The sample was randomly divided into two halves. The first half of the data was employed in principal factor analysis; while the second half, in turn, was used in factor content analysis for the purpose of validating the initial factor solution. Suitability of the data for factor analysis was indicated by the size of the Kaiser–Meyer–Olkin measure of sampling adequacy (0.72 and 0.70) and the significance ($p < .001$ in both cases) of Bartlett's test of sphericity, as recommended by Comrey (1978).

An unrestricted principal components analysis of the first half of the sample yielded a four-component solution. The resulting four group components accounted for the respective 27.4%, 18%, 10.9%, and 7.8% of the variance or a total of 64.1%. Similar results were obtained for the second half of the sample, for which it was possible to apply factor analysis with oblique Oblimin rotation, owing to the possible correlations between factors. This time, the resulting four group components accounted for 25.4%, 19.3%, 12.5%, and 7.7% of the variance respectively (total 64.9%).

The content analysis based on factor loadings (Table 1) confirmed the assumed four-factor structure of the scale. Two scales concerning professional life were distinguished: the non-material at work, in short NW, (A1-A4), Cronbach's $\alpha = .80$, and the material at work, in short MW (A5-A-7), Cronbach's $\alpha = .74$. By analogy, there were drawn two scales concerning private life: the non-material in private – NP (B1-B4), Cronbach's $\alpha = .67$, and the material in private – MP (B5-B7), Cronbach's $\alpha = .68$. The results of the measurement repeated on the sample of 39 people who were asked to fill in the survey at a three week interval, confirmed the absolute coherence of the tool. The correlation of the test-retest variables for the respective scales were as follows: $r = .69$ (NW), $r = .63$ (NP), $r = .79$ (MW), $r = .82$ (MP) ($p < .01$ each).

The factor structure was also confirmed by the confirmatory analysis in AMOS based the results of the second survey described above ($N = 477$). The four-component solution proved to be the most accurate out of the compared 1-, 2-, 3- and 4-component solutions ($\chi^2/df = 2.69$, $p(RMSEA) = .06$, $GFI = .95$, $AGFI = .92$).

As was to be expected, the inter-correlation analysis of the questionnaire scales indicated strict correspondences between both of the material scales and between both of the non-material scales (Table 2). The correlations between the material and the non-material scales are irrelevant or weak ($.11 \leq r \leq 0.19$).

Table 1
Rotated Component Matrix of SOPQ items.

Item	Descriptor	Component			
		1	2	3	4
A1.	a. My main aim is to be better at work than others / b. My priority at work is constituted by the results achieved by the whole team/company	.859	-.060	.023	-.052
A2.	a. What makes me feel really accomplished at work are my personal successes/ b. I get real satisfaction at work, reaching the goals together with the group	.860	-.009	.083	.114
A3.	a. I would rather have the awareness of my work being appreciated more than the work of others / b. I would feel best knowing that all the team/company members are appreciated equally	.804	.028	-.049	-.055
A4.	a. I am more content being the only person responsible for the task/ b. I prefer to work together with the team/company, and to share ideas and duties with them	.539	-.006	-.279	-.009
A5.	a. I would prefer it if the remuneration scheme and bonuses depended on each member's contribution to the task completion, and were varied according to it/ b. I would prefer it if all employees received equal remuneration and bonuses for the task completion	.140	.368	.178	-.450
A6.	a. I would rather get a 100 \$ bonus with other employees/team members receiving 120 \$ / b. I would prefer for all employees /team members to receive a 90 \$ bonus	-.198	-.062	-.108	-.851
A7.	a. I would rather get a 100 \$ bonus with other employees/team members receiving 80 \$ / b. I would prefer for all employees /team members to receive a 90 \$ bonus	.175	.039	-.006	-.816
B1.	a. In my private live, I first and foremost aim at perfection in everything I do / b. What is most important to me and my family/friends is to be perceived as perfect in what we do	-.050	.057	-.719	-.090
B2.	a. My priority is to put my own ambitions into realization. / b. What I get real satisfaction from are the targets that I reach with my family/friends	.005	-.008	-.831	-.005
B3.	a. I would rather have the awareness of my everyday proceedings being appreciated more than my those of my family/friends / b. It would be best for me to know that all my family members/friends are equally appreciated by others	.297	-.002	-.630	-.057
B4.	a. In private life, I prefer to complete the tasks myself and to be personally responsible for them / b. I prefer to work together with my family/friends, and to sharing ideas and duties with them	-.028	.040	-.737	.078
B5.	a. I wish the material and social position (status) that me and my friends/my family enjoy depended on the way we behave and perform our duties, and were varied according to it. / b. I wish all my friends had similar material and social position (status)	.017	.833	-.040	.223
B6.	a. I would rather have an apartment worth 300k \$, with all my friends and family having apartments worth ca. 350k \$ / b. I would prefer for all of us to have apartments worth 280k \$	-.146	.705	-.074	-.122
B7.	a. I would rather have an apartment worth 300k \$, with all my friends and family having apartments worth ca. 280k \$ / b. I would prefer for all of us to have apartments worth 280k \$.036	.751	-.024	-.188

Note. For each component, loadings in bold indicate the variables included in the respective subscale.

Table 2
SOPQ Scale Intercorrelations.

Scale	NW	NP	MW	MP
Non-material at work (NW)	-	.361**	.109*	.029
Non-material in private (NP)		-	.133*	.193**
Material at work (MW)			-	.404**
Material in private (MP)				-

*p<.05. **p<.01

Preferences in relation to the environment and profession.

In order to examine the dependence of socially oriented preferences on the environment, a comparative study of the material and non-material scales in professional and private environments was carried out. The analysis excluded subjects (N=57) who did not provide all the necessary answers. Table 3 presents the average scores on the material and non-material scales for the environment in general, as well as it accounts for the variation with

respect to profession and gender. The gender distinction was introduced, following numerous studies indicating a marked inter-sexual discrepancies in socially oriented preferences for economic decisions (Bolton & Katok, 1995; Andreoni & Vesterlund, 2001). The average scores on the non-material scales fluctuated between 4 and 11, with the assumed range from -40 to 40. On the material scales, in turn, the average scores oscillated between -7 and 1, the possible range being from -30 to 30. In line with hypothesis 1 regarding to non-material preferences, a marked variability was observed with respect to environment. The level of socially oriented preferences was noted as higher for non-material matters at work than at home (t(df=290)=3,396, p=.001). What is interesting to add is that the variation reflects only the dissimilarities in the managers' group (t(df=160)=4.271, p<.001), with the teachers' group displaying more leveled scores on non-material scales both for private and professional lives (t(df=129)=.023, p=.982). The differences in environments on material scales were

Table 3
Comparison of preferences at work and in private.

Group (N)	Scale			
	NW Mean (SD)	NP Mean (SD)	MW Mean (SD)	MP Mean (SD)
Total (331)	8.38 (14.91)	4.88 (16.18)	-3.74 (14.46)	-2.34 (13.94)
Teachers (155)	5.59 (13.54)	5.55 (15.50)	-0.91 (13.83)	0.89 (13.04)
Managers (169)	10.63 (15.61)	4.34 (16.74)	-6.02 (14.60)	-5.05 (14.01)
Women (222)	8.23 (14.05)	5.40 (16.04)	-2.16 (14.69)	-0.07 (13.47)
Men (105)	8.68 (16.63)	3.79 (16.50)	-7.04 (13.77)	-7.12 (13.77)

Note. NW-Non-material at work; NP-Non-material in private; MW-Material at work; MP-Material in private

much less conspicuous ($t(df=290)=-1.57$, $p=.118$), and observed exclusively for women, who score higher on socially oriented preferences in material matters at work than at home ($t(df=196)=-1.827$, $p=.069$).

Subsequently, the average scores of managers and teachers for particular sections of the questionnaire were compared. Teachers were proved to be more socially oriented than managers on both material scales (work: $t(df=289)=3.04$, $p=.003$; private: $t(df=289)=3.942$, $p<.001$). Managers, in turn, displayed a more socially oriented behaviour on non-material matters at work ($t(df=289)=-2.906$, $p=.004$). As far as non-material matters in private life are concerned, no substantial differences between the relevant professions were observed ($t(df=289)=-.638$, $p=.524$).

A comparative method was also applied to the respective scales for males and females. Accounting for the aforementioned inter-sexual discrepancies in economic behaviours (Bolton & Katok, 1995; Andreoni & Vesterlund, 2001), higher level of socially oriented preferences for women could be assumed. And indeed, on both material scales women did score higher than men (work: $t(df=289)=-2.725$, $p=.007$; private: $t(df=289)=4.147$, $p<.001$). However, on non-material scales no vital differences between genders were noted (work: $t(df=289)=-0.242$, $p=.809$; private: $t(df=289)=0.795$, $p=.427$).

The discussion of Study 1 results

The assumed factor structure of the tool was confirmed. The four scales account for the variation in preferences with reference to the environment (work vs. private) and the material standing (yes vs. no). The new tool is characterized by satisfactory reliability and absolute coherence. The analysis of inter-correlation points at a strong correspondence between the two material scales, as well as between the two non-material ones; however, no such strong relation exists between the material and the non-material scale. The results match the afore-mentioned concepts and studies which postulate changes of preferences depending on whether a given situation addresses financial matters or not (Ariely, 2008).

Despite the mentioned correlation between both of the non-material scales, their comparison for different

environments yielded a number of considerable dissimilarities. Interestingly, the said differences, unaccounted for in the teachers' group, were observed only in the managers' group, who scored higher on scales concerning professional life. Such a result is connected with the managers' work style, usually involving teamwork. This finding indirectly confirms the external validity of the tool. The lack of discrepancies between professional and private lives of teachers may derive from the similarity of their home and work environments. Alternatively, it might stem from the likeness of social roles performed by teachers in private and professional lives. Regrettably, the insufficiency of the obtained data does not allow for any explicit explanation of these outcomes. For this reason, I intend to devote my subsequent study to an examination of those specific factors from professional and private lives which enhance social preferences. With respect to the material scales, the variation concerning environment appeared only among females, who manifested higher level of socially oriented preferences in private life than in professional one. It is plausible that the effect originates in gender stereotypes. According to them, women should be caring and tender, whereas men should be physically strong, independent, and dominating. The stereotype posits women as a source of emotional support, and men as a source of safety based on financial stability (Rosenkratz, Vogel, Bee, Broverman & Broverman, 1968; Williams & Best, 1990; Lewin, 1984, after: Brannon, 2002). Hence, the characteristic role of men demands that they have a more individualistic approach to financial matters. Women, from the stereotypical point of view, should rather be concerned with the whole family's interest and thus, they should display a more prosocial behaviour in private life. Still, at work women are expected to act in a slightly different manner, determined not so much by the gender stereotype as by the company's business strategy, its organizational culture and the mode of task assessment and performance. In spite of certain differences between the professional groups, or between males and females, the hypothesis concerning the dependence of differences in preferences on the type of environment (private vs. professional) may be considered as empirically validated.

Also the hypothesis regarding dissimilarities between the representatives of various professional groups was supported by empirical data. Managers scored higher than teachers on the non-material scale for professional life, which is in accord with the abovementioned work style of the both professions. Teachers prepare particular lessons and check homework individually, they can also depend solely on themselves during classes, whereas managers work collectively (teamwork, frequent meetings, projects carried out in small teams, constant consultations with co-employees, and the dependence of the effects on the other people's contribution), and the work style is closely linked to work motivation and relations with co-workers (Ellemers, Gilder & Haslam, 2004; Trist, 1981; Tajfel, 1978; after: Latham, 2007). In frequently cooperating work teams, people more eagerly act as a groups, and they tend to maintain closer relations. As expected, on the non-material scales for private lives similar discrepancies were not observed. At the same time, on the material scales it was the teachers' group who proved to be more socially oriented than managers, irrespectively of the environment. The outcomes might be ascribed to the material statuses of both groups, which not only translate itself into their professional life, but also into the private one. Hence, this group displayed variation in both parts of the questionnaire. Why did the teachers respond in more socially oriented way? Firstly, they might be used to a more egalitarian system of compensation in educational institutions, based on employment period. Secondly, equity-based pay might be perceived by them as more just and safe than a one relying on work input or its effectiveness. Being a professional group with one of the lowest income rates (Sedlak, 2011), teachers risk nothing in equity-based pay – for them it is a matter of others earning as bad as they do, or them earning as well as others. Managers, accustomed to discretionary or commission-based bonuses and to earnings higher than the average, perceive equity-based pay as less profitable, in terms of a loss. Managers and teachers, therefore, vary substantially in their point of reference when considering the response to the finance-related questions, regardless of the sphere of life they concern. This fact might have an impact on their answers, as predicted by the prospect theory (Kahneman & Tversky, 1979). In sum, teachers proved to be more socially oriented than managers on material scales, and more individually oriented on the non-material scale for work. The reason for such an incoherence might originate in the above-named factors, specific for the survey participants' home and work environments. In order to validate this assumption, the second survey aimed at examining the relation between the environmental variables and socially oriented preferences.

The first survey provided also an additional comparison between socially oriented preferences of males and females. In line with the findings of the former gender studies (see:

Gill & Dzewaltowski, 1995), women scored higher than men on socially oriented preferences on the material scales. On the non-material scales, no differences between men and women were observed. The dissimilarities between sexes in financial matters may be derived from women's lower earnings, as compared to men (Sedlak, 2011; Brannon, 2002), the consequence of which might be the effect of positive attitudes towards equity-based division of goods, described above with respect to the discrepancies between teachers and managers. It might also be that women, when regarding financial gains, take their whole family's situation into consideration rather than focus on their personal well-being. This assumption, however, demands a separate empirical verification, which falls beyond the scope of the present article. Nevertheless, it would be worthwhile to continue monitoring the possible inter-sexual differences.

Study 2 – Preferences against situational factors at home and work

Idea of the Study 2

When analyzing the differences between the professional groups from Survey 1, I wondered what factors from the professional and private environment might have affect socially oriented preferences. For this reason, I decided that the subsequent study should focus on the correspondence between the intensity of socially oriented preferences and the situational factors selected from professional and private environment. Accounting for the variation in the intensity of socially oriented preferences observed in the previous study, and the findings on the effects of situational factors on preferences in decision-making games, I assumed that the increase in socially oriented preferences should be related to the factors characterizing professional and private environments.

I decided to begin the investigation of the relation between the preferences and the professional environment factors from job position, and more precisely – from its placement in hierarchy. The choice is based on Greenberg's (1988; after: Pinder, 2008) claim that it is the position, which stands for our status, that has an impact on our behaviour and attitude to work; what follows, it may be related to the exact socially oriented preferences in professional environment.

Most studies considering professional environment factors focus on the impact of situational variables on our attitudes to work and co-workers, and on the behaviours observable in professional environment. There is no explicit interest in socially or individually oriented preferences, but rather in the correlation between the tendency to egoistic or prosocial behaviour and the professional environment factors, such as the goal setting strategy, task-performance (individual or team), as well as attitudes towards task-responsibility.

If the process of achieving the goal involves competition between workers, people tend to keep vital information for themselves, and sometimes even hamper others' progression in reaching their targets (Latham, 2007). If, however, particular goals are perceived as independent from one another, people become disinterested in the others' progression, and oftentimes altogether withdraw from any interaction with others (Latham, Seijts, Tasa & Latham, 2004). Contrariwise, team goals bring the group together by unfolding a common vision, reducing opportunism, and providing favorable conditions for cooperation (Wong, Tjosvold & Zi-Ya, 2005; after: Latham 2007). An assumption might be made, therefore, that the strategy of defining goals should have an impact on socially oriented preferences in the professional environment.

The work style (dominating mode of performing tasks) - team or individual - has a direct influence on the degree of social identification with the group (Ellemers et al., 2004). Groups which frequently cooperate to meet their common targets unite, and their members tend to identify with their group more often than people usually working by themselves and realizing individual tasks. Similar results were obtained for a group of high school students participating in a competition and cooperation training, which points to the correspondence between individual or team performance and the social preferences in economic decisions (Zaleskiewicz & Helka, 2007).

Summarizing the above discussion of study results, a conclusion may be drawn that all characteristics of collective work relate to the socially oriented preferences, contrary to those work environment characteristics which might be jointly defined as „individual”. With respect to all the mentioned variables, the participants were choosing from among the following set of possible answers: individual or team, as well as other possible variants, such as: no goals defined or no person responsible for the completion of task.

In addition, what I also included in the survey were two variables referring to the reward assignment strategy, both financial (e.g. bonuses) and in-kind (e.g. a TV set for the employee of the month). I decided that these variables should be introduced into the analysis, drawing on the discrepancies between the material and non-material scales of preferences, observed in Survey 1. If the preferences tended to alter when they referred to material or non-material matters, then in the scrutiny of situational factors, material and non-material, a similar effect on socially oriented preferences should be observed. What is more, not unlike the abovementioned factors, bonuses and benefits are closely linked to our attitudes and behaviours at work (see: Doherty, 1998; Adams, 1963). By analogy, therefore, we should assume that they should exert impact on preferences, both the socially and the individually oriented ones. Furthermore, the goal setting strategy, work style and

attitude to work are usually linked to the system of benefits and bonuses in the general human resources policy.

Considering the results of the above-discussed research concerned with various professional life factors, I assumed that (Hypothesis 2.2): *The highest level of socially oriented preferences, especially on professional life scales, shall be observed for people working in teams, while the lowest - for people working individually and having individual goals, for which they are personally responsible and compensated.*

The following selection of variables is based on the analysis of classical motivation theories, according to which humans strive for homeostasis. As postulated by Heider's cognitive balance theory (1958) and by Festinger's cognitive dissonance theory (1957), humans aim at a balance between their behaviour and their attitudes and self image. Thus, the more time we spend with others, the more we like them and, in consequence, the more we are concerned with their well-being. The theory of social identity (Tajfel, 1974) and the self-categorization theory (Turner, Hogg, Oakes, Reicher & Wetherell, 1987) likewise indicate the impact of the actual group membership on the subjective sense of social identity. In other words, individuals experience a bond with people from their immediate surroundings, with whom they retain close relations. Social identification process is based on the actual inter-relationships observed among family members or co-inhabitants. Self-identification within a group expresses itself in a sense of community which needs not be analyzed or named, but which increases the tendency for cooperative and prosocial behaviour towards the members of one's own group, the one with which one identifies (Grzelak & Jarymowicz, 2001). Drawing on the above-discussed theories, I expect that (Hypothesis 2.3): *The highest rate of socially oriented preferences shall be observed among people having their own families and children, and maintaining close relations with their family.* On the account of marked variation noted in previous tests, I again intend to additionally monitor the participants' gender and age.

The sample

The survey involved 487 adult working inhabitants of Lower Silesia, aged 19-65, out of which 42.8 % was constituted by females. The survey was conducted electronically in June 2008. The recruitment of participants was carried out electronically via sending e-mails to random state-owned and private companies in Poland. All the people involved were granted full anonymity.

The variables

In Study 2, the situational factors in professional and private environments were scrutinized. The range of factors characterizing the work environment included as follows:

- job position (rank/file employee, specialist, manager,

Table 4
The Means and Standard Deviations for SOPQ Scales separately for variables defining work environment.

Group (n)	Scale			
	NW Mean (SD)	NP Mean (SD)	MW Mean (SD)	MP Mean (SD)
Job position				
Rank/file employee (142)	0.86 (15.04)	0.94 (15.00)	-1.90 (15.52)	-1.09 (14.47)
Specialist (174)	0.47 (15.97)	0.11 (14.80)	-4.80 (14.39)	-3.05 (13.25)
Manager (62)	4.11 (16.03)	3.08 (13.59)	-5.30 (12.84)	-3.49 (15.65)
Owner (84)	6.69 (18.49)	3.92 (14.43)	-5.21 (13.72)	-4.93 (13.24)
Goals setting strategy				
Individual (196)	-2.36 (15.81)	-1.53 (14.03)	-6.03 (13.79)	-3.96 (13.97)
Team (201)	8.05 (15.69)	4.80 (14.22)	-1.90 (15.40)	-1.68 (14.34)
Undefined (59)	-0.17 (13.36)	2.47 (14.57)	-3.97 (13.31)	-3.15 (12.43)
Work style				
Individual (96)	-6.49 (15.44)	-4.02 (16.05)	-6.65 (14.42)	-6.04 (12.95)
Mixed (321)	3.16 (15.56)	2.36 (14.04)	-4.03 (14.99)	-2.77 (14.02)
Team (53)	12.89(14.02)	6.11 (13.43)	-0.44 (11.43)	-0.62 (14.96)
Responsibility				
Personal (324)	0.60 (16.64)	-0.44 (14.95)	-5.62 (14.10)	-4.35 (13.84)
Team (100)	7.68 (15.18)	5.74 (13.87)	2.04 (14.92)	0.89 (14.13)
Supervisor's (25)	0.20 (11.19)	6.12 (10.39)	-3.20 (13.30)	1.28 (14.50)
Strategy of financial rewards assignment				
Individual (224)	2.61 (17.10)	1.24 (14.91)	-5.16 (14.10)	-4.23 (13.72)
Team (44)	2.75 (17.06)	3.43 (15.22)	-1.14 (14.18)	-0.32 (14.91)
Equal (29)	7.52 (17.61)	2.21 (17.25)	-1.07 (16.67)	-1.87 (12.25)
Post / practice dependent (80)	2.18 (14.95)	3.03 (14.26)	-1.87 (15.34)	0.04 (14.30)
None (74)	1.58 (14.35)	-0.21 (13.68)	14.59(14.92)	-3.86 (14.37)
Strategy of non-financial rewards assignment				
Individual (144)	2.04 (17.29)	0.92 (14.50)	-3.68 (13.49)	-4.42 (12.03)
Team (50)	8.52 (18.08)	5.74 (11.96)	-0.96 (16.18)	-0.10 (14.28)
Equal (73)	3.00 (16.49)	1.86 (15.60)	-2.57 (14.90)	-0.97 (13.86)
Post/practice dependent (69)	1.39 (14.16)	1.96 (12.03)	-5.07 (13.51)	-1.29 (14.03)
None (122)	0.28 (15.32)	-0.04 (16.70)	-6.08 (15.57)	-4.47 (15.59)

NW-Non-material at work; NP-Non-material in private; MW-Material at work; MP-Material in private

- owner),
- goal setting strategy (individual, team, undefined),
- responsibility (personal/team/supervisor's),
- work style (individual, team, mixed),
- strategy of financial and non-financial rewards assignment (based on: equity, individual/team performance, position, experience, none).

For the private environment, the following factors were taken into account:

- frequency of family meetings (2-3 per year, every 1-2 months, 2 per month, 1-2 per week, everyday) (related to family members which life separately)
- type of dwelling (detached house, apartment building,

- high-rise building),
- marital status (single, married, divorced, widowed),
- parenthood (yes vs. no),
- number of co-inhabitants (none, one, two, three, four or more)

Additionally, the participants' were monitored with respect to their gender and age.

Socially oriented preferences was in turn measured by analogy to Study 1, that is, by summing up the answers (the difference between the points given to the socially oriented option and the ones given to the individual one) for items in each of the four scales separately.

Table 5
The Means and Standard Deviations for SOPQ Scales separately for variables defining private environment.

Group (N)	Scale			
	NW Mean (SD)	NP Mean (SD)	MW Mean (SD)	MP Mean (SD)
Marital status				
Single (239)	-0.08 (15.27)	-1.95 (13.89)	-4.19 (14.62)	-3.33 (14.10)
Married (205)	4.84 (17.29)	5.51 (14.50)	-4.01 (14.85)	-2.89 (13.76)
Divorced (23)	5.00 (13.48)	2.67 (15.95)	-7.83 (9.82)	-3.30 (15.79)
Widowed (3)	6.00 (20.88)	0.67 (16.04)	13.33 (14.74)	7.33 (12.06)
Parenthood				
No (271)	1.09 (14.99)	0.28 (14.21)	-3.97 (14.15)	-3.17 (12.94)
Yes (111)	7.96 (18.14)	5.97 (13.90)	-3.46 (15.76)	-2.92 (14.86)
Number of co-inhabitants				
None (38)	6.61 (13.26)	-1.95 (16.12)	0.05 (14.59)	-1.85 (16.41)
One (89)	2.10 (15.45)	2.07 (14.12)	-5.98 (13.79)	-4.67 (12.60)
Two (103)	-0.52 (16.44)	1.26 (15.48)	-4.69 (15.14)	-3.07 (14.24)
Three (111)	1.55 (16.83)	2.81 (13.73)	-6.14 (14.83)	-4.68 (13.52)
Four or more (120)	3.94 (16.68)	2.08 (14.65)	-1.82 (14.14)	-1.17 (14.20)
Type of dwelling				
Detached house (164)	3.77 (17.07)	3.11 (13.49)	-3.16 (13.44)	-3.17 (11.96)
Apartment building (169)	1.76 (15.84)	0.62 (15.41)	-4.39 (15.24)	-2.73 (14.62)
High-rise building (136)	1.21 (15.58)	0.71 (14.51)	-5.07 (14.77)	-3.47 (15.22)
Frequency of family meeting				
2-3 per year (42)	1.40 (17.43)	-6.86 (14.38)	-7.16 (15.82)	-8.50 (15.07)
Every 1-2 months (77)	-1.77 (17.12)	-0.68 (13.67)	-6.18 (14.09)	-2.74 (12.48)
2 per month (63)	5.95 (15.02)	-0.37 (13.17)	-0.62 (14.21)	-4.00 (11.95)
1-2 per week (140)	4.93 (15.13)	4.25 (14.06)	-2.86 (14.54)	-1.31 (15.30)
Everyday (143)	0.73 (15.61)	3.70 (14.63)	-5.17 (14.16)	-3.11 (13.32)
Gender				
Women (203)	4.07 (16.74)	3.56 (14.93)	-2.65 (15.22)	0.15 (15.25)
Men (268)	0.86 (15.76)	-0.02 (14.31)	-5.33 (14.03)	-5.52 (12.43)
Age in years				
<30 (249)	-0.40 (14.91)	-1.01 (13.98)	-4.53 (14.40)	-3.29 (13.19)
31-40 (96)	4.61 (16.31)	4.31 (15.13)	-3.71 (14.96)	-1.96 (14.88)
41-50 (75)	6.25 (17.76)	4.88 (14.27)	-5.13 (14.70)	-3.77 (14.44)
>50 (52)	5.70 (18.20)	4.04 (15.68)	-1.46 (14.98)	-2.58 (14.92)

Note. NW-Non-material at work; NP-Non-material in private; MW-Material at work; MP-Material in private

Study 2 results

Preferences and professional environment factors.

Table 4 depicts the average results for particular scales with respect to work environment factors. Due to unequal sample sizes and deviations from normal distribution, the analyses necessitated the use of non-parametric test (Kruskal-Wallis H Test). I assumed that the strongest relation between work environment factors and socially oriented preferences should be noted on professional life scales. In accord with the expectations, substantial variations were observed on the non-material scale for work, regarding all the monitored

work environment factors save for the financial rewards assignment strategy ($\text{Chi}^2(4,454)=3.813, p=.432$). Apart from that, work style, task-responsibility attitude and goal setting strategy proved to be linked to the level of socially oriented preferences on the material scales for professional life, as well as with the results on private lives scales. In the comparison of participants with different job positions, the highest level of socially oriented preferences on non-material scale for professional life was observed among private entrepreneurs, while the lowest – among specialists ($\text{Chi}^2(3,466)=10.682, p=.014$). People employed in private companies proved to be considerably less socially oriented on NW scales than the self-employed or the state-owned

companies employees ($\text{Chi}^2(3,465)=6.45, p=.04$). Team goal setting, as opposed to individual goal setting, led to an increase of the level of socially oriented preferences on all scales (NW: $\text{Chi}^2(2,463)=48.516, p<.001$; MW: $\text{Chi}^2(2,463)=9.073, p=.011$; NP: $\text{Chi}^2(2,463)=21.662, p<.001$), apart from MP ($\text{Chi}^2(2,459)=3.093, p<.213$). Likewise with reference to work style, for team performance, in contrast to individual performance, a rise on all scales was observed (NW: $\text{Chi}^2(2,474)=53.594, p<.001$; MW: $\text{Chi}^2(2,474)=8.123, p=.017$; NP: $\text{Chi}^2(2,474)=19.367, p<.001$; MP: $\text{Chi}^2(2,474)=7.198, p=.027$). As far as task-responsibility is concerned, socially oriented preferences level proves to be lower among people who are individually responsible than for those who answer collectively with their team; again, the rule applies to all SOPQ scales (NW: $\text{Chi}^2(2,454)=17.120, p<.001$; MW: $\text{Chi}^2(2,454)=19.237, p<.001$; NP: $\text{Chi}^2(2,454)=17.928, p<.001$; MP: $\text{Chi}^2(2,454)=15.159, p<.001$). By analogy, of all the groups compared the highest score on NW scale was noted for the assignment of in-kind rewards to the whole team ($\text{Chi}^2(2,461)=11.212, p=.024$).

Preferences and private environment factors and gender and age

Table 5 depicts the average results of SOPQ with respect to factors characterizing private environment, as well as to the participants' gender and age. Due to an unsubstantial number of widowed persons, the scores achieved by this group were excluded from the comparative analysis regarding marital status. Once again, in consequence of unequal sample sizes and deviations from normal distribution, the analyses employed non-parametric tests (Kruskal-Wallis H Test and Mann-Whitney U Test). I assumed that the connection between private environment factors and the socially oriented preferences should be most clearly visible on private life scales. Notwithstanding, the analyses results indicate that those factors which are directly related the scores on private scales translate on the variations on scales concerning professional life as well. Similarly as was the case with the above-discussed analyses, major differences were observed on the non-material, rather than the material, scales. Marital status and parenthood played an important role in scores on the non-material scales. In accord with my initial assumptions, married people (NW: $\text{Chi}^2(2,474)=11.092, p=.004$; NP: $\text{Chi}^2(2,475)=31.909, p<.001$) with children (NW: $Z(N=388)=-3.975, p<.001$; NP: $Z(N=389)=-3.716, p<.001$) were more socially oriented than single and childless people. There is no relation between the number of co-inhabitants and the type of dwelling, and the scores on SOPQ scales. The frequency of family meetings, in turn, proved to perform a vital role on all SOPQ scales. The highest level of socially oriented preferences in private life was displayed by people meeting their family 1-2 times a week (NP: $\text{Chi}^2(4,468)=25.937,$

$p<.001$; MP: $\text{Chi}^2(4,472)=10.565, p=.032$). For professional scales, socially oriented preferences level was the highest for people visiting their relatives 2 times a month (NW: $\text{Chi}^2(4,472)=15.444, p<.001$; MW: $\text{Chi}^2(4,471)=9.526, p=.049$).

Women proved to be more socially oriented than men on all scales (NW: $Z(N=478)=-2.26, p=.024$; MW: $Z(N=479)=-2.077, p=.038$; NP: $Z(N=478)=-2.871, p=.004$; MP: $Z(N=475)=4.327, p<.001$). As for the differences between age groups, the most substantial variations were noted only on non-material scales, on which people below the age of 30 scored much lower than the older ones (NW: $\text{Chi}^2(3,479)=16.615, p=.001$; NP: $\text{Chi}^2(3,480)=17.466, p=.001$).

The discussion of Study 2 results

The aim of the second survey was to compare the alterations in socially oriented preferences in reference to selected professional and private environment factors. Complying with Hypothesis 2, almost all the factors considered displayed a strong correspondence with the level of socially oriented preferences, reflected on at least part of SOPQ scales. The hypothesis may be, henceforth, proclaimed as valid. At this point, it needs to be mentioned that the majority of the observed effects concerned the variation of preferences in non-material aspects, with the influence on material scales being more rare and usually less conspicuous. The results are in accord with the previously mentioned studies by Vohs et al. (2006) and Ariely (2008), postulating that humans display diverse preferences for material and non-material matters, and, by the same token, each of these spheres involves preferences subject to distinct mechanisms.

Furthermore, the findings at least partially confirmed the specific hypotheses. Goal setting strategy, work style and responsibility attitude induce changes in socially oriented preferences at work. Higher levels of socially oriented preferences are displayed by people who cooperate to achieve team goals and who bear common responsibility, than by those achieving their goals on their own and being individually responsible. The findings agree with the above-discussed theories and studies concerning the effect of the factors in question on the general motivation to work (see the review: Latham, 2007). Thus, the factors which have a positive impact on motivation to work, enhance the attitudes to one's co-workers as well and, what follows, change the preferences to more socially oriented ones.

As far as the rewarding strategy is concerned, only the in-kind benefits method proved to have any significance, with financial bonuses remaining unrelated to socially oriented preferences. These results agree with the research conducted by the Swiss scholars (Kube, Maréchal & Puppe,

2008) who proved that in-kind benefits, as opposed to in-cash rewards, trigger a need for reciprocity, translating itself on the improvement in productivity.

The strategies of goal setting and assignment of in-kind benefits, as well as work style and responsibility attitude had a considerable impact on socially oriented preferences in private life (though the tendency was substantially weaker than it was the case with preferences in professional life). This observation may be derived from two sources. The first one might be connected with the maintenance of relations with one's co-workers also after work. Osiński (2003) claims that in our times blood relations are being substituted with the processes of selecting the people we wish to spend the majority of our time with. These are the means by means of which we form emotional bonds and establish social norms regulating relations with others; and it is with the co-workers that we spend the bulk of our time. An alternative explanation may derive from an individual diversification in socially oriented preferences, due to which we choose such an environment - both professional and private - that is tailored to our tastes. This line of thinking corresponds to Kosfeld and Von Siemens' findings (2007), according to which employees exhibit a constant inner tendency for cooperation or individual work, and it cannot be diametrically modified by changes in the organizational culture. Nonetheless, considering the fact that the variation in socially oriented preferences in private life was smaller than that in the professional sphere, I would rather agree with the first line of thinking, or with the combination of individual differences with the influence of work environment factors.

The subsequent group of factors inter-related with socially oriented preferences was constituted by private life variables. In line with the classical theories of homeostasis (see the review: Wojciszke, 2001), people having their own families and children manifest higher level of socially oriented preferences on the non-material scales than the people who are single and childless. No discrepancies, however, were observed for these two groups as regards socially oriented preferences in material matters, which again may stem from our preferences being different for the material and the non-material sphere (Ariely, 2008). It was also noted that socially oriented preferences remained largely unaffected by the number of co-inhabitants or the dwelling place, which fact may indicate that it is not so much the physical presence of other people that is in relation with the socially oriented preferences, but rather the quality of our relations with them. Otherwise stated, it does not suffice to merely live in the vicinity of other people; what truly matters is the emotional bond with them (see: Osiński, 2003). Similarly, the highest level of socially oriented preferences was observed not among the people with the highest frequency of family meetings, but among those with a moderate rate.

An additional scrutiny compared the level of socially oriented preferences in relation to gender and age. The differences between males and females were parallel to those observed in the preceding survey. The variations in different age groups may be explained by a strong connection between age and other variables monitored in the survey, which alter socially oriented preferences. Henceforth, the fact that the lowest levels of socially oriented preferences were recorded for the 20-year-olds may be associated with the fact that the majority of them are single and childless, and the groups distinguished on the basis of these two parameters displayed lower level of socially oriented preferences than others.

Conclusions

The project allowed for creating a reliable and accurate tool for measuring socially oriented preferences. The scale factor structure confirmed the dependence of preferences on the private and professional environments, as well as on whether a given issue refers to material matters or not.

Furthermore, the study of the correspondence between socially oriented preferences and the home and work environment factors provided evidence for a significant relation between external factors and socially oriented preferences. Thus, the level of socially oriented preferences seems to may be regulated by proper management of the work place, but also by alterations in private environment factors. It is worthwhile to observe that situational factors correspond with the level of socially oriented preferences in non-material matters more than in material ones.

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