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RESEARCH PAPER

The Thrill of Creative Effort at Work: An Empirical Study on Work, Creative Effort and Well-Being

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Abstract The connections between creative effort at work and four measures of subjective well-being are studied using data on a sample of 922 Jewish Israeli adults who are salaried employees. The paper finds that self-reported creative effort aimed at making work more enjoyable is positively associated with global evaluation of life; with purpose and meaning in life, and with positive emotions. No significant link with negative emotions was found. This study also finds significant associations with three additional intrinsic features of work-creative tasks; independence at work and intellectual work-and various measures of subjective well-being, even when controlling for age, gender, marital status, having children, education, time worked, financial satisfaction, subjective health and religiosity. The robustness of the links between intrinsic features of work and subjective well-being demonstrate that work serves not only as a means to material ends, but also as a direct source of personal happiness, meaning and satisfaction.

Keywords Work creative effort · Intrinsic features of work · Subjective well-being

1 Introduction

> Happiness is not in the mere possession of money; it lies in the joy of achievement, in the thrill of creative effort.
>
> Franklin D. Roosevelt, Inaugural Address, 1933

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A meaningfully well-lived life, as Aristotle and other sages have proclaimed throughout history, depends upon ourselves, and is within human grasp; it is the ultimate purpose of all human activity:

> …In every action and decision it is the end, since it is the sake of the end that everyone does the other things. And so, if there is some end of everything that is pursued in action, this will be the [highest] good (Aristotle, quoted in McMahon 2006, 44).

The ancient inquiry into the determinants of individual happiness has recently become one of the vigorously discussed subjects in economic literature.[1] Roosevelt's statement quoted in the epigraph raises a question regarding the link between a unique human action and the ultimate end: Does creative effort at work improve employee subjective well-being (SWB)? A positive connection between creative effort at work and SWB may be identified through pecuniary and non-pecuniary channels.

First channel is pecuniary: Exerting creative effort at work is a means for producing novel products or ideas that are beneficial to the organization's value (e.g. Dewett 2004; Zhang and Zhou 2014).[2] Being creative at work contributes positively to the employer and in return affects the pecuniary rewards for employee's creative effort. The higher the employee's contribution to firm's value, the higher the employee's income and the better individual's SWB. The linkage between income and SWB attracts abundant attention from all social researchers, and although it has some puzzling aspects, a mass of literature confirms a positive association (for discussion and literature review, see Weimann et al. 2015).

The current paper aims to contribute to the literature by providing innovative evidence regarding the second channel, which links creative effort and SWB through the notion that work is a potential source for non-pecuniary utility (Applebaum 1992; Jahoda 1981; Lane 1992; Schumacher 1973; Scitovsky 1976; Sherman and Shavit 2009, 2013; Thomas 1999). In this channel, exerting creative effort affects employees' SWB by making work more intrinsically rewarding. Regarding the contribution made by the consumption value of work *per se* to employees' well-being, the literature reports relatively robust results indicating that self-employed workers report higher job and life satisfaction than salaried employees (Blanchflower and Oswald 1998; Benz and Frey 2008a, 2008b; Binder and Coad 2013, 2016; Krause 2014),[3] due to more interesting work, and higher levels of self-determination and freedom possible in self-employment (Benz and Frey 2008a, b). These findings suggest that entrepreneurs receive better opportunities to transform work into an abundant source of non-pecuniary utility: **"**for most entrepreneurs, the empirical evidence… is consistent with the notion that self-employment offers significant non-pecuniary benefits, such as 'being your own boss' (Hamilton 2000, p 628)." Therefore, the current study focuses only on SWB of salaried employees and the non-pecuniary channel potentially links it to creative effort at work. The theoretical linkage between effort, work and SWB is obtained via the notion of hedonic capital, which Graham and Oswald (2010)

[1] For example: Dolan et al. (2008), Frey and Stutzer (2002), Layard (2005), Oswald et al. (2015), Weimann et al. (2015).

[2] "Employee creativity—defined as the generation of novel and useful ideas concerning products, services, and work methods—is essential for the continued improvement and success of organizations" (Zhang and Zhou 2014, p. 150).

[3] e.g. Binder and Coad (2016) found that only voluntary self-employment leads to improved job satisfaction and higher overall life satisfaction, whereas necessity self-employment to escape unemployment does not generate such benefits.

define as "the stock of psychological resources available to an individual" (p. 373). This definition, according to Graham and Oswald (2010), could include social interactions; self esteem; status and *meaningful work*. The nature of capital involves investment on one hand and a depreciation process on the other; therefore, investing creative effort is required in order to obtain productive hedonic capital.

Shedding light on the non-pecuniary channel may be beneficial not only for understanding the determinants of salaried employees' mental well-being correctly but also to employers and policy makers. A recent study demonstrates that happiness increases employee productivity at work (Oswald et al. 2015), and previous literature show that employees with high SWB are more successful on work-related and performance variables than their less happy peers (Erez and Isen 2002; Lyubomirsky et al. 2005; Miner and Glomb 2010). Other literature suggests that job satisfaction improves firm performance (Edmans 2011, 2012; Fulmer et al. 2003).

Due to lack of information on creative effort at work in existing surveys, we conducted a survey of 922 Jewish Israeli working women and men, of ages representing a majority of the work-force (24–63). In order to distinguish between the pecuniary and non-pecuniary channels linking effort and SWB, we asked the respondents to assess the creative effort they devote to make their work more enjoyable rather more extrinsically rewarding. We define this parameter as self-rated creative effort (SRCE). The study analyzes the association between SRCE and three other intrinsic features of work[4]: (1) routine versus creative work, (2) manual versus intellectual work, and (3) degree of independence at work with four measures of SWB which represent its cognitive and affective components[5]: (1) global evaluation of life; (2) meaning and purpose in life; (3) positive feelings, and (4) negative feelings. The analysis is based on hierarchical, ordinary least squares regressions.

The results show positive and statistically significant linkage between SRCE and three measures of SWB: evaluation of life, meaning and purpose in life and positive emotions. Moreover, we report significant association between the other intrinsic features of work and various measures of SWB controlling for gender, age, marital status, having children, education, time worked, income and financial satisfaction, subjective health and religiosity. The robustness of the results shows that work contributes to personal well-being not only indirectly, through income and material consumption, but rather directly because creative effort at work is itself a source of satisfaction, enjoyment and meaning in life. Layard (2005) argues, "There is a creative spark in each of us, and if it finds no outlet, we feel half-dead" (p. 68); our results imply that work is a match that can ignite this spark. As J.C. Kumarappa wrote:

> If the nature of the work is properly appreciated and applied, it will stand in the same relation to the higher faculties as food is to the physical body. It nourishes and enlivens the higher man and urges him to produce the best he is capable of (quoted in Schumacher 1973: 59).

The reminder of the paper is organized as follows: The next section reviews the linkage between work, creative effort and well-being; the following section describes the data and the survey design; the results are in the fourth section and the last section concludes.

[4] As in World Values Survey Wave 6.

[5] The measurements are consistent with literature (e.g. Diener et al. 2010, 2013; Office for National Statistics 2015; Weimann, Knabe, and Schöb 2015). Oswald and Wu (2010) provide empirical support for the reliability of SWB data. For list of psychological literature discussing the validity and reliability of SWB data, see Blanchflower and Oswald (2004).

2 Work and Well-Being

Work is a crucial factor in well-being not only due to its instrumental nature as a means to a material end, as held by mainstream economists,[6] but also as a producer of potential cognitive and personal development. Work provides a major frame of reference for people's life. Sigmund Freud argued that work provides the strongest tie with reality, and when he asked for his recipe for happiness, he gave a very short but sensible answer, "Work and love" (quoted in Csikszentmihalyi 1990; Harding and Hikspoors 1995). Karl Marx argued that work is the basis for contentment and fulfilled life:

> Only in being productively active can man make sense of his life… The labor process is the everlasting nature-imposed condition of human existence. Work is the act of man's self-creation, not only a means to an end—the product—but an end in itself, the meaningful expression of human energy (quoted in Scitovsky 1976: 90; Thomas 1999: 78).

According to Jahoda (1981) work is a platform for defining aspects of personal status and identity; through work, a person develops social connections, and work ultimately encourages activity. Adriano Tilgher argued:

> It is through work that he embodies in himself the sacred principle of activity, another name for liberty, which keeps becoming more and more free as he gradually moulds the world to his own ends, freeing himself from the tyranny of matter, transforming its brute resistance into a useful support for his tools. In such a view of life good means active. Evil is synonymous with laziness, passivity, idleness (quoted in Applebaum 1992: 460).

Csikszentmihalyi (1990) provides ample evidence supporting the assumption that work can be enjoyable, and that it is often the most enjoyable part of life. Moreover, he suggests that transforming a job into an activity that resembles a game with variety and flexible challenges improves the quality of work beyond any extrinsic rewards. Literature confirms a positive association between work satisfaction and individual happiness and life satisfaction (Bowling et al. 2010). Furthermore, work-related wellbeing is related to health risk behaviors and mental health (Ilies et al. 2015). Levitan and Johnson (1982) wrote that we are driven by "work instinct," while Hendrik de Man (1929, quoted in Applebaum 1992: 476–491) claimed that people work due to both an "instinct of activity" and an "instinct to play." Hawtrey (1925, p. 193) expressed a similar sentiment: "Give him [man] an occupation, and his instinct for activity may be satisfied." Paul A. Samuelson reported that people told him: "Come off it, you work all the time, weekends and during vacations and, if legend holds, often during the reveries of the midnight hours." True, Samuelson answered, "but, working out economic analysis is play, not work" (Breit and Hirsch 2005: 59). Work is an important domain for immaterial value even if it is undertaken without any pecuniary *quid pro quo*. It has been found that volunteers report greater life satisfaction than non-volunteers (Meier and Stutzer 2008). Sherman and Shavit (2012) argue that when

[6] Mainstream economic theory considers people beasts of burden (Skidelsky and Skidelsky 2012) who seek to satisfy their utility by the easiest path, i.e. with the smallest possible effort. Downey (1910: 256) presents two oft-quoted statements of the economic motive supporting this perspective: To satisfy our wants to the utmost with the least effort (Jevons); Men follow the line of least motive resistance (Davenport). Moreover, labor economics theory embraces the work as bad thesis (Spencer 2009), implying that work is merely the means to a material end without any utility derived from work *per se*.

older people start volunteer activities during retirement due to their inherent need to maintain immaterial consumption derived from by work, they substitute the consumption value of unpaid work for the consumption value of paid work.

2.1 Creative Effort

We draw the non-pecuniary link between work creative effort and well-being on the basis of literature in the social sciences. Economic literature, however, distinguishes between the satisfaction a person derives from consumption aimed at relieving pain and discomfort, which is defensive, and the positive satisfaction that requires imaginative effort, skills and knowledge, which is creative (Hawtrey 1925). Both classes of products, according to Hawtrey (1925), meet needs; however the need for creative product can only arise from knowledge and experience, "whereas no imaginative effort within or prompting from without is required to awaken the need for defensive product." (p. 190). Scitovsky (1976) distinguished between comfort and pleasure. He defines comfort as the satisfaction derived from goods and activities that maintain life and make it easier, which require no special skill to appreciate and enjoy, while pleasure is derived from novel and creative consumption is stimulating and provides most of life's gratifications. Moreover, the consumption of pleasures requires skill, meaning people must exert creative effort to enables the production of non-pecuniary rewards while working. The linkage between creative effort, production and consumption is obtained via the notion of hedonic capital (Graham and Oswald 2010). Given a constant depreciation rate, this implies that greater creative effort exerted while working yields greater hedonic capital for the employee, so his or her work becomes more meaningful; in turn, this enables the production of more creative and stimulating non-pecuniary consumption.

Psychological literature further suggests that the optimal experiences in humans' lives are not the passive, receptive, relaxing times, rather those that requires the person to be active and exert a great deal of effort. Csikszentmihalyi (1990) defines these experiences as "flow:" "The best moments usually occur when a person's body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile. Optimal experience is thus something that we make happen" (p. 198). In that sense, the act of work, even if it is hard and seen by others as unglamorous, repetitive, and meaningless, can be a platform for non-pecuniary welfare if the worker is able to transform the job into a complex activity that require action and developed skills. In order to do this, the worker exerts creative effort. He or she may successfully engage in a complex activity that requires creative effort, an activity that affects both the level of their human capital and, regardless of their annual bonus, their sense of accomplishment, which is one of the five elements of Seligman's (2011) well-being theory. Chancellor et al. (2015) show that recalling three good things that occurred each week at work increases well-being for individuals who exert effort. They report that those who invested more effort in the positive activity reported significantly larger gains in happiness over time. Note that creative effort is subjective since the same effort might be highly creative for one person but not for another. Creative effort is measured subjectively for each person, relative to his own abilities or specific hedonic capital.

2.2 Subjective Well-Being Function

Blanchflower and Oswald (2004) suggest the following self reported well-being function:

$$W = h(u(y, z, t)) + \varepsilon \quad (1)$$

W denotes self-reported level of well-being; $u(.)$ represents the respondent's true utility as a function of a whole set of determinates described by real income (y) and a set of demographic and personal characteristics (z); $h[.]$ is a continuous non-differentiable function connecting actual utility to each form of reported well-being; t is a time period and ε represents factors affecting people's well-being but not taken into account, e.g. the inability of people to accurately assess their happiness level. The main interest in economic theory focuses on the positive effect of people's pecuniary resources on well-being.[7] Indeed, data on well-being confirm that financial situation is the second most important factor affecting happiness (Layard 2005). The focus here is on the three intrinsic features of work, and SRCE. We hypothesize that the positive correlation between these factors and SWB is robust to addition of respondent's pecuniary resources and to other important determinates of well-being included in z such as self-reported health and religiosity. The contribution of leisure activities to SWB is addressed here as a decreased function of time worked. Other factors included in z are socio-demographic factors including age, gender, marital status, having children and education level.

According to Dolan et al. (2008), the SWB function of respondent i is usually modeled empirically as an additive function: $W_{it} = \alpha + \beta_1 y_{it} + \beta_2 z_{1it} + \cdots + \varepsilon_{it}$.

3 The Survey

3.1 Sample

In order to examine our hypothesis empirically, we conducted a survey of 922 Jewish Israeli adults who are salaried employees, and who completed the questionnaire.[8] We did not use a sample of students because we wanted to examine our hypothesis in a heterogeneous population with varied socio-demographic traits that better represents the entire population.

3.2 Method

The survey was administered by Midgam Project, an Israeli online survey company[9] that specializes in research surveys.

3.2.1 Subjective Well-Being

The survey included questions regarding cognitive and affective components of SWB. First, *evaluation of life* was assessed using by Central's (1965) Self-Anchoring Striving Scale, which asks people to assess their present lives (Diener et al. 2010; Diener et al. 2013) on a Likert-type scale from 0 ("worst possible life") to 10 ("best possible life"). This indicator reflects respondents' global evaluations of their quality of life (Diener et al. 2013). Second, *meaning and purpose of life*. The respondents were asked: "Overall, to

[7] As A.C. Pigou stated, "There is a clear perception that changes in economic welfare [the level of real income] indicate changes in social welfare in the same direction, if not in the same degree" (quoted in Easterlin 2003, p. 3).

[8] There were another 170 respondents who did not complete the survey.

[9] Midgam Project, administered by Ayalon (2009).

what extent do you feel the things you do in your life are worthwhile?" (Office for National Statistics 2015). Meaning and happiness are both measures of SWB, but they capture different aspects of human welfare. Meaningfulness seems to be important for understanding the difference between positive effects and satisfaction, i.e. happiness, and eudaimonia, which is living well or actualizing human potential (Baumeister et al. 2013; Deci and Ryan 2008). Third, *positive feelings* were measured using three questions about the degree to which respondents experienced specific positive emotions (enjoyment, smile/laugh and exaltation) the previous day. Fourth, *negative feelings* were measured using four questions regarding negative emotional states (worry, sadness, depression and anger) that the respondent experienced the previous day. The second, third and fourth measures of SWB were assessed on a Likert-type scale of 0 (not at all) to 10 (completely).

3.2.2 Intrinsic Features of Work

The intrinsic features of work were assessed using the following questions from the World Values Survey wave 6:

1. Are the tasks you do at work mostly routine tasks or mostly creative tasks? (Respondents were asked to answer on a 7-point Likert-type scale from 1 [mostly routine tasks] to 7 [mostly creative tasks].)
2. Are the tasks you do at work mostly manual or mostly intellectual? (Respondents were asked to answer on a 7-point Likert-type scale from 1 [mostly manual tasks] to 7 [mostly intellectual tasks].)
3. How much independence do you have in doing your tasks at work? (Respondents were asked to answer on a 7-point Likert-type scale from 1 [no independence at all] and 7 [complete independence].)

These features were selected in accordance with literature. For example, Krause (2014) summarized five patterns found in the literature, and found that *task diversity* is one of the main determinants of job satisfaction, and *greater autonomy* at work is probably the explanation for the higher job satisfaction reported by self-employed people.

The fourth question asked respondents to assess the creative effort they invest in order to make their work mare enjoyable:

4. How much creative effort you invest in order to make your work more enjoyable? (Respondents were asked to answer on a 7-point Likert-type scale from 1 [invest low effort] to 7 [invest high effort].)

In addition, we asked the respondents about the amount of time they work per day.

3.2.3 Other Predictors

To better control our analysis we asked the respondents for standard socio-demographic factors (age, gender, marital status, having children, educational level[10] and

[10] The options were: (1) 8 years, (2) 9–10 years, (3) 11–12 years, (4) Some high school, (5) High school graduate, (6) Some nonacademic training, (7) Non-academic training graduate, (8) Studying for bachelor's degree, (9) Bachelor's degree, (10) Studying for master's degree, (11) Master's degree graduate, (12) Studying for doctorate, (13) Doctorate.

income[11]), and also about their financial satisfaction; their subjective state of health and religiosity as follows:[12]

1. How satisfied are you with your financial situation?
   (Respondents were asked to answer on a 7-point Likert-type scale from 1 [not satisfied at all] to 7 [very satisfied].)
2. How is your health in general? (Respondents were asked to answer on a 5-point Likert-type scale: 1 [very bad], 2 [bad], 3 [fair], 4 [good], 5 [very good].)[13]
3. How religious are you? (Respondents were asked to answer on a 4-point Likert-type scale: 1 [non-religious], 2 [traditional], 3 [religious], 4 [ultra-orthodox].

Regarding health, there is vast evidence confirming that SWB is more related to subjective health than to objective health (Dolan et al. 2008; Frey and Stutzer 2002; Layard 2005).[14] Concerning religion, Layard (2005) argues, "One of the most robust findings of happiness research is that people who believe in God are happier" (p. 72). In Israel, the Central Bureau of Statistics reports that the share of people who are very satisfied with their life among Orthodox Jews is 62%, whereas among secular people this share drops to 26%.[15]

4 Results

4.1 Descriptive Statistics

First, we present the characteristics of the sample. Of the 922 respondents, 48.9% were male and 51.1% female[16]; 68.5% out of the sample were married[17] and 73.4% had children.[18] The mean age was 41.3 (*SD* 11.3, Mid age = 40, Age range: 24–63). The age distribution is presented in Table 1, as is the age distribution in the Israeli population of salaried employees.[19]

[11] The average income in Israel for a single employee is NIS 9600/month. Is your income: (1) Far below the average income, (2) below the average income, (3) Approximately the average income, (4) Above the average income, (5) Far above the average income.

[12] There were also questions regarding the use of leisure time. We did not use these questions in our analysis because the way leisure affects well-being is beyond the scope of this paper.

[13] This question is taken from Rasciute and Downward (2010).

[14] Frey and Stutzer (2002) report, "Health and happiness are highly correlated, but this only holds for self-reported health ratings" (p. 56).

[15] (http://www.cbs.gov.il/kenes/kns_2_15_05.pdf).

[16] According to the Israeli Central Bureau of Statistics, of the salaried employee in the Jewish population in the year 2015, 51.6% are female, meaning that our sample represents appropriately the gender distribution among salaried employee in the Jewish society in Israel (http://www.cbs.gov.il/reader/shnaton/templ_shnaton.html?num_tab=st12_12x&CYear=2016).

[17] In the Jewish population in Israel between the ages 25–64, 68.3% are married. (Table 2.4, the Israeli central bureau of statistic. http://www.cbs.gov.il/shnaton67/st02_04x.pdf).

[18] 72.2% of Jewish families had children in 2015 (http://www.cbs.gov.il/reader/cw_usr_view_SHTML?ID=769).

[19] Data from Table 6 in the Household Expenditure Survey 2014. The Israeli Central Bureau of Statistics (http://www.cbs.gov.il/publications16/persons_income14_1650/pdf/t06.pdf). Note that the first age range in the Israeli Central Bureau of Statistics is 25–34 and in our case 24–34. The last age range is above 55 which may include people above 64.

Table 1 Age distribution of the sample

Age range	Percent from the sample (%)	Percent from the Israeli salaried employee population (%)
24–34	34.4	30.2
35–44	26.9	27.9
45–54	22	21.2
Above 55	16.7	20.6

The age distribution of our sample is close to the age distribution of the Israeli population salaried employee meaning that our sample represents appropriately the age distribution among salaried employee in Israel.

After stating that the average income in Israel for a single employee is NIS 9600/month, we asked respondents about their income as follows: (1) Far below the average income, (2) below the average income, (3) Approximately the average income, (4) Above the average income, (5) Far above the average income. The average answer was 2.66 (*SD* 1.08, Mid = 3). Table 2 presents the income distribution[20]:

Regarding education, there were 13 different possibilities in our survey. The distribution of the answers is[21] (Table 3):

We also asked our participants about their religious faith and their answers were as follows (Table 4):

Table 5 presents the means and standard deviations for the main questions in the survey. The average of the answers for the three positive feelings questions was used as an index of positive feelings, and the average of the answers to the four negative feelings was used as an index of negative feelings. The Cronbach's α were 0.911 and 0.855 for the positive and negative emotion indices respectively.

Table 5 show that the distributions of the four measures to SWB are similar to other international surveys. Most of the respondents' scores on the first three SWB measures are between 5 and 7 on a scale of 1-10, as reported for Great Britain (Office for National Statistics, 2015), whereas the average score for negative emotions is between 2 and 3.[22] Regarding the scores for intrinsic features of work, it seems that work conditions in Israel are similar and even better than those reported by the World Values Survey wave 6 for 60

[20] There is no data regarding the salaried employees' income relatively to the average income as we asked. There is data on gross monthly income per employee by deciles which is hard to compare to our data (http://www.cbs.gov.il/publications16/persons_income14_1650/pdf/t07.pdf).

[21] Note that according to the Table 12.7 in Statistical Abstract of Israel 2016, The Israeli Central Bureau of Statistics (http://www.cbs.gov.il/reader/shnaton/templ_shnaton_e.html?num_tab=st12_07&CYear=2016) 25.4% of the working force in Israel are high school graduates (in our sample 21.7%); 21% have a Bachelor's degree (in our sample 20.5%, including those who responded that they are studying for a masters); 11.5% have a master degree (in our sample 9.5%, including those who responded that they are studying for a doctorate); 1.5% have a doctoral degree (in our sample 1%). It seems that our sample is not different from the working force in Israel as regards education. (https://www.knesset.gov.il/mmm/data/pdf/m02704.pdf).

[22] The average scores for life evaluation, positive feelings and negative feelings in 132 countries, as measured by the Gallup World Poll, were 5.36 and 71 (on a scale of 0 to 1 × 100) for positive feelings and 23 (on a scale of 0 to 1 × 100) for negative feelings (Diener et al. 2010).

Table 2 Income distribution of the sample

Number	Relatively to average income	Percent from the sample (%)
1	Far below	17.4
2	Below	24.2
3	Approximately the average	37.2
4	Above	17.2
5	Far above	4

Table 3 Education distribution of the sample

Number	Education level	Percent from the sample (%)
1	8 years	0.3
2	9–10 years	0.5
3	11–12 years	6.6
4	Some high school	1.3
5	High school graduate	21.7
6	Some nonacademic training	5.6
7	Non-academic training graduate	29.8
8	Studying for bachelor's degree	3.0
9	Bachelor's degree	18.8
10	Studying for master's degree	1.7
11	Master's degree graduate	9.0
12	Studying for doctorate	0.5
13	Doctorate	1.0

Table 4 Religious faith distribution of the sample

Number		Percent in the sample (%)	Percent in the Jewish population of Israel, age 20+[a] (%)
1	Non-religious	56.2	43.4
2	Traditional	20.8	36.2
3	Religious	13.2	11.0
4	Ultra-orthodox	9.8	9.0

[a] Data on the Jewish population is from the Israeli Social Survey 2014 (Table 13: http://www.cbs.gov.il/webpub/pub/text_page.html?publ=6&CYear=2014&CMonth=1)

other countries.[23] The average score for SRCE is 4.62, implying that the average respondent reports a meaningful effort is exerted in order to make his or her work more enjoyable. It could be asked if respondents understood the question correctly. Might the score for work creative effort represent a desire for pecuniary reward from work rather than work that more intrinsically rewarding? The correlations between SRCE and objective features of work (as reported by the respondents) such as time worked and income from

[23] The average scores in 60 countries represented in the World Values Survey Wave 6 for Routine/Creative, Manual/Intellectual and Independence at work are 4.61, 5.12 and 6.45 (on a 1-to 10 scale) which is equivalent to 3.4, 3.75 and 4.63 on a 1–7 scale.

Table 5 The survey questions—descriptive statistics

	Measure	Mean	SD
SWB	Life evaluation (0–10)	6.83	1.76
	Meaning and purpose (0–10)	6.70	2.33
	Positive feelings (0–10)	5.80	2.53
	Negative feelings (0–10)	2.83	2.22
Work conditions	Routine/Creative tasks (1–7)	3.82	1.67
	Manual/Intellectual (1–7)	5.55	1.63
	Independence at work (1–7)	4.61	1.64
	SRCE (1–7)	4.62	1.56
	Average working hours	8.13	1.89
Other predictors	Financial satisfaction (1–7)	3.61	1.65
	Self-rated health (1–5)	4.24	0.85
	Religiosity (1–4)	1.77	1.02

work are 0.1 ($p < 0.01$) and 0.12 ($p < 0.01$), respectively. The low correlations indicate that respondents did not assess their creative effort as a means to pecuniary reward or as time spent on work, rather as a means to non-pecuniary satisfaction derived through work.

4.2 Regression Analysis

In order to analyze the association between SRCE and various predictors of SWB, we ran four three-step linear and continuous regression analyses, each with a different SWB measure as the dependent variable. First, we used the SRCE only with socio-demographic variables. In the second step, we added the intrinsic features of work. Finally, for the full regression we included financial satisfaction, self-rated health and religiosity. The regression analysis for each SWB measure is presented in Tables 6, 7, 8 and 9.

4.2.1 Evaluation of Life and SRCE

Regression 1 in Table 6 shows a positive and significant association between SRCE and global evaluation of life. This novel result is robust to previously well-documented effects on SWB, such as U-shape relationship with age (Blanchflower and Oswald 2008; Stone et al. 2010), higher SWB reported by women (Alesina et al. 2004), higher SWB reported by married individuals (Dolan et al. 2008), and a positive relationship with income (Clark et al. 2008; Dolan et al. 2008; Weimann et al. 2015). The association with children and education was not found to be statistically significant, although it is in some other studies (Dolan et al. 2008; Frey and Stutzer 2002). Regression 2 shows that including work conditions reduces the magnitude of the effect of SRCE on evaluation of life but it is still significant at the same level (Sig' < 0.01). The effect of socio-demographic parameters does not change, however the results demonstrate the importance of intrinsic features of work to evaluation of life. The more the work undertaken involves creative tasks and intellectual work higher is global evaluation of life. Similar to some other studies, we did not find any significant association for time worked (for a literature review, see Dolan et al. 2008).

Regression 3 reveals that including subjective health, financial satisfaction and religiosity improves the explanatory power of the analysis; the adjusted R^2 increased by

Table 6 Regression analysis for evaluation of life

Variable	Regression 1 coefficients	Regression 2 coefficients	Regression 3 coefficients
Constant	8.529**	8.090**	4.352**
SRCE	.189**	.118**	.087*
Age	−.190**	−.186**	−.130**
Age^2	.002**	.002**	.002**
Gender (1 = female)	.356**	.334**	.370**
Family status (1 = married)	.540**	.521**	.422**
Children (1 = yes)	−.045	−.056	−.010
Income	.272**	.251**	.093
Education	.024	.006	.012
Routine/creative tasks		.116**	.081*
Independence at work		−.015	−.043
Manual/intellectual		.096**	.080*
Average working hours		.001	−.021
Self-rated health			.482**
Financial satisfaction			.348**
Religiosity			.106
	Adjusted $R^2 = 0.101$ F = 13.9; Sig' < 0.01	Adjusted $R^2 = 0.113$ F = 10.81; Sig' < 0.01	Adjusted $R^2 = 0.274$ F = 24.21; Sig' < 0.01

Standard errors clustered for age

** Sig' < 0.01; * Sig' < 0.05

almost a factor of 3. Moreover, the effect of SRCE become smaller in magnitude but remains significant (Sig' < 0.05). Similar results occur with the intrinsic features of work. An interesting result concerns the effect of income on life evaluation. Income level becomes statistically insignificant, whereas the effect of financial satisfaction is found to be very meaningful. This result indicates that economic well-being is an important predictor of life satisfaction, and it is closely related to financial satisfaction (Easterlin et al. 2010). The strong and significant effect of subjective health on life evaluation is consistent with the literature. However, religiosity was not found to be associated with life evaluation, which contrasts with previous literature. However, the results of regressions with the other measures of SWB (presented in Tables 7 and 9) do show that religiosity contributes to better SWB. Overall, the results to this point demonstrate that exerting creative effort at work, in order to make work more enjoyable, is an important factor to be considered when discussing the properties of human welfare. Work is the main source for most people's economic well-being, but it is also a source for stimulation and flow experience (Csikszentmihalyi 1990; Scitovsky 1976). To test the robustness of the results, we analyzed the association of SRCE with other measures of SWB.

4.3 Meaning and Purpose in Life and SRCE

Regression 1 in Table 7 shows a positive and significant association between SRCE and meaningful life. The effect is more than twice as strong as the result presented in

Table 7 Regression analysis for meaning and purpose

Variable	Regression 1 coefficients	Regression 2 coefficients	Regression 3 coefficients
Constant	6.309**	5.616**	.994
SRCE	.458**	.281**	.253**
Age	−.142*	−.127*	−.055
Age^2	.001*	.001*	.001
Gender (1 = female)	.388	.290	.336
Family status (1 = married)	.527*	.453*	.307
Children (1 = yes)	.771**	.761**	.682**
Income	.064	.022	−.080
Education	.041	−.003	.008
Routine/creative tasks		.258**	.224**
Independence at work		.074	.045
Manual/intellectual		.178**	.156**
Average work hours		−.066	−.074
Self-rated health			.539**
Financial satisfaction			.273**
Religiosity			.259**
	Adjusted $R^2 = 0.143$ F = 20.3; Sig' < 0.01	Adjusted $R^2 = 0.192$ F = 19.19; Sig' < 0.01	Adjusted $R^2 = 0.280$ F = 24.92; Sig' < 0.01

Standard errors clustered for age

** Sig' < 0.01; * Sig' < 0.05

Regression 1 in Table 6, implying that exerting creative effort in order to obtain meaningful work is a key to meaningful life. Analyzing the effect of socio-demographic parameters reveals that having children may not contribute to global life evaluation, but it is very important for an individual's meaning and purpose in life. A plausible explanation is that meaning, unlike happiness, is cultural (Baumeister et al. 2013). In the U.S. a vast majority mothers agree with the statement that being a mother is the most important thing that they do (Kohler, 2012). The total fertility rate in Israel is approaches 3 (Central Bureau of Statistics)[24] implying that having children is embedded in Israeli culture, and having children is strongly associated with meaningful life. In addition to the positive and significant association with children, Regression 1 reveals that income level is not associated with meaningful life. Money makes it possible buy things that people need and want, and is, therefore, associated with happiness, but is not essential for feeling that the things done in life are worthwhile; therefore, it is not associated with meaningfulness (Baumeister et al. 2013).

Regression 2 shows that adding work conditions contributes to the explanatory power of the properties of meaningful life. SRCE remains significant after controlling for socio-demographic factors and work conditions. Being involved in creative tasks and intellectual work is positively and statically significantly associated with purpose in life (Sig' < 0.01).

[24] http://www.cbs.gov.il/shnaton66/st03_13.pdf.

Table 8 Regression analysis for positive emotions

Variable	Regression 1 coefficients	Regression 2 coefficients	Regression 3 coefficients
Constant	7.799**	7.736**	5.435**
SRCE	.358**	.297**	.275**
Age	−.201**	−.196**	−.164**
Age^2	.002**	.002**	.002*
Gender (1 = female)	.586**	.568**	.579**
Family status (1 = married)	.421	.384	.339
Children (1 = yes)	.612**	.619**	.697**
Income	.135	.127	.005
Education	−.029	−.042	−.041
Routine/creative tasks		.095	.074
Independence at work		.075	.055
Manual/intellectual		−.002	−.012
Average working hours		−.037	−.060
Self-rated health			.348**
Financial satisfaction			.248**
Religiosity			−.002
	Adjusted $R^2 = 0.095$ F = 13.1; Sig' < 0.01	Adjusted $R^2 = 0.098$ F = 9.37; Sig' < 0.01	Adjusted $R^2 = 0.134$ F = 10.47; Sig' < 0.01

Standard errors clustered for age

* Sig' < 0.05; ** Sig' < 0.01

As with SRCE, intrinsic features of work contribute more strongly to meaningfulness than to global evaluation of life.

Regression 3 shows that SRCE and meaningful work are important determinants of meaningful life, even after controlling for health, financial satisfaction and religiosity. The magnitude of SRCE is a factor of 3 stronger than its magnitude in Table 6 and its significance is higher (Sig' < 0.01). However, it seems that meaningful work does not correlate with work time. The time people allocate for work is not correlated with meaningful life, probably because working more is detrimental to the quantity and quality of leisure time (e.g., coming home from work tired, and therefore spending less quality time with children). The results in Table 7 confirm the importance of subjective health and financial satisfaction to SWB, as in Table 6. Moreover, they confirm the positive association with religiosity. Being religious contributes to feeling that there is meaning and purpose in life, consistent with the literature. An interesting result regards the association with age. In contrast to the results in Table 6, here it seems that the u-shaped relation to age does not apply to having meaningful life. When analyzing happiness and life satisfaction as components of SWB the literature confirm that there is midlife crisis even among great apes (Weiss et al. 2012), however, such crisis, apparently, does not appear in regard with meaningfulness. Baumeister et al. (2013) argue, "Humans may resemble many other creatures in their striving for happiness, but the quest for meaning is a key part of what makes us human, and uniquely so" (p. 516). A plausible explanation may concern the

Table 9 Regression analysis for negative emotions

Variable	Regression 1 coefficients	Regression 2 coefficients	Regression 3 coefficients
Constant	.563	.469	3.865**
SRCE	.027	.073	.091
Age	.117*	.106*	.055
Age^2	−.001*	−.001	−.001
Gender (1 = female)	.322*	.426**	.409**
Family status (1 = married)	−.059	−.021	.079
Children (1 = yes)	−.427*	−.441*	−.365
Income	−.036	−.029	.020
Education	.003	.018	.011
Routine/creative tasks		−.003	.013
Independence at work		−.128*	−.107*
Manual/intellectual		−.043	−.027
Average working hours		.087*	.094*
Self-rated health			−.436**
Financial satisfaction			−.140**
Religiosity			−.174*
	Adjusted $R^2 = 0.007$ F = 1.9; Sig' = 0.06	Adjusted $R^2 = 0.017$ F = 2.29; Sig' < 0.01	Adjusted $R^2 = 0.059$ F = 4.88; Sig' < 0.01

Standard errors clustered for age

** Sig' < 0.01; * Sig' < 0.05

effect of children on SWB. Children may reduce happiness and life satisfaction (Dolan et al. 2008), therefore people report a midlife crisis, but having children positively contributes to meaning in life, which eliminates traces of such crisis. Note that gender is not statistically correlated with purpose and meaning in life.[25] Overall, the results in Table 7 confirm our novel result that creative effort at work is an important predictor of SWB. To test the robustness of this novel result, we further investigate the association of SRCE and SWB, this time by analyzing their association with positive emotions.

4.3.1 Positive Emotions and SRCE

Regression 1 in Table 8 shows that SRCE is positively associated with positive emotions experienced by the responded. The magnitude of the effect is stronger than the effect on global life evaluation and weaker than the effect on meaning and purpose in life. For all of the alternative measures of SWB, the effect is significant at the same level (Sig' < 0.01). The effect of socio-economic parameters on positive emotions is similar to the effect on meaning and purpose in life. This implies that having children contributes positively to

[25] Peterson et al. (2005) also report that gender is not statistically correlated with various measures of SWB including meaning.

having a meaningful life and makes parents feel more enjoyment and exaltation without, apparently, contributing to a positive global evaluation of life. Adding work conditions changes the previous results. Regression 2 shows that the effect of SRCE continues to be positive and statically significant, but the intrinsic features of work are no longer associated with SWB. The amount of time worked has the same effect. This means that the creative effort a worker exerts during work time is the factor that makes life to be more meaningful and enjoyable, rather than work conditions *per se*. It is the imaginative effort and the investment of psychic energy that transforms work into a source of experiences that are creative and stimulating rather than defensive and comfortable (Hawtrey 1925; Scitovsky 1976), even if the work people do is hard and unglamorous, and seen by others as boring, repetitive and meaningless (Csikszentmihalyi 1990).

Regression 3 shows that the effect of SRCE remains positive and significant (Sig' < 0.01) also after controlling for self-rated health, financial satisfaction and religiosity. As in the previous measures subjective health is strongly associated with psychological quality of life while financial satisfaction affects SWB rather than income level. Religiosity does not help people smile more or feel more enjoyment on a daily basis.

For age, we find further evidence for the u-shaped relationship as appeared in the case of life evaluation. There is evidence, apparently, for midlife crisis when SWB is measured by global evaluation of life, and by positive emotions, but not when it is measured by purpose and meaning in life. Overall, despite the lower explanatory power of this regression (adjusted $R^2 = 0.134$; in the other regressions the adjusted R^2s were around 0.28), the results still demonstrate the robustness of the positive contribution of SRCE to SWB. In the fourth analysis, we ask if exerting creative effort in order to make work more enjoyable is also associated with experiencing fewer negative emotions.

4.3.2 Negative Emotions and SRCE

The immediate result is that negative emotions are not accurately predicted by the factors presented in current research. The adjusted R^2s in all of the tree regressions are very small, meaning that negative emotions are not the opposite of positive emotions.[26] For SRCE, all of the regressions presented in Table 9 show that it is not associated with negative emotions. Exerting creative effort in order to make work more enjoyably does not reduce negative emotions such as worry, sadness and depression. All three regressions confirm a gender difference: women experience both more negative emotions and positive emotions than men, a result that is already documented in literature (Frey and Stutzer 2002). Regression 1 confirms that having children is significantly associated with reduced negative emotions, however this result is not robust when controlling for health, financial satisfaction and religiosity (regression 3).

Regression 2 shows that although SRCE is not associated with negative emotions, others factors related to work environment actually do. Working more hours increases negative emotions, but the degree of independence at work reduces them. For the other two intrinsic features of work, we found insignificant associations. Regression 3 confirms the important role of self-rated health and financial satisfaction to SWB. In all four measures of SWB, the effect of these factors is robust, consistent with the literature. Although religiosity is not associated with positive emotions, it is an important factor when dealing

[26] For example, it is known that optimism and pessimism are bi-dimensional measures and not opposite measures (Chang et al. 1997).

with negative emotions. Religiosity or holding religious beliefs reduces the amount of negative emotions a person experiences on a daily basis.

The last result concerns the u-shaped relations with age. As in the case of meaning and purpose in life, we found statistically insignificant correlations when assessing the index of negative emotions as a measure for SWB. This result may be explained due to different patterns of hedonic well-being measured by negative emotions over the life cycle; older people might experience less of the negative emotions "worry" and "anger," but not less "sadness" (Stone et al. 2010).

5 Concluding Remarks

This paper reports on an empirical study of the links between intrinsic features of work and four measures of SWB, based on online survey data collected from 922 Israeli salaried employees, at ages representing a majority of the work-force (24–63). The study focuses on analyzing how creative effort exerted by individuals in order to make their work more enjoyable is associated with human welfare. To the best of our knowledge there are no previous empirical literature on the linkage between creative effort aiming to make work more enjoyable and SWB; therefore, the main result presented here is innovative. The positive and robust association between work creative effort and various measures of SWB is related to literature in three ways: First, it confirms that work *per se* caries a consumption value: "It provides not only a livelihood but a source of meaning" (Layard et al. 2012: 68). Second, it confirms other findings regarding the positive linkage between effort and SWB (Seligman et al. 2005; Layous et al. 2013). As stated by Lyubomirsky et al. (2011: 393): "It is not enough to knowingly choose the activity [happiness intervention] initially; one must also put objective sustained effort into its practice." Lyubomirsky et al. (2011) also argue that happiness "pays dividends" if the effort continues onto activities that provide actual means for increasing well-being, implying that non-pecuniary benefits of work derived by employees' creative effort are a potential source for well-being growth. Third, it may explain how job characteristics, such as relationships with colleagues and supervisors, skill and task variety, task significance and opportunity for skill use contribute to job and life satisfaction (Cornelißen 2009; Fisher 2010). All these characteristics enable exerting creative effort by the employee. For example, he or she can exert emotional effort in order to turn social relationships at work into meaningful relationships, and combine cognitive effort with skill and task diversity in order to experience the state of flow, which requires feelings of learning, development, and mastery (Csikszentmihalyi 1990). However, the findings do not imply more time should be allocated to work since the study found that time at work is positively associated with negative emotions. Therefore, it is not a matter of quantitative time worked, rather it is a matter of constant effort devoted to improving the hedonic quality of work.

Our findings should be treated with caution. They are based on cross-section equations, meaning it is not possible to identify the casual linkage between creative effort or other intrinsic features of work and SWB due to selectivity bias. Individual with higher measures of SWB may be selected by their employers to perform more creative tasks that enable them to invest creative effort during work time. Happier employees may also be selected for teamwork in order to improve group mood, unit level engagement and group task satisfaction (Fisher 2010). Therefore, more research is required in order to better understand the nature of work's contribution to human welfare, both theoretically and

empirically. Moreover, the focus on salaried employees raises further questions regarding the pecuniary and non-pecuniary channels potentially linking work creative effort with self-employment and entrepreneurship. Our results do not imply that work creative effort in state of "being your own boss" promote job and life satisfaction via non-pecuniary channels. Further research is required in order to understand whether entrepreneurs' willingness to exert creative effort is mainly targeted toward pecuniary rewards due to uncertainty regarding future revenues or the desire to improve their relative income comparing other entrepreneurs. Moreover, we did not ask respondents to describe the type of creative effort they exert. Respondent's creative effort may be cognitive (e.g., transforming work into a more interesting and stimulating activity); emotional (e.g., improving social relationships with co-workers) or physical (e.g., enforcing activity and stimulus). We suggest that future research attempt to widen our understanding of the relationship between creative effort and SWB by examining the different types of creative effort.

Although the results should be treated with caution they carry important implications for changes needed in the work environment and public policy. The positive association between work environment, and especially SRCE, with salaried employees' well-being imply a potential path for improving labor productivity and task performance. Employers and managers who wish to improve their workers' productivity should create a work environment where the workers feel they can invest more creative effort. Even if the employee's effort is not especially creative by objective measures, making the employee believe that his or her effort is creative may well improve his or her SWB, and also his or her productivity and work performance, which will contribute substantially to firm value. Public policy-makers could take concrete action to promote creative work, by sharing this knowledge and offering opportunities for individuals to experience the benefits of creative effort. The gains in societal well-being will exceed the monetary benefits for the business sector because, as suggested by Bok (2010): "people with high levels of well-being are more likely to be healthy, happily married, civic-minded, generous, and tolerant citizens" (p. 45).

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