Results of the 2015 RASPerS: Stress, work-life balance, and health behavior

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Abstract
Data from previous Research Administrators Stress Perception Surveys (RASPerS) showed perceived workplace stress (PWS), poor health behavior, and work-life balance are concerns for research administrators as an occupational group. 2007 RASPerS data indicated an association between PWS with both work-life balance and poor health behavior. The 2010 RASPerS expanded upon the 2007 study, showing that extremely high levels of PWS had increased. The 2010 RASPerS data continued to show statistically significant associations between high levels of PWS with work-life balance and poor health behaviors. The 2015 RASPerS continued this study to determine if the 2010 increase in high PWS was a spike, or an indication of an upward trend. The 2015 RASPerS also continued the investigation of associations between high PWS with work-life balance and poor health behaviors. Variables used to measure work-life balance were self-report of work interfering with home and family obligations and routinely working more than 40 hours per week. Variables used to measure poor health behavior were self-report of neglect of physical health, inadequate sleep, and continuing to work while sick. 2015 RASPerS data show a decline in extremely high PWS with a continued association between PWS with both work-life balance and poor health behavior.
**Background and Objectives**

**Background.** The purpose of the 2015 Research Administrators Stress Perception Survey (RASPerS) is to determine the current levels of perceived workplace stress (PWS) in research administrators, the degree of association between levels of PWS with work-life balance and poor health behavior, and determine any trends that appear to be developing with these factors. It is also the purpose of this paper to disseminate information that may lead to improved health behavior and work-life balance in research administrators through increased awareness.

The 2015 RASPerS is the third in a series of surveys to learn more about research administrators as a professional group. The RASPerS was first developed in 2007 to determine if the profession of research administration could be classified as a stressful occupation by standardized criteria as outlined in *The Scale of Occupational Stress: A Further Analysis of the Impact of Demographic Factors and Type of Job* by Smith, et al., (2000). In the Smith study, a sample of 17,000 workers was surveyed to determine their perceived levels of stress. Twenty per cent of the sample reported having high or extremely high levels of work-place stress. The Smith group concluded that any occupational group with nineteen per cent or more of their population reporting high or extremely high stress would be considered as a high stress occupation.

The 2007 RASPerS data showed that 57.5% of the 600 research administrators surveyed had either high or extremely high levels of perceived workplace stress (PWS) (Shambrook & Mintzer, 2007). The 2010 RASPerS data showed that 56.0% of the 1,089 research administrators surveyed reported high or extremely high workplace stress (Shambrook, 2010). Thus, it can be concluded that the profession of research administration can be classified as a high stress occupation. It is important to further note that the percentage reporting extremely high stress rose significantly from 16.2% in 2007 to 22.6% in 2010 (Shambrook, 2012).

Both the 2007 and 2010 RASPerS show an association between levels of PWS with neglect of work-life balance and poor health behavior. Work-life balance was determined by self-report and working more than 40 hours per week in the 2007 and 2010 surveys. There was an increase in work-life balance difficulties from 45.0% in 2007 and 56.9% in 2010. There was also an increase in the number of respondents reporting having to work more than 40 hours per week from 66.06% in 2007 to 75.52% in 2010.

As discussed in detail in the 2010 RASPerS report, the associations between stress and poor health has been addressed in many previous studies by the U.S. Center for Disease Control, the American Heart Association, the American Cancer Society and the National Institutes of Health (Shambrook, 2010). While there has been debate as to whether there is a causal relationship between stress and poor health, there is agreement that there is a clear association between individual health behavior and poor health outcomes. In the 2007 RASPerS an association was shown between the level of PWS and such health variables as reporting to work while sick...
(sickness presenteeism), adequate sleep, and self-reported neglect of physical health due to the demands of work. In the 2010 RASPerS health related variables were explored with greater granularity, rather than asking a question concerning neglect of physical health. For example, questions were asked about individual preventive screenings, smoking, and other health information.

**Objectives.** The objectives of this report is to determine from the 2015 RASPerS the answers to the following questions:

1. What are the current levels of perceived workplace stress (PWS) in research administrators?
2. Is there a further increase in the percentage of research administrators reporting their PWS is extremely high?
3. Is there an association between the levels of PWS and the following work-life balance variables: a) self-reported work demands interfering with home and family life; and b) working in excess of 40 hours per week?
4. Is there an association between the levels of PWS and the following health behavior variables: a) self-reported neglect; b) sickness presenteeism; and c) adequate sleep?

**Methods**

**Survey development.** Questions in the 2007 RASPerS were developed by the first author of this paper and tested for validity and reliability by experts in stress and survey research and by members of the occupational group at various levels of experience and responsibility. Questions for the 2010 RASPerS were a composite of questions used by the Center for Disease Control (CDC) Behavioral Risk Factor Surveillance Survey, and other established scales to measure stress vulnerability, perception, and resiliency. The 2007 RASPerS had sixteen questions. The 2010 RASPerS had 114 questions. Methods used for survey development of the 2007 and 2010 RASPerS are described in greater detail in previous publications (Shambrook & Mintzer, 2007; Shambrook, 2010).

Based upon areas identified for further study in previous RASPerS studies, questions were selected for the 2015 RASPerS came from question banks from the two previous surveys. There was an effort made to have fewer questions, in order to shorten the length of time required for the respondents to participate in the 2015 RASPerS. The 2015 RASPerS was shortened to seventy-seven questions.

**Data collection.** All three surveys were reviewed and approved under expedited review by appropriate Institutional Review Boards. All surveys were administered electronically to the study populations through SurveyMonkey©. Study participant identity remained anonymous for all surveys.
The study population for the 2007 RASPerS was the membership of the Research Admin Listserve. The 2010 RASPerS study population was the membership of the National Council of University Research Administrators. The 2010 RASPerS was again the membership of the Research Admin Listserve. For the 2015 RASPerS a notice went out to the listserve announcing the survey was open and would remain open for ten days. Follow-up notices were issued every other day.

The Research Admin Listserve membership was 4,303. In order to achieve a confidence level of 99% with a confidence interval of 5, it was necessary to recruit a sample size of 577. At the end of ten days, the sample size exceeded the required number at 652 participants.

**Data analysis.** Data were analyzed by matching like variables between surveys. Questions on the 2007 and 2010 RASPerS were sometimes similar, but not identical. Questions on the 2015 RASPerS were identical to either the 2007 or 2010 RASPerS. Data are analyzed using both descriptive and analytical statistics.

**Results**

Descriptive data are shown below in Table 1 and Figure 1 through Figure 5 to address the questions posed by the objectives listed above.

Table 1. Perceived work stress was determined by identical questions posed in the 2007 and 2015 RASPerS. A similar question was used in the 2010 RASPerS to stratify levels of perceived work-place stress.

<table>
<thead>
<tr>
<th>2007 RASPerS</th>
<th>Minimal</th>
<th>Moderate</th>
<th>High</th>
<th>Extremely high</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 624</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please rate your perceived level of work-related stress</td>
<td>38 (6.1%)</td>
<td>227 (36.4%)</td>
<td>258 (41.3%)</td>
<td>101 (16.2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2010 RASPerS</th>
<th>Never</th>
<th>Almost never</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 1,089</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>In the last month, how often have you felt you had too much stress at work?</td>
<td>19 (1.7%)</td>
<td>85 (7.8%)</td>
<td>375 (34.4%)</td>
<td>364 (33.4%)</td>
<td>246 (22.6%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2015 RASPerS</th>
<th>Minimal</th>
<th>Moderate</th>
<th>High</th>
<th>Extremely high</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 652</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please rate your perceived level of work-related stress</td>
<td>38 (5.83%)</td>
<td>280 (42.94%)</td>
<td>248 (38.04%)</td>
<td>86 (13.19%)</td>
</tr>
</tbody>
</table>
In Figures 1 through 5, responses to questions related to work-life balance and health behavior are stratified by PWS levels as shown in Table 1 in the section shown for the 2015 RASPerS.

Figure 1. Percentage level of agreement with the statement the following statement: The demands of my work interfere with my home and family life by level of PWS in 2015 RASPerS.

<table>
<thead>
<tr>
<th>Work interferes with home and family life (N=621)</th>
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<tbody>
<tr>
<td>Percentage in agreement</td>
</tr>
<tr>
<td>Minimal</td>
</tr>
<tr>
<td>Disagree</td>
</tr>
<tr>
<td>Neutral</td>
</tr>
<tr>
<td>Agree</td>
</tr>
</tbody>
</table>
Figure 2. 2015 RASPerS hours per week worked for PWS categories

![Histogram showing hours normally worked per week by PWS level (N=649)]

- Less than 40: Minimal 5.3%, Moderate 6.9%, High 2.0%, Ext. High 1.2%
- Usually 40: Minimal 76.3%, Moderate 36.5%, High 25.0%, Ext. High 7.0%
- 40 to 50: Minimal 15.8%, Moderate 51.3%, High 59.3%, Ext. High 51.2%
- > 50: Minimal 2.6%, Moderate 5.4%, High 13.7%, Ext. High 40.7%

Figure 3. Percentage response by 2015 RASPerS PWS level to the following statement: In order to meet the demands of your job, do you feel you have neglected your physical health?

![Bar chart showing percentage of PWS level neglecting health to meet work demands (N=650)]

- Yes, frequently: Minimal 5.26, Moderate 20.14, High 48.58, Ext. High 75.58
- Yes, but not often: Minimal 18.42, Moderate 39.21, High 34.41, Ext. High 19.77
- Never: Minimal 36.84, Moderate 9.71, High 2.83, Ext. High 1.16
Figure 4. Percentage response by 2015 RASPPerS PWS level to the following statement: Over the previous twelve months, have you gone to work despite feeling that you really should have taken sick leave due to your state of health?

![Present at work while sick (N=647)](image)

<table>
<thead>
<tr>
<th>Present at work while sick (N=647)</th>
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</thead>
<tbody>
<tr>
<td>Percentage by PWS level</td>
</tr>
<tr>
<td>No, never</td>
</tr>
<tr>
<td>Yes, once</td>
</tr>
<tr>
<td>Yes, 2-5 times</td>
</tr>
<tr>
<td>Yes, more than 5 times</td>
</tr>
</tbody>
</table>

Figure 5. Percentage response by 2015 RASPPerS PWS level concerning the number of hours sleep normally gotten each night?

![Hours sleep by PWS level (N=646)](image)

<table>
<thead>
<tr>
<th>Hours sleep by PWS level (N=646)</th>
</tr>
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<tbody>
<tr>
<td>Percentage by PWS level</td>
</tr>
<tr>
<td>Less than 7 hours</td>
</tr>
<tr>
<td>7 or more hours</td>
</tr>
<tr>
<td>57.55</td>
</tr>
<tr>
<td>54.12</td>
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</table>
Discussion
Results shown above address the questions posed in the Objective section above. Each objective will be addressed separately in the following paragraphs.

**Levels of PWS.** Table 1 shows levels of reported high (38.04%) or extremely high (13.19%) perceived work-place stress for research administrators as an occupational group continues to be more than fifty percent of the study sample participants. This greatly exceeds the 19% of the study sample needed to continue to identify research administrators as being in a high stress occupational group.

Table 1 further shows a decrease in the percentage of participants from both the 2007 and 2010 RASPerS reporting their PWS is in either of the extreme groups. Minimal stress has declined slightly to 5.83% from 6.1% in 2007. There is a somewhat greater decline from the 9.5% minimal stress shown in 2010 RASPerS data. Extremely high stress in the 2015 RASPerS is 13.19%, which is also less than shown in 2007 (16.2%) or 2010 (22.6%) RASPerS data.

As stated earlier, the survey question related to PWS for 2007 and 2015 is identical. The survey question for 2015 is similar, but not identical. The results for 2007 and 2015 are more alike than the 2010 response. It is unknown if this greater difference is a factor of what was occurring in the research administration arena at the time with the decline in funding success rates of Federal grants and increased workload brought on by the American Recovery and Reinvestment Act of 2009.

It is noteworthy that, when taken together, high and extremely high levels of PWS in 2007 and 2010 did not differ significantly. The RASPerS study participants reported they had either high or extremely high PWS was 57.5% in 2007 and 56.0% in 2010. This similarity in 2007 and 2010 tends to add confidence in the congruence of the similar questions.

2015 RASPerS participants reporting to have high or extremely high PWS was 51.23%, which is a decrease from the combined high/extremely high percentages reported in either 2007 or 2010. Despite the decrease, with 51.23% of research administrators reporting they have high or extremely high stress it continues to place this occupational group in a high stress job category.

**Association between level of PWS and work-life balance.** Figures 1 and 2 show 2015 RASPerS data related to the association between level of PWS and factors related to work-life balance. Factors observe include self-reported interference with home and family life by demands of work and being at work more than 40 hours per week.

As shown in Figure 1, 2015 RASPerS participants were asked to rate their level of agreement with the following statement: The demands of my work interfere with my home and family life.
This question was developed for the family-work balance scale by Netemeyer, Boles, and McMurrian (1996). Respondents who reported having minimal stress reported 94.6% disagreement with that statement, 5.41% reporting neither agreement or disagreement, and none reporting agreement with the statement.

As the level of PWS went higher, the level of agreement with the statement also rose. Participants reporting having extremely high levels of PWS reported 87.66% agreement with the statement, 4.94% remaining neutral, and only 7.4% reporting disagreement with the statement that work interfered with home and family life.

Figure 2 depicts data stratified by PWS groups for number of hours worked per week. This is based on the assumption that greater hours of work would leave fewer hours to attend to home and family life activities, thereby causing strain.

Very few 2015 RASPerS respondents reported working less than 40 hours per week. Of those reporting less than 40, the minimal (5.3%) and moderate (6.9%) were two to five times more likely to be in this category than the high (2.0%) or extremely high (1.2) PWS respondents.

Participants with minimal PWS most frequently reported working 40 hours per week (76.3%). Only 15.8% in the minimal PWS group reported working 40-50 hours per week, and even smaller percentage (2.6%) reported working over 50 hours per week.

In looking at others reporting usually working 40 hours per week we find that the higher the level of PWS, the lower the percentage. Those with extremely high PWS were over 10 times less likely to usually work 40 hours per week than those in the minimal stress group. The extremely high PWS group members were over fifteen times more likely to be working over 50 hours per week than the minimal stress group.

In reviewing the factors related to work-life balance, it can be concluded there does appear to be an association between the level of PWS and factors related to work-life balance. 2015 RASPerS data indicate greater levels of PWS are associated with lower levels of work-life balance.

Association between level of PWS and health behavior. Figures 3, 4 and 5 show 2015 RASPerS data related to the association between level of PWS and factors related to health behavior. Factors examined include self-reported neglect of physical health (Figure 3), reporting to work while sick (Figure 4), and adequate sleep (Figure 5).

Figure 3 shows 2015 RASPerS participant responses related to neglecting their physical health in order to meet the demands of their job. There was a direct correlation between those responding that they had frequently neglected their health and the level of PWS. Those with extremely high
PWS (75.58%) were more than 14 times more likely to report they had frequently neglected their physical health to meet the demands of their work than those reporting minimal PWS (5.25%).

Respondents with minimal PWS (36.84%) were over thirty times more likely to respond that they never neglected their health do to the demands of their work than those who had reported having extremely high PWS (1.16%). 2015 RASPerS data indicates there is an association between PWS and self-reported neglect of physical health.

Aronsson, et al., (2000) showed there was an association between reporting to work sick (sickness presenteeism) and employee concerns with someone being able to assume their workload during their absence. A more recent article, (Szymczak, et al., 2015) also has shown that concerns about letting colleagues down, feeling they are the only one that can do their work, and a work-place culture that endorses working while sick also contribute to sickness presenteeism.

Sickness presenteeism was chosen as an indicator of poor health behavior for two reasons: Not only is sickness presenteeism a form of personal physical health neglect, it also endangers the health of others in the work-place environment.

Figure 4 shows 2015 RASPerS participant responses related to sickness presenteeism during the last year stratified by levels of PWS. Participants were asked to respond to the question developed by Aronsson, et al., (2000): Over the previous 12 months, have you gone to work despite feeling that you really should have taken sick leave due to your state of health? Responses included 1) No, never; 2) yes, once; 3) yes, 2-5 times; and 4) yes, more than 5 times. In the Aronsson study, responses of no, never and yes, once were considered healthy answers. Responses indicating yes, 2-5 times or yes, more than 5 times, were considered to show poor health behavior.

2015 RASPerS respondents who were in the extremely high PWS group (45.24%) were over four times more likely to report they had engaged in sickness presenteeism more than 5 times in the last year than those in the minimal PWS group (10.53%). Those in the minimal PWS group (31.58%) were over five times more likely to report they had never gone to work sick in the last year than those in the extremely high PWS (5.95%). 2015 RASPerS responses showed an association between lower frequency of sickness presenteeism and lower levels of PWS. Likewise, 2015 RASPerS responses showed a higher frequency of sickness presenteeism and higher levels of PWS.

The 2010 RASPerS showed a strong association between adequate sleep (seven or more hours on most nights) and resilience to factors associated with vulnerability to stress. Not only does sleep
aid in good health, it also appears to be a significant factor in stress resilience. (Shambrook, 2010).

Figure 5 shows a correlation between levels of PWS and adequate hours of sleep. Participants in the 2015 RASPerS in the minimal PWS group report that 73.69% of them get seven or more hours of sleep per night while only 45.89% of the extremely high PWS gets that much sleep. Over half of the extremely high PWS group (54.12%) report getting less than seven hours of sleep while only 26.31% of those with minimal PWS report getting less than seven hours sleep.

**Conclusions.** 2015 RASPerS data indicate higher levels of PWS are associated with lower levels of adequate sleep. Combining this with higher levels of PWS also being associated with greater incidence of sickness presenteeism and self-reported physical health neglect, one can conclude that there is an association between higher levels of PWS and poor health behavior.

Additionally, 2015 RASPerS data further indicate higher levels of PWS are associated with poor work-life balance. Higher levels of PWS were shown to be associated with increased hours at work and greater percentages of self-reported interference with home and family life by work responsibilities.

The positive news from this study is that there is a slight decrease in the percentage of research administrators reporting extremely high perceived work stress. While research administration must still be regarded as a high stress occupation with just over half of the study participants reporting either high or extremely high PWS, there is a slight move downward in the overall numbers for high/extremely high PWS.

The primary purpose of the RASPerS studies is to increase the awareness of the research administration community of the presence of work-place stress and how it may affect health behavior. It is the aim of these authors that by increasing awareness, research administrators will pay closer attention to improved health behavior and make conscious efforts to improve their work-life balance. It is also hoped that research administrators will share this information and encourage colleagues toward better health behavior, and work-life balance.
References


