

# MEASURING BENEFIT AVAILABILITY FOR OFFICERS: THE ERROR IN PERCEPTIONS OF WHAT IS OFFERED AND ITS EFFECT ON CONCLUSIONS

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Understanding police officers' perceptions of their employee benefits is essential to making sure they receive the support they need to be successful. A number of researchers have analyzed the link between what has been termed benefit availability and job and family variables. This article contends that these researchers may not be measuring benefit availability, but instead are measuring benefit awareness, and that the difference between these two concepts has important implications for researchers and police departments. This research reviews previously employed measures of "availability," and results and implications derived from these analysis. Using a newly collected sample from state police officers with measures of both availability and awareness, estimates of the error rate between measuring benefit awareness and benefit availability were calculated and used to adjust correlations from other research to demonstrate the differences in results when benefit awareness is measured instead of benefit availability. The difference between benefit availability and benefit awareness may explain some of the inconsistencies in previous research of benefit availability. It also may indicate that departments need to focus more on how information is disseminated to officers than on providing more benefits.

*Keywords:* benefit availability, benefit awareness, police well-being

There has been a considerable amount of research on the effects of family-friendly benefits on job and family outcomes, such as job stress and work-family balance. Some of the studies have looked at benefit availability (BA) (e.g. Allen, 2001; Dickson, 2004), while some research has measured benefit use or the perceived value of the benefits (Lambert, 2000; Muse, Harris, Giles & Field, 2008). The focus of this paper is specifically on BA and the previous research that has attempted to measure it. The results of this research have been mixed. Some researchers found that availability results in better job related variables

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such as decreased turnover intentions (Thompson, Beauvais & Lyness, 1999) and lower reported levels of work-family conflict (WFC) (Thompson et al., 1999 & Youngcourt & Huffman, 2005). Other researchers have provided evidence that no direct relationship exists between BA and job-related and/or employee related outcomes (Allen 2001; Thomas & Ganster, 1995). Allen (2001) found there was an indirect relationship between BA and WFC through family supportive organizational perceptions. Her contention was that offering benefits increased an employee's positive perceptions of the employer and that perceived increase in support is what led to positive organizational and employee outcomes. However, Thomas and Ganster (1995) found no direct or indirect relationships between dependent care services availability and outcome variables. The authors believed their results were due to low variance across the sample available. It is the contention of the current researchers that at least some of the inconsistencies in these results may be due to errors in the measurement of BA. More specifically, we argue that most of the measures of BA are actually measures of benefit awareness. If this is the case, this would have important implications for employers, as their human resource dollars may be better spent on increasing benefit awareness as opposed to providing more benefits as some research suggests.

This research examines the state of the literature on the effects of BA, discusses the inconsistencies, and presents a possible explanation for these inconsistencies based on results from a sample of police officers in a southern state. These results demonstrate a distinct difference between what benefits are known to be available for officers and what the officers believe are available to them. The implications of research that measures benefit awareness instead of BA are discussed. Finally, the researchers use an estimated error rate between benefit awareness and BA to re-evaluate some of the correlation results presented in the published research on the effects of BA. This may be particularly important in policing, as it is a job with high job stress, and knowledge of benefits may help to reduce officer stress.

Some of the past research on benefit "availability" focused on one specific variable like flextime (e.g. Lambert, Marler, & Gueutal, 2008), but the focus of this review is on research that assesses BA of multiple employee benefits, including those designed to help individuals better manage work and non-work responsibilities. A thorough literature search from 1990 to 2010 was conducted using multiple databases and search terms related to work and family, benefits, BA and benefit use. To be included in this study, previous research had to include measures of BA and some other work related variable. Table 1 provides a summary of the research studies included in this review. The following sections discuss how BA was measured in these studies and why terming the measure "availability" may be problematic for implications derived from the results of this research.

### ***Measurement Techniques Used in Analyses of the Effects of Benefit Availability***

Multiple techniques have been used to gather data on what benefits employees believe are available to them. The most common method of measurement of BA in the studies reviewed for this research involved providing respondents with a list of "most prevalent" benefits and asking the respondents to indicate whether or not these were available to them. Parker and Allen (2001) provided a list of the 11 most commonly offered benefits, while other researchers used a list of 10 (Allen, 2001; O'Driscoll et al., 2003; Tay & Quazi, 2007).

Of the research included in this study, Thompson et al. (1999) provided the most comprehensive list of benefits (19 total), and Wells and Aufenanger (2007) the most limited at two.

Table 1  
*Research Articles Examining Benefit Availability*

Article	Sample used	Measure of Availability	Results of analysis	Is it discussed in limitations?
Allen (2001)	522 individuals employed in a variety of settings.	List of 10 of the most commonly offered benefits family-friendly benefits.	BA* was correlated with perceptions of supervisor support, commitment, satisfaction, and turnover, but was not significantly correlated with WFC.	Discuss possibility that employee was not aware of benefits, but referenced Thomas and Ganster (1995) about there being little discrepancy.
Anderson, Coffey, & Byerly (2002)	The sample used in this study was 2248 from various occupations.	List of five benefits	BA* was not related to family conflict but was related to turnover.	Did acknowledge use of self-report and discussed that the results should be interpreted with caution because more than 52% of respondents reported no benefits.
Dickson (2004)	496 working adults enrolled in one evening college course.	List of 14 benefits were offered by their organization. Yes, no, unsure	BA* was not a significant predictor of the level of perceived family responsibilities discrimination.	Did acknowledge use of self-report and did discuss that it can be problematic to rely on participant reports of the number of family-supportive benefits
Grover & Crooker (1995)	Random sample of employees nationwide	11 family-friendly benefits, but authors did not know if they were actually offered.	Greater BA* resulted in more commitment, less turnover intention.	Not addressed
O'Driscoll, Poelmans, Kalliath, Allen, Cooper, & Sanchez (2003)	A sample of 355 New Zealand managers employed in a wide range of industries.	List of 10 possible benefits	BA* was not related to WFI* nor FWI* but was associated with perceptions of the organization as being family supportive.	Did acknowledge use of self-report but did not talk about concerns with BA directly.

Article	Sample used	Measure of Availability	Results of analysis	Is it discussed in limitations?
Parker & Allen (2001)	283 individuals employed by multiple organizations.	List of 11 family-supportive benefits commonly offered by organizations.	BA* was not significantly related to fairness perceptions.	Discuss issues of common method bias, but do not discuss issues with availability and awareness.
Perry-Smith & Blum (2001)	Survey of HR professionals about their company.	List of the 8 work-family programs the authors identified as important.	Greater BA* was associated with higher-perceived firm-level performance.	Compared responses to another from the organization and found high commonality; determined there was little chance of error.
Tay & Quazi, (2007)	Manufacturing and service jobs, 200 respondents with a 45% response rate	List of 10 work-family programs and assumed people would know if they were offered.	Availability of different programs affected the associations between supervisor support and job satisfaction and turnover intentions.	Did acknowledge use of self-report but did not address or acknowledge the possibility that people may not know what benefits are available to them.
Thomas & Ganster (1995)	Health care professionals in the state of Nebraska (84 facilities) N=398	Select from a list of 8 dependent care services and 5 referral services. A list of policies available to employees was provided by an employee familiar with the policies.	Some family-friendly benefits were related to positive outcomes, but others were not.	There were no apparent mismatches between perception and practice. Authors determined that employee reports are a valid measure of BA.
Thompson, Beauvais, & Lyness, (1999)	276 graduates of business programs with mid to high level managerial or professional jobs	List of the 19 most common programs or policies mentioned.	BA* resulted in better affective commitment, less intent to leave, and less work-family conflict.	No
Wells & Aufenanger (2007)	11,880 who had child or adult care responsibilities	Asked about a subsidy and availability of flexible work arrangements.	Only was concerned about how use of benefits affected WFC.	Did not really address any limitations.
Youngcourt & Huffman, (2005)	866 married police officers from a secondary data source	List of possible options	BA was negatively related to WFC and moderated the relationship between work stress and WFC.	Did acknowledge use of self-report but did not talk about concerns with BA directly.

\*Note: BA stands for benefit avoidance; WFI stands for work to family interference, FWI stands for family to work interference

What is potentially problematic about these measures of “availability” is their reliance on the respondents’ knowledge about what benefits were available to them. This lack of knowledge can be a serious limitation on the conclusions drawn from BA studies because it is not the availability of benefits being measured but, instead, is the employee’s awareness of benefits. It is rare that this distinction is discussed in the BA literature (see Table 1 for a brief summary of how self-report measures of BA were addressed by the author(s) of each study). The lack of discussion may be a result of some research indicating that there are not large differences between what benefit employees indicate are available to them, and the benefits offered by the employer (Perry-Smith & Blum, 2001; Thomas & Ganster, 1995). However, the data collected in this study provides support for significant differences between what benefits employers offer versus what employees report as being offered.

There are two ways in which errors in reporting on the availability of benefits could occur: under-reporting and over-reporting. It is possible that employees do not know all of the benefits available to them because they only remember the benefits that are of immediate interest to them or because they are not fully informed of all of the benefits available to them. This can lead to an underestimate of the effect of BA on other outcomes or predictors on BA (Kline, 2005). Over-reporting of benefits may be a result of a misunderstanding of what is available to employees. This would result in an over-estimate of the relationship between BA and outcomes or predictors of BA.

As it may not be feasible for researchers to determine whether or not benefits are available for specific employers when a large national sample is used, the estimates of BA need to be corrected. The purpose of this paper is to begin a discussion on this issue and attempt to determine an error rate for reporting BA to potentially provide future researchers with a clearer context with which to interpret their data. This research also provides an error rate that can be used to disattenuate the correlations observed in data that might be measuring benefit awareness instead of BA. A thorough discussion of this process is provided below.

In addition to issues related to worker knowledge of benefits available to them, there are issues related to the use of self-report data in general. Podsakoff, MacKenzie, Lee and Podsakoff (2003), in their review of common method biases in behavior research, identified seven possible sources of common method bias due to rater effects: consistency motif, implicit theories, social desirability, leniency biases, acquiescence biases, mood state, and transient mood state. These sources can result in systematic measurement error that may provide alternate explanations for results demonstrated in research (Campbell & Fiske, 1959). While researchers have found that the extent of the error can vary greatly based on the discipline (Cote & Buckley, 1987), the variance can lead to Type I and Type II errors due to inflated or deflated relationships (Cote & Buckley, 1988; Podsakoff et al., 2003). These errors may, in part, explain the differences in results seen in the research on the effects of benefit awareness/availability on job and family related variables.

While the current study does not propose a method for reducing this type of error (Podsakoff et al., 2003 provide some suggestions), it is important to mention the possible

effects of common method bias due to rater effects because this kind of error is included in the error rate derived from our research. This research utilized some of Podsakoff's suggestions to reduce this error by using counter balanced items and randomized questions.

### ***Results and Implications in Past Research on Benefit Availability***

There is some inconsistency in the research on the effects of BA on work related variables. This may be due to using a measure of benefit awareness as opposed to a measure of BA. In some studies, measures of "benefit availability" have been linked to a number of important outcomes in several populations, including better affective commitment, lower turnover intentions, and less WFC in people with managerial or professional jobs (Thompson, et al., 1999); greater commitment and decreased intentions to leave in a random sample of employees nationwide (Grover & Crooker, 1995); and lower levels of WFC in police officers (Youngcourt & Huffman, 2005). These results support hypotheses that BA as measured by these authors has positive outcomes on the individual and the organization. It is plausible to believe that practitioners have read these articles and possibly implemented more work/life benefits in the hopes of achieving some of these outcomes. However, if the results in these studies are actually based on measuring benefit awareness then the practical implications that providing more benefits will lead to better employee outcomes would be suspect. It may be that instead of providing more benefits, employers should better publicize current benefits because it may be awareness that results in the improved outcomes. Allen's (2001) research provides support for this contention as she found an indirect relationship between BA and outcomes through employee perceptions. If the employee perceived the organization was supportive of family then there was an increase in positive outcomes. It is possible that being aware of available benefits will make the officer feel that the organization is more supportive, thus improving outcomes.

Other studies found no link between BA and the outcomes variables mentioned above. For example, Thomas and Ganster (1995) did not find a relationship between dependent care BA and WFC or job satisfaction. Parker and Allen (2001) found no link between BA and perceived fairness of work/family benefits. Dickson (2004) did not find availability to be related to perceived family responsibilities discrimination. A major question arises: why did these studies not find the same results as other studies? While there are multiple possibilities (e.g. different sample sizes, use of different measures), one explanation could be that the self-report measure of "availability" was not completely accurate. If the employees are unaware of the benefits available to them then they are unable to provide precise information to researchers. This would mean that the researchers were not measuring BA but were instead measuring employee benefit awareness. This is particularly important because the implications one can derive from measuring benefit awareness are different than those derived from a measure of BA. The current study provides evidence of the difference between the benefits that are actually available and how aware employees are of each of those benefits in one sample of employees.

## METHODS

### *Study Overview*

The data used to determine the error rates were taken from a larger study examining work stress, work benefits, and attitudes about the workplace using a sample of police officers from a southern state. All of the officers at the participating department (approximately 1,050) were sent an email from a superior officer requesting participation in the study. Officers were told that participation in the survey was voluntary, that all responses were collected by the survey researchers, and only aggregate data would be provided to their superiors. As the email was sent from an employee within the department, the exact number of officers contacted is unknown. A reminder email was sent to participants approximately one week after the initial recruitment email. The responses were collected using an online survey collection site called Qualtrics, which allows the researchers to design a survey and collect responses on a secure website. The items of interest in the sub sample of the survey consisted of 85 items. All items within each measure were randomized.

There were 447 completed surveys for a response rate of approximately 42%. The basic demographics of those who responded are as follows: 93% males; 85.2% Caucasian; the majority of the respondents were between 35 and 44 years old (43.4% of the sample); the majority had a tenure at the organization of greater than 10 years (63.9%); and most respondents indicated that they had had some college education, but had not earned a degree (47.2%). The sample was representative of the population of officers employed by the state.

### **Measures**

The data used in the analysis to establish the error rate for responses stem from 85 questions asking about BA. The researchers asked a member of the human resources department in the participating state to indicate all benefits available to the officers. The resulting list of 83 benefits was presented to the officers, which were asked if the benefit was or was not available or if the officer did not know. In addition, two benefits items were included that were not available to the officers to determine issues of over-identification of benefits. A list of these benefits is available in the Appendix.

### **Analytic Strategy**

The first step of the analysis was to calculate the error rates for each of the benefits available, for each group of benefits (e.g., health insurance benefits, family-related benefits), and for the entire sample of benefits. The error rate for individual benefits is the proportion of the sample that responded “No” or “Don’t Know” to benefits known to be available or a response of “Yes” to benefits known to not be available. These were combined because the researchers felt that if a person responded with “Don’t Know” then the benefits are not available to the employee. While it is possible that there is a difference between officers who indicate that they know a benefit is unavailable and officers who do not know it is available, if an officer is not aware of a benefit, it is not likely to provide any of the positive benefits derived from BA seen in previous research. To create the error rate

for the groups of benefits and the entire sample of benefits, the number of incorrect assessments are summed and divided by the total number of benefits available.

The final step of the analysis is to disattenuate the raw correlations presented in other published articles using the error rate found in the current study to determine the effects that the error between benefit awareness and BA. Jensen (1998) states that the correlation between two concepts may be weakened due to measurement error. In order to better approximate the relationship between the latent variables measured in the correlation, the data must be disattenuated using the reliability (1-error rate) of the two measures in the correlation. The formula to calculate the disattenuated correlation is:

$$\text{Equation 1 } r_{x'y'} = r_{xy} / \sqrt{r_{xx} r_{yy}} \text{ (Jensen, 1998)}$$

The disattenuated correlation is obtained by dividing the correlation between the independent and dependent variables by the square root of the product of the reliability estimates of the two variables. The correction for attenuation tells you what the correlation might be if the measures of the two variables were perfect (Jensen, 1998; Osborne, 2003). For the purpose of this research, three different reliability measures will be examined: 1) the reliability of the BA measure calculated using the error rate calculated from the raw data; 2) The minimum value of the Wilson score confidence interval (discussed in the following section); and 3) The maximum value of the Wilson score confidence interval. The Wilson score interval is used to provide a more conservative estimate of the error in reporting BA. As the reliability of the other measures with which BA is correlated in the research we review is not known, three reliability measures will be used: .90 (responses are 90% reliable), .50 (responses are 50% reliable), and .30 (responses are 30% reliable). These are listed under “Predicted Reliability” in Table 2 so that the differences between the reliabilities can be seen. These reliabilities were chosen in order to demonstrate the effects of benefit awareness at varying levels of reliability. As the actual reliability is not known, this provides more comprehensive information about the strength of the relationships given that we know measurement is rarely 100% reliable (Osborne, 2003). While this examination is highly experimental due to the unknown reliability for the other measure with which the BA measure is correlated, it will provide some insight into the effects of error in the measurement of BA.

## RESULTS

### *Constructing Confidence Intervals*

A list of all of the available benefits is provided in the appendix along with their error rates within the sample. As these rates demonstrate, there is wide variation in the error depending upon the specific benefit. As the reviewed studies focus on family-friendly benefits, the errors for these types of benefits will be the focus of the discussion below. These error rates are used to highlight the potential for misinterpretation that can result from confusing benefit awareness with benefits availability. For example, life insurance for



dependents was the family-friendly benefit misidentified the least; only 18% of officers did not know that this benefit was available to them. The most commonly misidentified family-friendly benefit was take your child to work day. A vast majority of officers (96.6%) did not know that this benefit was available to them. The combined error rate for family-friendly benefits was .654. However, the error rate in reporting take your child to work day was so high, it was excluded from further analysis because it might be overly influencing the total rate. As a result, the rate when take your child to work day is removed from the combined rate, the rate is .619. This means that respondents in our survey under-identified family-friendly benefits 62% of the time.

Table 2

*Disattenuated correlation scores*

Article	Measures Correlated	Raw Correlation	Predicted Reliability	Disattenuated Correlation - Actual Score	Disattenuated Correlation - Wilson Score Minimum	Disattenuated Correlation - Wilson Score Maximum
Parker & Allen (2001)	Perceived Fairness and Dependent Care Support	0.15*	0.3	0.44**	.47**	.42**
		0.15*	0.5	0.34**	.37**	.32**
		0.15*	0.9	0.26**	.27**	.24**
Youngcourt & Huffman (2005)	Work Stress and FF* Policy Availability	-0.09*	0.3	-0.27**	-.28**	-.25**
		-0.09*	0.5	-0.21**	-.22**	-.19**
		-0.09*	0.9	-0.15**	-.16**	-.15**
	WFC* and FF* Policy Availability	-0.08*	0.3	-0.24**	-.25**	-.22**
		-0.08*	0.5	-0.18**	-.19**	-.17**
		-0.08*	0.9	-0.14**	-.15**	-.13**
O'Driscoll et al. (2003)	BA* and WIF*	-0.08	0.3	-0.24**	-.25**	-.22**
		-0.08	0.5	-0.18**	-.19**	-.17**
		-0.08	0.9	-0.14	-.15	-.13
	BA* and FIW*	-0.05	0.3	-0.15	-.16	-.14
		-0.05	0.5	-0.11	-.12	-.11
		-0.05	0.9	-0.09	-.09	-.08
	BA* and Work Strain	-0.14	0.3	-0.41**	-.44**	-.39**
		-0.14	0.5	-0.32**	-.34**	-.30**
		-0.14	0.9	-0.24**	-.25**	-.23**

\*Note: FF stands for family-friendly; WFC stands for work-family conflict; BA stands for benefit avoidance; WIF stands for work interfering with family; FIW stand for family interfering with work.

A confidence interval was constructed around this rate to provide a more conservative estimate of the reporting error and to provide reliability for the estimated rate. Two types of confidence intervals were constructed: the Normal approximation interval and the Wilson score interval (Wilson, 1927). The Normal approximation relies on a Normal distribution and provides the simplest type of confidence interval and is a good starting point for using confidence intervals because it is the most recognizable. The 95% Normal approximation interval was .574 -.664. The Wilson score interval is an improvement on the Normal approximation interval because it relies on a binomial distribution instead of a Normal distribution and has a better coverage probability (Wilson, 1927). The 95% Wilson score interval was .573 -.663. Both the Normal approximation and Wilson score interval include the rate estimation, which means that the error rate is a good fit for the data and that the estimate is reliable. As the Wilson score interval is an improvement over the Normal approximation interval, the Wilson score interval will be used to correct the correlations reported in other research.

### ***Correcting Correlations for Attenuation***

Table 2 presents the results of the correction of correlations in three previous studies. These studies were selected because they provided enough information to disattenuate the correlations. By using three different studies, we believed that we could adequately depict the possible effects of measuring benefit awareness instead of BA. Six correlations from these published research articles relating family-friendly BA and work variables were adjusted for error.

In all cases, the adjustments based on the error rate found in the current study resulted in increases in the absolute value of the correlation and an increase in the variance explained by the correlations. Results of the three studies analyzed showed changes as a result of the disattenuation of the correlations. In the case of Parker and Allen (2001), the effect size of the correlation between perceived organizational fairness and dependent care support increased from a small to a medium effect at all three predicted reliability levels for the organizational fairness measure. The absolute correlations that were adjusted from Youngcourt and Huffman (2005) all increased and, in some cases, increased from small to medium effect size. When the correlations of O'Driscoll et al. (2003) were adjusted, results related to the relationship between BA and the perception that work interferes with family and the relationship reached significance at all but the highest predicted reliability. This also occurred with the relationship between BA and work strain.

## **DISCUSSION AND CONCLUSIONS**

A number of studies have collected information on BA through measures of self-report. The purpose of this paper is to begin a discussion about whether these reports represent a true measure of availability or whether researchers are measuring benefit awareness. While it might be supposed that without a benefit available, there is nothing for an employee to be aware of, the question we propose is: Is something really "available" if employees are unaware that the benefit exists? We believe the answer to this is no. The results of this study support our supposition that there is a difference between BA and benefit awareness.

It is plausible that this misinterpretation of the construct is potentially undermining the quality of research results. For example, in the studies included here all of the relationships were stronger when the error in measuring BA was taken into account. This change as a result of adjusting the correlation for errors that result in the difference between measuring BA and benefit awareness might help to explain some of the disparities in the findings associated with the BA literature. In order to reduce limitations in a study involving BA, researchers should seek to determine what benefits are available from employers and compare that to responses provided by employees.

The results here highlight the potential increased relationships when organizations make their employees aware of the benefits offered. Better advertising or more formal discussions about the benefits available may increase greatly the employees' awareness of the benefits. Doing so has many implications. The most important may be that employees will not use a benefit of which they are unaware. Thus, one way to increase the chances that an employee will use a benefit is to make sure they are aware the benefit is available. For example, if employees are made aware of the benefits, then they are more likely to use them when they have need of them. Also, as Allen (2001) found, knowing that your organization is supportive can greatly increase the positive outcomes for both the organization and the employer, including a reduction in WFC, increased job satisfaction, organizational commitment and lower intentions to leave the organization. This may be particularly important for organizations with limited resources that might not be able to offer as many benefits, but can make efforts to publicize those benefits that are available. It also may be particularly important for police departments, as mitigating officer stress may be vital for officer health.

In addition, it is possible that a systematic bias exists within an employee's awareness of benefits. For example, it is possible that employees with children will be better aware of family-friendly benefits than employees without children. It is also possible that employees in certain sectors will know more about benefits than others and that this might affect the relationship between awareness and positive effects of benefits. An examination of these biases was beyond the scope of this research, but acknowledging them can help other researchers examine them in the future.

For researchers, an important implication, instead of attempting to determine a systematic error rate, may be that we need to measure other variables, such as benefit use or the perceived value of a specific benefit instead of the availability of benefits. Previous research has made significant contributions to the literature by looking at measures other than availability. For instance, Muse et al. (2008) found benefit use and the perceived value of benefits was positively related to an employee's level of perceived organizational support, their commitment to the organization, and increased the likelihood that employees would respond to the perceived support by engaging in higher levels of performance. Lambert (2000) found similar results. If employees perceived the benefits offered to be useful, then their perception of organizational support increased. These studies and others provide support for the idea that just making many benefits available to employees does not result in positive outcomes for the employee or the organization. Instead it is the use of those ben-

efits and/or the perceived value associated with the benefits that lead to increases in positive outcomes. Thus, measuring only BA may create less conclusive results. The results of the current study show the potential error in only looking at BA and provide a potential explanation for why the literature on BA is inconsistent as discussed earlier.

### ***Limitations and Future Directions***

There are several limitations in this study. The majority of the single sample used to make the error rate estimations was white males. The studies reviewed in Table 1 had lower percentages of men ranging from 0% male (Thomas & Ganster, 1995) to 72% male (O'Driscoll et al. 2003). It may be that women would be more concerned with family-friendly issues than men. Some studies indicate that work-family balance is a concern for men (Frone, Russell, & Cooper, 1992; Hall, 1990), so concerns about the gender breakdown may not be warranted. As the goal of the research presented here was to urge researchers to begin a dialogue regarding the operationalization of the term BA and how it differs from benefit awareness, the limitations of the sample are not inherently a problem in achieving this goal. We believe this research accomplishes that goal but it is imperative, to truly be effective, that these error rates must be normed across multiple populations. Also, the questions of potential differences across populations need to be assessed. For example, do error rates differ between men and women or across different ethnicities? Are employees in different industries or jobs more likely to know about their benefits than others?

Another limitation that must be acknowledged is that this study included over 80 benefits. The large number of benefits may make it difficult for employees to know every benefit and the details of each. This may cause the numbers presented here to be over represented. However, many organizations offer multiple benefits and/or perks of the job so the large number of benefits offered by the organization in our sample may not be uncommon. In addition, while we used the error rate from the larger sample of benefits (.589), this estimate is more conservative than the error rate calculated when examining only the family-friendly benefits (.619). As a result, we are not concerned about the larger sample of benefits used to create the error rate in this study.

## **CONCLUSIONS**

The purpose of this research was not to reduce the quality of the results of previous studies or discount the work of other researchers, but to begin a dialogue about how as researchers we can compensate, reduce, or account for error in self-report data. In fact, the results of this study show that the relationships between BA and positive outcome variables are actually stronger than the original studies reported. Realistically, it is implausible to think that the use of self-report survey data is going to disappear altogether, but recognizing and attempting to correct for inconsistencies in the self-report data may greatly increase the quality and respectability of self-report data.

## REFERENCES

- Allen T. D. (2001). Family-supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior, 58*, 414-435.
- Anderson, S. E., Coffey, B. S. & Byerly, R. T. (2002). Formal organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes. *Journal of Management, 28*(6), 787-810.
- Campbell, D. T., & Fiske, D. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin, 56*, 81-105.
- Cote, J. A., & Buckley, R. (1987). Estimating trait, method, and error variance: Generalizing across 70 construct validation studies. *Journal of Marketing Research, 24*, 315-318.
- Cote, J. A., & Buckley, R. (1988). Measurement error and theory testing in consumer research: An illustration of the importance of construct validation. *Journal of Consumer Research, 14*, 579-582.
- Dickson, C. E. (2004). Antecedents and consequences of perceived family responsibilities discrimination in the workplace. Paper presented at Society for Industrial Psychology Annual Conference, Chicago, IL.
- Frone, M. R., Russell, M., & Cooper, M. L. (1992) Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology, 77*, 65-78.
- Grover, S. L., & Crooker, K. J. (1995). Who appreciates family responsive human resource policies: The impact of family-friendly policies on the organizational attachment of parents and non-parents. *Personnel Psychology, 48*, 271-288.
- Hall, D. T. (1990). Promoting work/family balance: An organization change approach. *Organizational Dynamics, 8*, 5-18.
- Jensen, A. R. (1998). *The g factor: The science of mental ability*. Westport, CT: Praeger
- Kline, T. (2005). *Psychological testing: A practical approach to design and evaluation*. Thousand Oaks, CA: Sage Publications
- Lambert, A. D., Marler, J. H., & Gueutal, H. (2008). Individual differences: Factors affecting employee utilization of flexible work arrangements. *Journal of Vocational Behavior, 73*(1), 107-117.
- Lambert, S. J. (2000). Added benefits: The link between work-life benefits and organizational citizenship behaviour. *Academy of Management Journal, 43*(5), 801-815.
- Muse, L., Harris, S. G., Giles, W. E., & Feild, H. S. (2008). Work-life benefits and positive organizational behavior: Is there a connection? *Journal of Organizational Behavior, 29*, 171-192.
- O'Driscoll, M. P., Poelmans, S., Kalliath, T., Allen, T. D., Cooper, C. L., & Sanchez, J. I. (2003). Family-responsive interventions, perceived organizational and supervisor support, work-family conflict and psychological strain. *International Journal of Stress Management, 10*(4), 326-344.
- Osborne, J. W. (2003). Effect sizes and disattenuation of correlation and regression coefficients: Lessons from educational psychology. *Practical Assessment, Research and Evaluation, 8*(11).
- Parker, L., & Allen, T. D. (2001). Work/family benefits: Variables related to employees' fairness perceptions. *Journal of Vocational Behavior, 58*, 453-468.
- Perry-Smith, J. E., & Blum, T. C. (2001). Work-family human resource bundles and perceived organizational performance. *Academy of Management, 43*(6), 1107-1117.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903.
- Tay, C., & Quazi, H. A. (2007). Supervisor support and interactions with work-family programs on employee outcomes. Paper presented at the Annual Conference of the Society for Industrial and Organizational Psychology, New York, NY.
- Thomas, L. T., & Ganster, D. C. (1995). Impact of family-supportive work variables on work-family conflict and strain. *Journal of Applied Psychology, 80*, 6-15.
- Thompson, C. A., Beauvais, L. L., & Lyness, K. S. (1999). When work-family benefits are not enough: The influence of work-family culture on benefit utilization, organizational attachment, and work-family conflict. *Journal of Vocational Behavior, 54*, 392-415.

- Wells, K. J., & Aufenanger, S. J. (2007). Family-friendly benefit utilization among federal government employees with child and adult care responsibilities: Implications for work-family conflict. Paper presented at the Annual Conference of the Society for Industrial and Organizational Psychology, New York, NY.
- Wilson, E. B. (1927). Probable inference, the law of succession, and statistical inference. *Journal of the American Statistical Association*, *22*, 209-212.
- Youngcourt, S. S., & Huffman, A. H. (2005). Family-friendly policies in the police: Implications for work-family conflict. *Applied Psychology in Criminal Justice*, *1*(2), 138-162.

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- Lambert, A. D., & Steinke, C. M. (2015). Measuring benefit availability for officers: The error in perceptions of what is offered and its effect on conclusions [Electronic Version]. *Applied Psychology in Criminal Justice*, *11*(2), 93-110.

## APPENDIX

## Family Related Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Dependent care flexible spending account	46.8%	15.0%	38.3%	.532
Flextime	43.8%	43.6%	12.5%	.562
Compressed workweeks	32.7%	53.9%	13.4%	.673
Paid family leave	69.4%	14.1%	16.6%	.306
Family leave above/beyond required federal FMLA leave	22.6%	22.6%	54.8%	.774
Parental leave above and beyond federal FMLA	14.8%	23.3%	62.0%	.852
Health care benefits for foster children	12.3%	11.0%	76.7%	.877
Health care benefits for dependent grandchildren	18.6%	9.4%	72%	.814
Life insurance for dependents	81.9%	3.4%	14.8%	.181
Take your child to work day	3.4%	78.3%	18.3%	.966
Family related benefits (raw)				.654
Family related benefits (outlier removed)				.619

## Living Arrangement Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Cost-of-living differential	5.8%	73.6%	20.6%	.942

## Health Insurance and Healthy Living Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Health insurance	96.9%	1.6%	1.6%	0.031
Mental health insurance	37.1%	11.9%	51.0%	0.629
Dental insurance	96.6%	2.0%	1.3%	0.034
Vision insurance	92.2%	2.2%	5.6%	0.078
Prescription drug program coverage	82.8%	3.8%	13.4%	0.172
Mail-order prescription program	13.6%	17.9%	68.5%	0.864
Contraceptive coverage	8.7%	15.4%	75.8%	0.913
Infertility treatment coverage	2.7%	17.2%	80.1%	0.973
Alternative/complementary medical coverage	6.9%	15.9%	77.2%	0.931
Long-term disability	91.3%	1.3%	7.4%	0.087

Short-term disability	90.2%	2.5%	7.4%	0.098
Long-term care insurance	77.4%	2.5%	20.1%	0.226
Cancer insurance	36.0%	12.1%	51.9%	0.640
Supplemental health accident insurance	37.1%	11.0%	51.9%	0.629
Intensive care insurance	27.1%	11.9%	61.1%	0.729
Chiropractic insurance	31.5%	13.9%	54.6%	0.685
Critical illness insurance	39.1%	8.1%	52.8%	0.609
Medical flexible spending accounts	64.0%	5.1%	30.9%	0.360
Wellness program, resources and information	47.9%	17.9%	34.2%	0.521
Smoking cessation program	18.3%	23.7%	57.9%	0.817
Health screening programs	17.9%	35.1%	47.0%	0.821
Rehabilitation assistance	24.8%	8.9%	66.2%	0.752
Stress reduction program	7.4%	28.9%	63.8%	0.926
Employee assistance program (EAP)	74.9%	5.6%	19.5%	0.251
Nutritional therapy	12.1%	33.1%	54.8%	0.879
On-site medical care	6.7%	43.2%	50.1%	0.933
Grief recovery program	16.8%	25.7%	57.5%	0.832
Support groups	14.3%	29.1%	56.6%	0.857
Prenatal program	11.2%	23.5%	65.3%	0.888
Well-baby program	12.3%	23.5%	64.2%	0.877
Vaccinations on site (e.g., flu shots)	18.3%	46.3%	35.3%	0.817
On-site fitness center	24.6%	56.2%	19.2%	0.754
Work/life newsletter/column	35.8%	28.4%	35.8%	0.642
Health insurance and healthy living benefits				0.614

#### Development and Non-work Related Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Professional development opportunities	38.7%	26.8%	34.5%	0.613
Career counseling	9.4%	44.1%	46.5%	0.906
Cross-training to develop skills not directly related to the job	8.3%	49.2%	42.5%	0.917
Professional memberships	20.6%	37.8%	41.6%	0.794
Organization-sponsored sports teams	4.9%	59.5%	35.6%	0.951
Legal assistance/services	65.5%	14.5%	19.9%	0.345
Foreign (non-English) language classes	8.1%	58.2%	33.8%	0.919
Development and non-work related benefits				0.778



## Financial Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Undergraduate education assistance	11.6%	49.2%	39.1%	0.884
Graduate education assistance	13.0%	46.3%	40.7%	0.870
Deferred compensation (IRA)	57.3%	16.1%	26.6%	0.427
General financial education	8.1%	48.8%	43.2%	0.919
Individual investment advice	9.2%	48.3%	42.5%	0.908
Pension/retirement plan	90.8%	2.5%	6.7%	0.092
Incentive bonus plan	3.8%	72.3%	23.9%	0.962
Retiree health care benefits	75.6%	4.7%	19.7%	0.244
Payroll deductions (e.g., 401(k), flexible spending accounts)	81.4%	5.8%	12.8%	0.186
Credit union	95.5%	1.6%	2.9%	0.045
Employee computer purchase assistance or discounts	12.1%	62.0%	26.0%	0.879
Laptop for travel/personal use	21.9%	68.7%	9.4%	0.781
Automobile allowance/expenses	25.5%	50.8%	23.7%	0.745
On-site parking	72.5%	14.8%	12.8%	0.275
Cell phone, pager and/or handheld device (e.g., Blackberry, Palm Pilot) for personal use	12.5%	77.6%	9.8%	0.875
Financial planning services	27.3%	36.0%	36.7%	0.727
Retirement planning services	64.4%	15.0%	20.6%	0.356
Life insurance	96.0%	1.1%	2.9%	0.040
Financial benefits				0.568

## Travel Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Per diem for meals	64.9%	23.5%	11.6%	0.649
Paid long-distance calls home while on travel	8.3%	64.4%	27.3%	0.083
Compensatory time given for time spent on travel outside of normal work hours	63.8%	22.1%	14.1%	0.638
Employee keeps frequent flyer miles	2.9%	63.5%	33.6%	0.029
Travel benefits				0.350

## Leave Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Paid vacation	92.4%	4.5%	3.1%	0.076
Paid holidays	91.3%	6.0%	2.7%	0.087
Floating holidays (other than personal days)	56.8%	21.0%	22.1%	0.432
Paid sick leave	96.9%	0.7%	2.5%	0.031
Time bank of sick leave	94.6%	1.8%	3.6%	0.054
Paid personal day(s)	84.8%	8.7%	6.5%	0.152
Paid bereavement leave	17.9%	39.8%	42.3%	0.821
Paid jury duty	38.0%	33.3%	28.6%	0.620
Leave benefits				0.284

## Recognition Benefits

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Holiday parties	47.0%	41.4%	11.6%	0.530
Milestone rewards	47.7%	38.3%	14.1%	0.523
Recognition benefits				0.527

## Test Benefits Known to Not be Available

Benefit	Availability			Error Rate
	Yes	No	Don't Know	
Emergency/sick childcare	39.6%	30.2%	30.2%	0.396
Shift premiums	1.6%	75.8%	22.6%	0.016

Overall error rate=.581