

**CATCH THEM IF YOU CAN: BUILDING CAREER PATHWAYS FOR  
MILLENNIALS IN SCIENCE CENTERS/MUSEUMS**

by

**Adrienne Barnett**

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## EXECUTIVE SUMMARY

Have you ever had an experience that you knew, *in the moment*, was going to change your life? That's how I felt the first time I walked into the Earth Galleries entrance of the Natural History Museum in London, UK. I was 14 years old and had liked science and particularly geology ever since I was little and would collect and polish rocks with my dad. We were on a family trip to England visiting relatives and as we stepped into the museum from the bustle of Exhibition Road, I was stopped in my tracks by what was before me: a great blue hall flanked with massive sculptures, ancient fossils, a towering stalagmite, rare mineral specimens all leading to an impressively long escalator. What really got me, though, was that escalator, like a moving stairway to heaven it raised up and directly through the core of a huge metallic Earth globe. On that escalator, slowly being lifted up and through the center of the Earth I really was in heaven and, *in that moment*, I knew I wanted to work at a science museum.

Now, nearly 20 years later, I am the Program Manager of the Teacher Institute at the Exploratorium in San Francisco, California and finishing dual masters degrees in business administration and museum studies at John F. Kennedy University. I have worked at science centers for almost ten years and genuinely love what I do, the people with whom I work, and the institution I work for. However, my career path, much like many young science center/museum professionals, was nowhere near as straight, easily upwardly mobile, nor guided as that escalator at my first natural history museum visit.

In fact, in my journey in the field I started in the box office selling tickets, have held approximately eight different jobs with different titles, survived three rounds of layoffs, and worked at two science centers. I have also grappled with the idea of pursuing a career in a field that is notorious for providing low pay. Ultimately, my passion for science and science education, the ability to continually push myself and learn new skills has kept me going. Yet, I still question, does having a career in the science center/museum field have to feel like such a struggle?

I am not alone. Based on my personal experiences, as well as conversations with workplace colleagues, classmates, and young professionals attending conferences, I chose to investigate in this masters project why so many young museum professionals (YMPs) are struggling to advance in their careers at science center/museums. The goal of this project was to research and provide strategies for attracting, engaging, and retaining YMPs in the science center/museum field. To do so, this project explores the career pathways and obstacles of YMPs of the Millennial generation, individuals born between 1980 and 2000, working in U.S. Association of Science-Technology Centers (ASTC) member science centers and natural history museums.

Why is this thesis topic timely? Firstly, in the coming decade, an inevitable generational shift will occur in the workforce. Traditionalists (born before 1945 and 10% of the workforce and decreasing) and many Baby Boomers (born 1945-1964 and 45% of the workforce) will retire, paving the way for a shift in leadership (Eisner, 2005; Kuhut, et. al, 2010). The generation following the

Baby Boomers, Generation X (born 1965-1980 and 30% of the workforce), has fewer members and as a result, competition for talent and leadership will increase (Eisner, 2005; Kuhut, et. al, 2010). Millennials (born after 1980 and 15% of the workforce and rising), although younger than Generation X, will necessarily be called upon to fill much of the talent and leadership need of this decade (Dychtwald, Erickson, & Morison, 2005; Eisner, 2005; Baldwin, 2006, p.6).

As Baby Boomers retire, competition for top talent will increase in all sectors, including nonprofits. Science centers and natural history museums already compete for talent from a wide range of organizations including other nonprofits, academia, the public sector, government agencies, for-profit research and development enterprises, and technology fields. Adding to competition, many for-profit organizations are embracing the idea of social responsibility in their practices and policies. In fact, a 2008 PricewaterhouseCoopers survey revealed that 88% of recent college graduates seek employers with socially responsible values that reflect their own (Cornelius, Corvington, & Ruesga, 2008, p. 37). To position themselves as employers of choice in the coming decade, now, as competition for talent increases, is the time for science centers and natural history museums to address the issues explored in this project concerning the staff development, retention, and career advancement of YMPs.

In order to determine what factors are currently affecting the career advancement of YMPs in ASTC science centers/museums this project addresses these key research goals and questions:



### **Research goals:**

- Determine the best practices and policies to attract, engage and retain Millennials in science centers/museum field.
- Determine the current key obstacles to YMPs' career advancement and to provide recommendations to address these issues.

### **Research questions:**

- How is the Millennials perspective on career advancement different from other generations in the workplace?
- Do Millennials feel that they are struggling to advance their careers as science center/museum professionals?
- If so, what are the key factors or obstacles to career advancement of Millennials in the science center/museum field?
- Once in a museum position, what factors affect Millennials professional growth?
- What are the implications of Millennials not being assimilated into museum careers?

This project begins with a literature review which provides the historical background and the workforce issues surrounding the current generations present in the workplace. The literature review also examines research on the developmental framework of Millennials, their workplace expectations and preferences, and potential impacts on the science center/museum field.

In order to gather baseline, quantitative data and to understand the attitudes toward the science center/museum profession, career aspirations, professional development desires, and advancement opportunities of Millennials currently working in science center/museums a survey was electronically delivered to YMPs with 121 responses from at least 37 institutions across the U.S. To understand the perspective of key workforce decision makers and how they

view the contributions from and the advancement of Millennials in their institutions, a second online survey was distributed to 711 director-level contacts at 194 ASTC member science centers and natural history museums with 92 responses from at least 65 institutions representing a 13% response rate by individuals. A full copy of both survey instruments and the acquired data can be found in Appendix A and Appendix B of this report.

While survey data allowed for quantitative analysis, to acquire an in-depth perspective on the specifics of career advancement issues, 10 museum professionals were interviewed including the Executive Director and three Millennial staff members from the Exploratorium in San Francisco, California; the President/CEO and three Millennials from the Oregon Museum of Science and Industry (OMSI) in Portland, Oregon; and the President/CEO and one Millennial from Sci-Port: Louisiana's Science Center in Shreveport, Louisiana.

This research provides the foundation for the analysis and recommendations to museum directors, funders, ASTC, and YMPs concerning the best practices in attracting, engaging, and retaining Millennials as professional employees who contribute their work to the mission of the museum. Issues addressed include the lack of career pathways in the field, low compensation, YMPs' professional development needs, and strategies for overcoming generational differences in the workplace.

An important limitation of this project is that this research took place amidst the world-wide economic recession which began in 2008. The implications of whether this recession and the weak job market affect my data

cannot be determined at this time. From 2008 to 2009 there was an 11% increase in the number of young college graduates working for nonprofit organizations (Rampell, 2011). Data such as this indicates that the recession may help nonprofits attract young workers, but only time will tell if they are able to retain them when the job market bounces back.

Science centers and natural history museums attract young bright, talented people eager to engage their passions in the work that they perform. Many, like me, are drawn to the field by a passion for science and science education. Also, many, like me, encounter institutions which provide little opportunity for organized staff development and obscure paths to career advancement. How do these barriers impede the future impact and success of science center/museums? More aptly, what would be the implications on the field if science centers/museums provided careers pathways that acted more like escalators than obstacle courses?



Entrance to the Earth Galleries at the Natural History Museum, London, UK  
(Image courtesy of MykReeve, Wikimedia Commons)

## **METHODOLOGY**

To explore the obstacles, as well as the potential pathways to career advancement for young museum professionals (YMPs) at Association of Science-Technology Centers (ASTC) science centers/museums I distributed two online surveys via email to 711 director-level contacts at 194 science centers and natural history museums in the U.S. during the months of February and March, 2011. One survey targeted Millennials, or staff born in 1980 or after (Appendix A) and the other targeted museum directors (Appendix B). To gain additional perspectives on career advancement opportunities and issues, a total of seven Millennials and three executive directors were interviewed at the Exploratorium in San Francisco, CA, the Oregon Museum of Science and Industry in Portland, OR, and Sci-Port: Louisiana's Science Center in Shreveport, LA and I conducted a thorough literature review to gather the historical background and developmental framework of Millennials and workforce issues.

### **Literature Review**

I performed a comprehensive literature review on current research pertaining to the specific needs, attitudes, and styles of Millennials in the workplace. The Pew Research Center's *Millennials: A Portrait of Generation Next* (2010) and Howe and Strauss' *Millennials Rising* (2000) provided great detail on the factors that have affected Millennials' growth and development and gave an in-depth overview of their characteristics. To understand how Millennials' perspective on career advancement differs from other generations in the workplace, a review of the characteristics of the Traditionalists, Baby

Boomers, and Generation X was also performed. Integral to the examination of the different generations' characteristics, experiences, developmental histories, and impact on the workplace was the analysis in books such as Dychtwald, Erickson and Morison's, *Workforce Crisis*, (2006) and Bennis and Thomas', *Geeks & Geezers* (2002).

Several recent reports delivered the results of surveys performed on young nonprofit and museum workers concerning leadership development, career perspectives, and succession planning. Surveys analyzed in this project included CompassPoint's *Ready to Lead? Next Generation Leaders Speak Out* (Cornelius, Corvington & Ruesga, 2008) and the Young Nonprofit Professionals Network's (YNPN) *Stepping Up or Stepping Out: A Report on the Readiness of Next Generation Nonprofit Leaders* (Solomon & Sandahl, 2007). Also studied was the report by the American Association of Museums (AAM), *2009 Emerging Museum Professionals Survey* (AAM, 2009) and two from the Museum Association of New York (MANY): *Report to the Field: The Status of Succession Planning in New York State Museums* (Baldwin, 2008) and *Who's Next: Questioning the Future of Museum Leadership in New York State* (Baldwin, 2006). The AAM and MANY reports targeted career advancement and professional development for emerging museums professionals; however I found no surveys that specifically target Millennials working in science centers/museums. A review of the data from reports informed the surveys conducted for this project, as well as provided a comparative reference point for the survey results.

## Surveys

To gather baseline, quantitative data on Millennials' attitudes toward the science center/museum profession, career aspirations, professional development desires, and advancement opportunities, I created a 41 question online survey, *Career Survey: Young Science Center/Museum Professionals* (Appendix A). To understand the perspective of key workforce decision makers and how they view the contributions from and the advancement of Millennials in their institutions, a second online survey, *Survey: Management of Young Science Center/Museum Professionals* (Appendix B) with 28 questions was distributed to museum and department directors. This survey also served as a tool to compare the differences and similarities of the perspectives on career advancement between Millennials and directors. The surveys were disseminated via email to 711 director-level contacts at 194 ASTC member science centers and natural history museums within the U.S. I received 92 responses to the *Survey: Management of Young Science Center/Museum Professionals* from at least 65 institutions representing a 13% response rate by individuals. The director-level contacts forwarded the *Career Survey: Young Science Center/Museum Professionals* to an unknown number of Millennials, with 121 responses from at least 37 institutions. Through analysis of the survey data I was able to ascertain which organizational practices, policies, and qualities best attract, engage and help retain Millennials in science centers/museums, as well as support their career advancement in the field.

The online surveys were created in Survey Monkey and distributed via an email invitation sent in February, 2011 (Appendix C). With the assistance of

ASTC staff member Laura Huerta Migus, Director, Diversity and Equity, email contacts were taken from ASTC membership database. Huerta Migus, using the ASTC database, filtered for director-level contacts only at U.S. science centers and natural history museums and I sent an email invitation to that contact list (personal communication, February 11, 2011). ASTC member institutions outside of the U.S. as well as those categorized as children's museums, nature centers, aquariums, planetariums, zoos, botanical gardens, and space theaters were excluded from the email distribution list. In the email invitation, listserv contacts were asked to have at least one or more senior managers (Executive Director, Vice President, Director, or Human Resources Specialist) involved in the workforce strategy at their institution to take the *Survey: Management of Young Science Center/Museum Professionals* and to forward the *Career Survey: Young Science Center/Museum Professionals* to any paid staff members who were born in or after 1980 and were currently in full or part-time positions.

## **Interviews**

I interviewed ten museum professionals including the Executive Director and three Millennial staff members from the Exploratorium in San Francisco, CA; the President/CEO and three Millennials from the Oregon Museum of Science and Industry (OMSI) in Portland, OR; and the President/CEO and one Millennial from Sci-Port: Louisiana's Science Center in Shreveport, LA (Appendix D – list of interviewees). An equal number of males and females were interviewed. The Millennials chosen worked in a variety of departments including education, outreach, administration, and research and evaluation.



Through interviewing Millennials I gained a better understanding of their perception of career advancement obstacles and pathways in science center/museums, acquired first-hand accounts of their experiences as YMPs, and learned about their specific goals and expectations of the workplace. For a broader perspective on the issues surrounding the career advancement of Millennials in science centers/museums I also interviewed individuals who are responsible for the hiring and managing of Millennials, as well as the overall strategic workforce planning of the museum, the executive directors.

The Exploratorium and OMSI were selected due to their large organizational size. The Exploratorium has 460 employees (266 are full-time employees) and an annual operating budget of \$32 million (D. Buchbinder, personal communication, April 20, 2011), and OMSI has 200 employees (S. Croak-Falen, personal communication, May 6, 2011) and an annual operating budget of \$19 million (OMSI, 2011), location in an urban environment known for attracting young people, and track record in the field for innovative programming. As a medium-sized science center, with 84 employees and a \$4.1 million annual operating budget (A. Fumarolo, personal communication, April 20, 2011), Sci-Port provided the perspective of a smaller institution located in a less populous urban area. Sci-Port was also selected because its current executive director, Ann Fumarolo, was awarded the 2010 ASTC Leading Edge Award for Experienced Leadership in the Field, in part because of her “devotion to cultivating new leaders and aspiring professionals in the field” (ASTC 2010 Leading Edge Award Recipients, 2011).

In the interviews I asked questions which correlated to the key areas researched in the online surveys: career history and outlook, motivators for working in a science museum, professional development desires, and career advancement perspective (see Appendix E for list of interview questions). I sought to obtain qualitative data and insights from the first-hand accounts afforded by the interview process. This information was then used to build upon the understanding of career advancement opportunities in the science center/museum field and the recommendations for the best-practices of science centers/museums in attracting, engaging and retaining Millennials.

## LIMITATIONS OF METHODOLOGY

The scope of this project was limited to Association of Science-Technology Centers (ASTC) member institutions categorized as science centers and natural history museums in the U.S. ASTC member institutions that are outside the U.S. and are categorized as children's museums, nature centers, aquariums, planetariums, zoos, botanical gardens, and space theaters were excluded from this research. I narrowed my research to science centers and natural history museums because of the various types of ASTC member institutions these types of museums are most similar in their overall mission and organizational functioning. Also, science centers and natural history museums represent the largest percentage of the types of ASTC member institutions, respectively 56.5% and 11% (ASTC, 2009). Science centers/museums were selected, as opposed to art or history museums, as they are unique in that they compete more for talent with academia, government agencies, for-profit research and development enterprises, and technology fields; which generally pay higher salaries than non-profit science museums. In order to have a more defined basis for comparison of the data, museums within the U.S. were selected as they will presumably operate under relatively similar economic, political, and cultural conditions.

For the purposes of this research I defined Millennials as those born between the years of 1980 and 2000. From a review of the literature on the various generations, it is clear that there is no consensus on what the exact cutoff dates for each generation is. Taking the average of the beginning date range for

Millennials (1977 to 1982), I chose 1980. In this thesis I use the term “young museum professionals” (YMPs) as it relates to Millennials. “Emerging museum professionals” (EMPs) is a term that is also used in the field; however EMPs describe individuals who have worked in museums for less than three years regardless of age (AAM, 2009). In my use of this term “young museum professionals,” I am excluding Generation X or Baby Boomers who may have recently entered the field as a second career. I chose not to focus on Millennials in any particular department or type of position as many individuals begin their tenure at science centers/museums in positions not traditionally seen as “career-oriented,” such as guest services.

By focusing the *Survey: Management of Young Science Center/Museum Professionals* on directors I was able to gain the perspective of the individuals responsible for not only hiring and managing of Millennials, but who also develop the overall organizational and workforce strategy of the organization. To gain this higher-level standpoint I excluded from the survey managers at other levels of the organizations.

Limitations of this topic include the fact that much of the research is subjective to the career and life experiences of the individuals who responded to the survey or were interviewed. It is possible that several factors could have influenced their responses and perspectives, such as, their gender, socio-economic status, or ethnic background. Due to the time constraints of this project it was not possible to make an analysis of how these diverse factors influence the career experiences of Millennials in the science center/museum field. Also, the surveys

and interviews were conducted amidst the economic recession that began in 2008, which may affect the perspectives of the respondents. While some of the reports and surveys analyzed in the literature review were written prior to the economic recession. At this time, it is unclear how the recession will affect my data or the data collected by others referenced in this project. Although, in March 2011 data from the American Community Survey of the United States Census Bureau was analyzed by *The New York Times* and revealed that from 2008 to 2009 there were an 11% increase in the number of young college graduates working for nonprofit groups and a 16% increase in those working for the federal government (Rampell, 2011). One executive director interviewed for this project, Ann Fumarolo, also noted that in her experience it is more difficult to attract young, talented people to science center/museums positions when the job market is strong, as the pay in the industry is otherwise a deterrent (personal communication, February 23, 2011).

While my intention was to conduct thorough and unbiased research and to subjectively collect and interpret the survey and interview data it should be mentioned that I, myself, being born in 1977, based on some definitions, can be classified as a Millennial (Meister & Willyerd, 2010). It was also noted in the comments of the survey targeting Millennials that there was a mistake in the formatting logic of a few of questions in *Career Survey: Young Science Center/Museum Professional* requiring individuals to respond when it should not have been mandatory for them to do so. Also, at the time of writing this thesis I was employed at the Exploratorium which gave me access to staff and first-hand experience with the museum's culture and processes. Additionally, Nancy

Stueber, President & CEO of OMSI was the president of ASTC's board of directors at the time that I interviewed her for this project.

Finally, due to the time constraints of this project, I am unable to follow up on the career pathways of Millennials. At this time, a longitudinal study of Millennials' attitudes and careers in science centers/museums is beyond the scope of this thesis.

## LITERATURE REVIEW

According to the authors of the *2020 Workplace: How Innovative Companies Attract, Develop, and Keep Tomorrow's Employees Today*, “by the year 2020 there will be five generations in the workplace, with the Millennials comprising more than 50% of the workforce” (Meister & Willyerd, 2010, p. 44). Science centers/museums have the opportunity to prepare now for this generational shift in the workforce so they can appeal to a talented pool of staff, gain access to innovation, directly connect to their audiences and communities, and sustain their competitive advantage. In order to develop strategies for attracting, engaging, and retaining young museum professionals (YMPs), this literature review provides a framework from which to understand the factors affecting the career pathways and obstacles of YMPs of the Millennial generation, individuals born between 1980 and 2000, working in U.S. Association of Science-Technology Centers (ASTC) member science centers and natural history museums.

### **The Impacts of Shifting Generational Cohorts**

Throughout history young people have constantly entered the workforce. What makes this generational cohort, the Millennials, and this time period, the early 21<sup>st</sup> century, different from any other? With people living and working longer, there are currently four generations in the workplace: Traditionalists (75 million born before 1945 and 10% of the workforce and decreasing); Baby Boomers (74.1 million born 1945-1964 and 45% of the workforce); Generation X (46 million born 1965-1980 and 30% of the workforce); and Millennials (76

million born after 1980 and 15% of the workforce and rising) (Eisner, 2005; Kanter & Fine, 2010; Kuhut, et. al, 2010). A major issue can thus be seen by examining workforce growth rates by age segment. Traditionalists are aging out of the workforce and **Baby Boomers, the generation comprising the largest segment of the current workforce (45%), are reaching retirement age in the coming decade.** They are followed by Generation X, representing a much smaller proportion of the workforce at 30%. **Who will fill the staffing and leadership positions left by the Baby Boomers when there are too few Generation X members to do so?** It is inevitable that much of these workforce and leadership needs will come from the “echo boom,” children of Baby Boomers, also known as Millennials (Dychtwald, Erickson, & Morison, 2005, p.5; Baldwin, 2006, p.6).

Coupled with the shifting age cohort within the workforce will be aggressive competition for top talent. As mentioned, due to its smaller size compared to its Baby Boomers predecessors, the workforce segment of thirty-five and forty-four years old is currently declining in the U.S. (Dychtwald, Erickson, & Morison, 2005, p.6). This is a critical age range for leadership and executive level development. The result is a gap in talent and leadership. All sectors, including the museum field, are affected. **According to a report by the Museum Association of New York (2006) titled, *Who's Next? Questioning the Future of Museum Leadership in New York State*, there are far too few “next generation leaders” to meet the needs of the museum field in the coming decade, and to add to this problem, currently, too few young museum professionals are interested in eventually becoming executive directors (Baldwin, 2006, p. 4). A 2008 study by**



*CompassPoint Nonprofit Services Ready to Lead? Next Generation Leaders*  
*Speak Out* reiterates this issue, reporting that only one in three young nonprofit workers aspire to be an executive director. With so little interest in executive director positions on the part of young people and the impending wave of retirement in the field, nonprofit organizations must begin to create opportunities for new leaders or potential executives may choose to pursue their career aspirations elsewhere (Cornelius, Corvington & Ruesga, 2008, p.24). They must do this by understanding how the attributes, experiences, career aspirations, and workplace expectations of the incoming cohort of potential Millennial leaders compare to those of the other generations currently in the workplace.

Additionally, it is important for current nonprofit executives to demonstrate, *by modeling*, to up and coming talent that it is possible to have an emotionally and financially fulfilling top leadership position, while maintaining a healthy work/life balance, otherwise other industries may become even more attractive to this cohort.

Science centers and natural history museums compete for talent from a wide variety of sectors at all levels of the organization. They compete for talent with other nonprofits, academia, the public sector, government agencies, for-profit research and development enterprises, and technology fields, many of which can pay higher salaries and offer clearer advancement paths than nonprofit science centers/museums. The 2007 survey reported in *Stepping Up or Stepping Out: A Report on the Readiness of Next Generation Nonprofit Leaders* by the Young Nonprofit Professionals Network on its members found that 45% of the

most skilled and experienced respondents currently plan to leave the nonprofit sector (Solomon & Sandahl, 2007). While there is no comparable data focused exclusively on nonprofit science centers/museums, Joan Baldwin's *Report to the Field: The Status of Succession Planning in New York State Museums* (2008) found that Generation X and Millennial emerging museum professionals cited "no ladder, no promotion, no growth, coupled with a dearth of mentors" (p. 10) as the most common reasons for abandoning positions. When these concerns are compared to career development programs offered at organizations such as Chevron or Genentech, it is clear that for-profit organizations have the competitive edge in meeting the needs of young workers. According to its website, Chevron offers the Horizons New Employee Development Program. Horizons is a five-year training program to help recent college graduates develop the skills they learned in university by offering them "challenging assignments in various locations, mentoring and formal classroom instruction to build technical and interpersonal skills" (Working at Chevron, n.d.). The Horizons program is followed by the Pathways program targeting employees in technical positions. Pathways is designed to help employees create personal development plans, receive technical and non-technical training, and provide opportunities for career growth (Working at Chevron, n.d.).

The journal *Science* performs an annual poll of biotechnology, biopharmaceutical, pharmaceutical, and related industries employees and numerous times, most recently in 2010, San Francisco-based Genentech has been named the world's Top Employer (Pinol, n.d.). Genentech offers recent college

graduates and new employees several ways to develop their skills and get a range of experiences around the world through job rotation programs (Genentech, n.d.). A particularly attractive aspect of the rotation programs is that they are offered to employees from many specialty areas and provide experiences across the organization including research and development, engineering, manufacturing, finance, marketing, and management. In the coming years as the pool for talent and leadership begins to shrink, competition will become more aggressive among for-profit and nonprofits alike and job training and career development programs such as those offered at Chevron and Genentech may prove to be even more attractive to Millennials.

There are contrary views to the relevance and impact of the coming talent shortage. For example, some argue that Baby Boomers will work well beyond the retirement age or return to work after retiring, thereby reducing the size of the “gap” (Dychtwald, Erickson, & Morison, 2006). Others say that the market will simply adjust over time to any perceived shortage of talent (Cornelius, Corvington & Ruesga, 2008, p. 3). In the Young Nonprofit Professionals Network report, Solomon and Sandahl (2007) present the idea that young nonprofit workers may leave the sector for graduate school or the private and public sector, only to return later. Only time will tell the relevance of these views. Regardless, a more strategic approach would be to ponder what are science centers/museums doing to attract and retain talent now? Also, if employees leave a job to seek opportunities and training elsewhere, what are nonprofits doing to make these organizations attractive to return to (Solomon and Sandahl, 2007)? In order to retain talent,

especially as Baby Boomers retire, nonprofits will need to address the frustrations expressed in the Young Nonprofit Professionals Network survey concerning low salary, lack of career paths, and inadequate professional development in the nonprofit sector (Solomon & Sandahl, 2007). The fact remains, a demographic shift in the workforce will occur in the coming decade. The size of the Millennials' cohort, coupled with its attributes and expectations of the workplace foreshadows a major shift in how organizations will function in the 21<sup>st</sup> century.

Management and social science literature discusses the different generational cohorts. While there is general consensus on the overall attributes and the experiences which impacted each generation's development, the titles given to each generation and the dates which they span varies. For example, some literature defines Millennials as those born after 1977 (Meister & Willyerd, 2010), while others state they begin in 1982 (Howe & Strauss, 2000). As explained by a 2010 Pew Research Center report, *Millennials: A Portrait of Generation Next*, the dates signifying each cohorts beginning and ending are not arbitrary. Recognizing the limitations of categorizing an entire generation of people, they align with historic events or significant social or demographic shifts (Kohut, et al., 2010, p. 4). Below is a review of researchers' defining factors of each of the four main generational cohorts currently in the workplace.

### **Traditionalists**

Traditionalists, also referred to as "Veterans" or "The Silent Generation" include the 75 million people born between 1928 and 1945 representing 10% of workforce (Eisner, 2005, p. 9; Kohut, et al., 2010). They are currently 65 or older

and have been characterized as “loyal, hard-working, dedicated, patriotic, God-fearing, frugal, and conservative” (Foltz & Wilson, 2005). Individuals in this generation grew up during the Great Depression and World War II in a time when women stayed home and cared for children while men went to work (Eisner, 2005; Kohut, et al., 2010). Many of the men were in the military and take from that experience a comfort with top-down, hierarchical management style. They lack digital technology skills, but have wisdom. They tend to be very loyal to the company they work for (Eisner, 2005; Foltz & Wilson, 2005; Kohut, et al., 2010).

### **Baby Boomers**

The Baby Boomers include the 74.1 million born between 1945 and 1964, representing the largest segment of the current workforce (45%) (Eisner, 2005; Kanter & Fine, 2010). This post-World War II generation is between the ages of 46 and 64 today (Kohut, et al., 2010). They grew up in a time when the economy was strong, “with abundant jobs, extensive consumer goods and educational opportunities” (Foltz & Wilson, 2005). They have been encouraged to pursue their dreams. While they enjoy teamwork, their competitive nature can make team dynamics challenging. They are goal and results-oriented. They, like the Traditionalists, are described as lacking digital technology skills, but excel in social skills. Due to increased life expectancy and medical advances, this generation is also expected to continue to work past the traditional retirement age of 65. In the workplace, they can be characterized as loyal, workaholic, optimistic, competitive, ladder climbers, and idealistic (Eisner, 2005; Kohut, et al., 2010).

## **Generation X**

Generation X or “Gen X” is a smaller group that includes the 46 million born between the years 1965 through 1980, representing 30% of the workforce (Eisner, 2005; Kohut, et al., 2010). Today they are between the ages of 31 and 46. This group tends to be overshadowed by the Baby Boomers. Since they grew up in times of recession and downsizing they tend to have a more conservative economic outlook. Many of them were “latchkey kids” with working moms and divorced parents. As a result, they learned early in life to be independent and self-reliant, often considered savvy and entrepreneurial (Kohut, et al., 2010). They desire a balance between work and their personal life and respond well to a coaching management style. It is said that they lack social skills but do have digital technology skills, are well-educated, and tend to fast track to management (Eisner, 2005).

## **Millennials**

As many Millennials are still maturing, establishing themselves, and entering the workforce the understanding of their unique impact and characteristics is still forming. While much of the literature agrees on many of the attributes and defining experiences of the Millennials, discrepancies appear more in the reports of Millennials than any other generation. For example, of the four cohorts, Millennials date ranges and size varies the most in the literature. Millennials also referred to as “Generation Y,” “Echo Boomers,” and “Generation Next or Nexters” are cited in books, articles and reports as beginning between 1977 to 1982 and ending between 1992 to 2000, making them anywhere between

the ages of 11 to 34 today (Eisner, 2005; Kanter & Fine, 2008; Kohut, et al., 2010; Howe & Strauss, 2000; Meister & Willyerd, 2010). As no consensus exists on the span of this generation, the actual size of the cohort referenced in the literature also varies from 76 million to 88 million (Eisner, 2005; Kanter & Fine, 2008; Meister & Willyerd, 2010). Regardless of the lack of consensus on the date range or its size, they are larger in number than Generation X or the Baby Boomers (Kanter & Fine, 2010). Since many have yet to enter the workforce, they currently represent only 15% of it; however, this number is expected to increase to 50% by 2020 as Millennials finish school and start working (Meister & Willyerd, 2010, p.44).

Much like Generation X, Millennials are “latchkey kids” having grown up in a single parent or two working parent household. They tend to live in suburban-metropolitan areas, with only 14% in rural areas (Kohut, et al., 2010, p. 11). In the U.S., Millennials are more politically liberal, less religious, and less likely to have served in the Military than older generations (Kohut, et al., 2010; Dychtwald, Erickson, & Morison, 2006). They get along well with their parents and have respect for their elders, especially Traditionalists (Kohut, et al., 2010).

When reviewing the literature on how Millennials are perceived in the workplace, there are some divergent opinions expressed. On one end of the spectrum, they are described by a long list of positive attribute: enjoying teamwork, confident (Foltz & Wilson, 2005), creative, achievement-oriented (Howe & Strauss, 2000), optimistic, open to change (Kohut, et al., 2010), self-expressive, adaptable, upbeat (Dychtwald, Erickson, & Morison, 2005), energetic,

and enthusiastic (Eisner, 2005). Yet they are also described as lacking confidence, independent thinking skills, time management skills, direction and focus (Eisner, 2005). Some researchers have cited Millennials as having a strong work ethic (Foltz & Wilson, 2005) while the recent Pew Research Center report claims that, “of the four generations, Millennials are the only one that doesn’t cite ‘work ethic’ as one of their principle claims to distinctiveness” (Kohut, et al., 2010, p. 6).

How can one make sense of these contrasting views? One possibility is that this range of perceptions is a result of **intergenerational workplaces and intergenerational misunderstandings**. It is clear that each generation, informed by their unique experiences, have different work habits and varied strengths and weaknesses. One viewpoint is that this diversity can pose challenges in the workplace, such as disagreements, frustrations, and misunderstandings. For example, generations may differ in their “values, views of authority, work and communication styles, expectations of leadership and the work environment, expectations about the employee-employer relationship, and consideration of work/leisure mix preferences” (Foltz & Wilson, 2005). For example, Millennials are described as lacking patience and wanting instant gratification (Eisner, 2005). However, alternatively, this “impatience” could be seen as a desire to be challenged and have immediate access to information. They grew up in a world where the internet allows for immediate access to information; why would they not expect this instantaneousness in the workplace? Similarly, as Howe and Strauss (2000) explain in *Millennials Rising*, they have been told all their lives



that they are achievers who can excel at and do anything. It is no wonder they demand a workplace that provides opportunities to learn and grow, and to work with bright and experienced people, as well as managers who provide immediate and useful feedback while providing employees flexibility and independence (Dychtwald, Erickson, & Morison, 2006, p.103).

Millennials are described as lacking interpersonal skills, as not being good at listening or working in teams, and lacking patience or knowledge on how to deal with difficult personalities (Eisner, 2005). Some communication issues may correlate with their age; most are young and do not have the benefit of learning from prior mistakes, or as the authors of *Workforce Crisis* (2006) explain, “[Millennials are] accustomed to doing things their own way, they have not been brought up or trained to exhibit the kinds of interpersonal skills needed in many roles in the workplace” (p.103).

There is evidence that Millennials are having difficulty adjusting to a workplace that has been designed and crafted by older generations. According to *Workforce Crisis* (2006), 47% are coping with feelings of burnout (the highest rate of the current generations in the workplace) and 55% express a lack of job satisfaction (the lowest rate of the cohorts) (p.103). As many in this generation have yet to enter the workforce, the full extent of the Millennials’ effect on the workplace is yet to come.

The sheer number of Millennials alone is going to have a profound impact on the workplace; however, there are several characteristics of Millennials that will add to their influence. For example, they are much more ethnically and

racially diverse than other generations and as a result, appreciate diversity and collaboration (Baldwin, 2006; Eisner, 2005; Kohut, et al., 2010; Dychtwald, Erickson, & Morison, 2005). They are on track to be the most well-educated generation in America's history. The 2008 recession has added to this as many unable to find work returned to school (Kohut, et al., 2010). This is the first generation to grow up immersed in digital technology, with hand-held gadgets like portable games and mobile phones never leaving their sides (Kohut, et al., 2010; Dychtwald, Erickson, & Morison, 2005). As children they often were involved in multiple activities and they have taken this habit into the workplace by enjoying multi-tasking and building a portfolio of different jobs and skills. They were raised in a world and by parents that told them to "be smart" and that "you are special" (Eisner, 2005). As a result, they also expect to feel smart and special in the workplace. Given the impact that Millennials are having or soon will have on the workplace, it is important to understand what kinds of jobs attract Millennials, keep them engaged, and what employers can do to make workplaces attractive for Millennials to stay with their organizations.

### **Attracting Millennials to the Science Center/Museum Field**

#### **Social Responsibility**

As competition for talent intensifies, employers will need to think about what attracts or motivates Millennials to apply for positions. In this regard, the literature reveals both good and bad news for nonprofit science centers/museums. In 2008, 77% of U.S. public middle schools and 83% of high schools had mandatory community service requirements (Kanter & Fine, 2010). Millennials

grew up volunteering and as a result are socially conscious (Eisner, 2005).

However, museums should not rely entirely on their community-focused, socially responsible mission statements to draw Millennials, as over 70% of younger workers, the largest percentage of the generations, are employed by for-profit organizations (Dychtwald, Erickson, & Morison, 2006, p.103).

To add to the previously-mentioned competition for well-qualified staff, science centers/museums in particular face a new form of competition: the increasing trend of social responsibility being embraced by many for-profit organizations. The 2008 CompassPoint report explains, “More for-profit businesses are incorporating socially responsible business practices; the awareness of social ventures and social entrepreneurship has skyrocketed in the past few years; and the lines between the three sectors (nonprofit, for-profit, and government) are becoming more blurred” (Cornelius, M., Corvington, P., & Ruesga, 2008, p. 11). Many museum staff who gain job-satisfaction from fulfilling the museum’s mission, may now be attracted to for-profit positions as they potentially will be able to make higher salaries while still satisfying their altruistic desires. A 2008 PricewaterhouseCoopers survey revealed that 88% of recent college graduates seek employers with socially responsible values that reflect their own (Cornelius, Corvington, & Ruesga, 2008, p. 37). The statistics beg the question: will the reality that Millennials can now earn higher wages at a for-profit organization, while still fulfilling a desire to be socially responsible, outweigh the opportunity to fulfill the mission of science centers/museums? What can the museum field do to capitalize on their community-focused, socially

conscious, mission-driven activities in order to make museums employers of choice?

### **Compensation, Benefits, & Perks**

Another factor that influences a potential employee's decision to take a position is the compensation, benefits, and perks offered by employers. It is important to understand how Millennials' compensation, benefits, and perks preferences may vary from other generations. In regards to compensation, the literature reveals contrasting views. On one side, it is said that Millennials are less concerned with making money than contributing to society and enjoying a full and balanced life (Eisner, 2005; Kohut, et al., 2010), and that Millennials, more than other generations, may be willing to trade higher compensation for meaningful work at an organization where they feel appreciated (Eisner, 2005). However, surveys of Millennials present a contrasting view towards the importance of compensation for this generation. For instance, the Pew Research Center, in 2006 found that 72% of adults under the age of 30 were concerned that they were not saving and investing enough and this number rose to 77% in 2010 (Kohut, et al., 2010, p. 48). Additionally, 64% of the Next Generation Leaders surveyed in 2008 by CompassPoint "reported that they have financial concerns about committing to a career in the nonprofit sector" (Cornelius, M., Corvington, P., & Ruesga, 2008, p. 18). **Regardless of the fact that they offer work that contributes to society, nonprofits, which are known for having lower salaries and wages than other sectors, will need to address this low compensation issue if they intend to attract and retain younger workers to careers in the field.**

In addition to compensation packages, employers should also understand the benefits and perks preferences of the Millennial generation. “One-size-fits-all” packages may not work as well as a “cafeteria-style” plan (Dychtwald, Erickson, & Morison, 2006). Millennials are looking for more than health and retirement plans. Therefore, employers may need to modify what types of benefits are offered. For example, “many [Millennials] consider control of their time or extra time off as the most important ‘benefit’” (Dychtwald, Erickson, & Morison, 2006, p. 183). In attracting Millennials, employers are learning that Millennials prefer time off to money, desire longer vacation breaks after a shorter period of employment, and want flexible work schedules and flexible workplaces (Dychtwald, Erickson, & Morison, 2006, Eisner, 2005). These preferences correlate to the fact that Millennials value a balance between work and life. Understanding Millennials’ desire for this so-called work/life balance is important when crafting benefits plans; therefore, including benefits such as telecommuting, flex-time and flexible schedules, as well as other “perks” like employee discounts at local museums, commuter assistance and free shuttle programs, child or elder-care support should all be considered part of benefits packages.

### **Engaging Millennials in Science Center/Museums Positions**

#### **Work Expectations & Environment**

**While compensation, benefits, perks, work/life balance, and meaningful work may attract Millennials to positions, what keeps them engaged and satisfied?**

Corresponding with their desire for work/life balance, Generation X and Millennials are said to “work to live” while Baby Boomers “live to work”

(Kunreuther, 2005, p.8). Millennials are less tolerant of unsatisfying work environments and much more willing to move on if their expectations are not met. Much of their satisfaction in the workplace depends upon on how they are treated, how they perceive management, the technology available to them, and the types of responsibilities they are given. **The authors of the *Workforce Crisis* (2006)**

**believe that Millennials' work expectations include:**

- **Individual responsibility, freedom to make decisions**
- **Sociable and enjoyable colleagues and workplace**
- **Opportunities to learn and grow**
- **Team-based work, collaborative decision-making**
- **Lots of feedback, frequent and constructive reviews**
- **Accessible managers, open communications**
- **Respect from older coworkers**
- **Pay for performance**
- **Flexible schedules and ample time off (p.99)**

They are more likely than other generations to question the processes and procedures of organizations, which may lead older colleagues to view Millennials as “rocking the boat.” Behind this questioning is the fact that Millennials are confident, open to change, and want to be challenged. In their view, they question because they recognize that conditions under which an organization operates are entirely new, therefore, why focus on old ideas or methods (Bennis & Thomas, 2002, p. 64)?

Millennials prefer meaningful work and outcome-oriented projects rather than “dues-paying chores” (Eisner, 2005). They perform best when they have tasks that are interesting and important. Tasks should match their abilities, yet be challenging enough to push them (Eisner, 2005). **In essence, if treated professionally they are likely to act professionally.**

### **Management & Organizational Structure**

Millennials desire an inclusive management style where managers model expected behavior and provide immediate feedback (Eisner, 2005). In this way, a coaching style of management works well, especially when roles and responsibilities are well defined. They value respect and want to earn it. Ability, knowledge and skill are more important than rank or tenure (Eisner, 2005; Dychtwald, Erickson, & Morison, 2006, p.104). With these kinds of expectations of management, it is easy to understand why the workplace satisfaction of Millennials is directly related to perceived managerial competence (Eisner, 2005).

Along with interactive, two-way engagement with competent managers, research suggests that Millennials also prefer flatter organizational structures where they feel their voices can be heard more easily and they can play a larger role in the organization. However, flatter structures mean fewer hierarchical promotions. While Millennials have less interest in rank than other generations, organizations will need to provide new ways to recognize and meet the needs of advancement through expanding roles and responsibilities (Dychtwald, Erickson, & Morison, 2006, p.181) while providing commensurate compensation.

## **Decision-Making Process**

Coupled with the desire for flatter organizations, Millennials want to be a part of the decision-making process. It is important for them to “see the big picture and how they fit in it” (Eisner, 2005). Inclusion and transparency in decision-making is essential to engaging Millennials. Having grown up in households where they took an active role in family decisions they now expect to contribute to decisions in the workplace (Eisner, 2006, p. 3). This desire for inclusion makes them enjoy working collaboratively (Eisner, 2005).

## **Technology**

Often referred to as “digital natives,” Millennials are the first generation to grow up immersed in digital technology. Digital technology can be used to engage and help retain Millennials. For example, many Millennials are more used to e-mail, instant messaging, or even phone contact than face-to-face communication (Dychtwald, Erickson, & Morison, 2006, p. 102). For Millennials, social networking technologies are viewed not just as a way of connecting with friends, but as an effective tool for increasing work productivity (Meister & Willyerd, 2010, p. 97). They expect organizations and their staff to have the same fluency with social media that they do and the same comfort working virtually beyond the walls of the organizations (Kanter & Fine, 2010, p. 14). They desire the speed, customization, and multi-tasking that technology allows (Eisner, 2005; Kohut, et al., 2010, p. 1).

The shifting business landscape in which nonprofits operate is partly due to the impact caused by the way global users have embraced new technologies



and social media. Millennials have been at the forefront of this innovation. In the book *Networked Nonprofit: Connecting with Social Media to Drive Change* (2010) authors Kanter and Fine explain that as of 2010, 65% of teens use online social networks (p. 14). To help explain the effect of social networks, the authors refer to sites like Facebook as the “corner soda shops of [the Millennial] generation” (Kanter & Fine, 2010, p. 14). As “digital natives,” Millennials grew up in a society immersed in causes promoted on television, in blogs, and on Facebook. As a result, they are more prone to identify with larger “causes,” such as AIDS or cancer research, than a stand-alone nonprofit organization. “The combination of idealism and social media fluency makes Millennials passionate about causes, but not passionate, necessarily, about nonprofit organizations” (Kanter & Fine, 2010, p. 15). What does this mean for science centers/museums? Firstly, science centers/museums should recognize the importance of engaging and embracing this generation as employees and take advantage of their fluency in social media to strengthen communication internally and externally to the organization. Additionally, Millennials are less likely to become lifetime members or donors of an institution than their parents; however they can help pioneer new ways to cultivate supporters, fundraisers, friend raisers, and organizers on the museum’s behalf (Kanter & Fine, 2010, p. 15). The literature suggests that through embracing Millennials, now, and taking advantage of their social media skills, science centers/museums will be better equipped to adapt to the changing fundraising, communications, and networking needs of the new business world.

## Retaining Millennials in Science Centers/Museums

Millennials are often referred to as “job-hoppers” or “resume builders” as they are far more likely than older workers to commonly change employers or switch careers (Kohut, et al., 2010, p.46). In fact, according to the Pew Research Center 2010 survey, about 66% of all Millennials say it is “very likely” (39%) or “somewhat likely” (27%) they will switch careers sometime in their lifetime, as opposed to 55% of Generation X and 31% of Baby Boomers (Kohut, et al., 2010, p.45). The authors of *Geeks & Geezers* (2002), Bennis and Thomas, explained one factor influencing the frequent job hopping of Millennials. Millennials grew up watching their parents be “reengineered” out of jobs they had held for 20 or more years (p. 68) and they witnessed the effects of outsourcing as it became common practice in America. Another factor to consider is the rise of knowledge workers and their mobile skills.

In 1959, Peter Drucker coined the term “knowledge worker,” referring to the emergence of jobs that “require a good deal of formal education and the ability to acquire and to apply theoretical and analytical knowledge” (Drucker, 2005, p. 305). The U.S. economy has become more dependent on knowledge worker skills which can easily be taken from job-to-job (Dychtwald, Erickson, & Morison, 2006, p. 100). The combination of these factors led to the erosion of loyalty between company and employee. Today, in the workplace, loyalty to an employer is neither assumed nor necessarily rewarded and job-for-life expectations have dissolved into short-term loyalties (Bennis & Thomas, 2002, p.68; Dychtwald, Erickson, & Morison, 2006, p. 100). Bennis and Thomas warn

that the Millennials' lack of loyalty should not be considered "dilettantism or an unwillingness to make commitments" (p.68) but the result of the environment in which they came of age and now find employment in. Millennials do not inherently lack loyalty. In fact, the 2010 Pew Research Center survey on Millennials, revealed that one-third of the respondents said that they have found their career and of that one-third, 63% said they would likely stay with their current employer (Kohut, et al., 2010, p.47).

Recognizing that many Millennials do not inherently lack loyalty, what can organizations do to increase Millennial retention? According to a PricewaterhouseCoopers poll of 4,271 new college graduates, other than salary, one-third selected training and development as their number-one benefit they would want over the next five years (Meister & Willyerd, 2010, p. 51). The same poll found that their preferred way to learn on the job includes formal classroom training, mentors and coaches, and rotational assignments (p. 51).

Time and time again in the literature and in survey reports, mentoring was mentioned as an important form of professional development for Millennials. Specifically targeting young museum professionals, the American Association of Museums 2009 *Emerging Museum Professionals Survey* report found that since 2007, the number of emerging museum professionals desiring a mentor had increased. A mentor is a "senior person in terms of age or experience who undertakes to provide information, advice, and emotional support for a junior person in a relationship lasting over an extended period of time and marked by substantial emotional commitment by both parties" (Baldwin, 2006). While

Millennials want opportunities to learn from older, more experienced colleagues (Meister & Willyerd, 2010), they also enjoy reverse mentor programs, where they have the chance to share their skills with older colleagues, such as technology and social media skills (Eisner, 2005). Davis (2007) created for the British Columbia Museums Association a guidebook for museum professionals called, *Best Practices Module: Mentoring Programs*. In the module Davis refers to mentors as individuals “whose advice you seek and value, or someone who offers you advice and suggestions which you believe are beneficial to your academic, career, or personal life” (p. 3). The term ‘mentee’ is used in this context to express a more *equal partnership* with the mentor. The article cites the benefits of mentoring in museums including increased productivity; retention and transmission of institutional knowledge; better recruitment and retention of skilled staff; improved morale; and stronger leadership capacity (p. 5). Benefits for the mentors include: improved ability to share experience and knowledge; a sense of being needed and valued; opportunities to test new ideas and reflect upon current and future roles; and enhanced communication and leadership skills (p. 5). Of course, mentee benefits are also described: acquisition of specialized knowledge and skills; improved promotion opportunities and career mobility; networking; development of professional self-confidence; improved communication skills; improved social integration in the museum workplace; and an expanded vision of the museum and the sector (p. 5).

In thinking about the coming need for different models of professional development the authors of the *2020 Workplace* (2010) explain that social

learning will be a requirement. Meister and Willyerd (2010) define social learning as “the acquisition of knowledge and skills through methods that are collaborative, immediate, relevant, and presented in the context of an individual’s unique work environment” (p. 155). This means that in the coming years, learning in the workplace will look very different than it does today. The authors introduce the idea of Learning 2.0 where computer and web-based trainings are the norm. Social learning will incorporate social media, gaming, real-time feedback, and advanced on-the-job tools.

Along with social learning, Millennials, the most educated generation to enter the workforce, will also demand continual learning. A question that may be asked by the new generation of their employer is, “How have you helped me learn lately?” (Meister & Willyerd, 2010, p. 154) Organizations will need to understand this and understand that Millennials “expect training to be more like the rest of [their] lives: instant, fun and social” (Meister & Willyerd, 2010, p. 162).

### **Career Advancement**

According to Baldwin’s (2008) *Report to the Field: The Status of Succession Planning in New York State Museums*, one of the most common retention issues in the museum field is a lack of clear advancement paths or opportunities for promotions. If young museum professionals desire career advancement, what, if any, factors are hindering that growth? Also, important is the question of what that advancement looks like considering Millennials’ preference for flatter organizations which offer less hierarchical promotions.

Little research exists on exactly what career advancement means to young museum professionals, though the authors of *Museum Administration*, Genoways and Ireland (2003), explain that “moving ahead” or “moving up” in a museum career often means an increase in administrative duties and the amount of time devoted to these types of responsibilities.

**In considering potential obstacles to career advancement, no reports or surveys pertain specifically to science centers and natural history museums.**

However, there is information related to young nonprofit employees, as well as two reports by the Museum Association of New York which shed light on this issue. In the CompassPoint Nonprofit Services study *Ready to Lead? Next Generation Leaders Speak Out* (2008) the authors explain that young educated, talented and committed nonprofit employees are eager to move into leadership and management positions, yet there are “inherent nonprofit structural limitations and obscure avenues to career advancement [which] are obstacles to leadership opportunities inside organizations” (p. 16). In the same article, the authors found that one issue may be that management believes they are communicating career development opportunities, but for some reason this message is not being received by younger employees (Cornelius, Corvington & Ruesga, 2008, p. 22). In reference to current executive directors’ reluctance to mentor emerging leaders for this top position, another idea is presented by CompassPoint: “Executive directors are willfully withholding their support and mentorship out of fear of their own diminishing value. Some next generation leaders think that executive directors are threatened by younger staff’s fresh thinking and new ideas and that current

leaders perceive change as a criticism of their own performance” (Cornelius, Corvington & Ruesga, 2008, p. 22).

To add to the lack of clear advancement paths or opportunities for promotions previously cited, Baldwin also explains that museums need to move toward hiring from within (p. 7). Tierney (2006) in *The Nonprofit Sector's Leadership Deficit* explains that roughly 60 to 65% of senior management positions are filled by internal promotions in for-profit organizations, while nonprofits only recruit 30 to 40% of these positions internally. Hiring internally has the benefit of reducing turnover, saving money (Baldwin, 2006, p. 7) and reducing time needed to train outside hires (Baldwin, 2008, p. 8). The 2008 report found that 84% of the museums surveyed in New York State had no succession plan. In the same report succession planning is defined as “a broad spectrum of strategies that build overall organizational capacity by stimulating self-assessment, evaluation, personal and organizational development and continuity for board, staff and the executive director” (p. 4). Baldwin (2008) questions the implications of a definition of succession planning that included nurturing, mentoring, and investment in staff. In regards to succession planning and career advancement in the museum field, “Putting human capital first and investing in staff-whether directors, middle management or those just beginning their careers-will make individual organizations and the field more competitive in a world where the pool of potential employees is growing smaller and competition more cut-throat” (Baldwin, 2008, p. 3).

By and large, literature shows that we are on the verge of a major generational shift in the workforce. Competition for top talent will be intense in the coming decade and Millennials are poised to play a key role with their large numbers and different expectations of the workplace. Yet, this transition may not be happening smoothly. As the authors of *Workforce Crisis* put it, “young workers are uneasy on the job, not because of inexperience or lack of time adjusting to the workaday world, but because they seek a different kind of workplace, employment deal, and employer from what they encounter” (Dychtwald, Erickson, & Morison, 2006, p.106). **An analysis of the reports that focus on young nonprofit professionals, as well as young museum professionals, reveal an added threat for this sector: Millennials are frustrated with the insufficient growth opportunities, low salaries, and lack of career pathways inherent in many nonprofit organizations.** Employers who address these concerns will be the best at attracting, engaging, and retaining this key segment of the workforce. While a review of the literature provides a glimpse into what attracts, engages, and helps to retain Millennials, much of the insights are very general, including for-profits and nonprofits alike, and not specific to the needs and circumstances of young museum professionals working in nonprofit science centers/museums. In order to help recognize those specific needs, the next chapter describes this project’s surveys and interviews research findings explaining the current attitudes, workplace expectations, and career outlook of Millennials specifically working in ASTC science centers and natural history museums.



## FINDINGS

To understand current issues surrounding career pathways and obstacles for young professionals working at Association of Science-Technology Centers (ASTC) member institutions, I conducted online surveys and in-person and telephone interviews. In February 2011, I emailed 711 director-level contacts at 194 U.S. ASTC science centers and natural history museums two surveys; one for the directors to take themselves and one for the directors to forward to young museum professionals (YMPs) staff members born in 1980 or after at their respective institutions. Concurrently, throughout February and March 2011, I interviewed seven Millennials and three executive directors at three U.S. science centers. The surveys provided a quantitative, broad perspective on issues related to attracting, engaging, and retaining YMPs, while the interviews provided a more in-depth look into the specific practices of three institutions as they relate to this thesis topic.

### Surveys

Ninety-two directors from at least 65 different institutions completed my survey (for a copy of the instrument see Appendix B) representing a 13% response rate by individuals. The *Career Survey: Young Science Center/Museum Professionals* was forwarded by director-level contacts to an unknown number of Millennials, with 121 Millennials from at least 37 institutions (providing institution name was an optional response) completing the survey (Appendix A). Survey respondents represented institutions from a wide geographic range, with varying operating budgets and staff sizes (see Appendix A questions 33-36 and Appendix B questions 20-23).

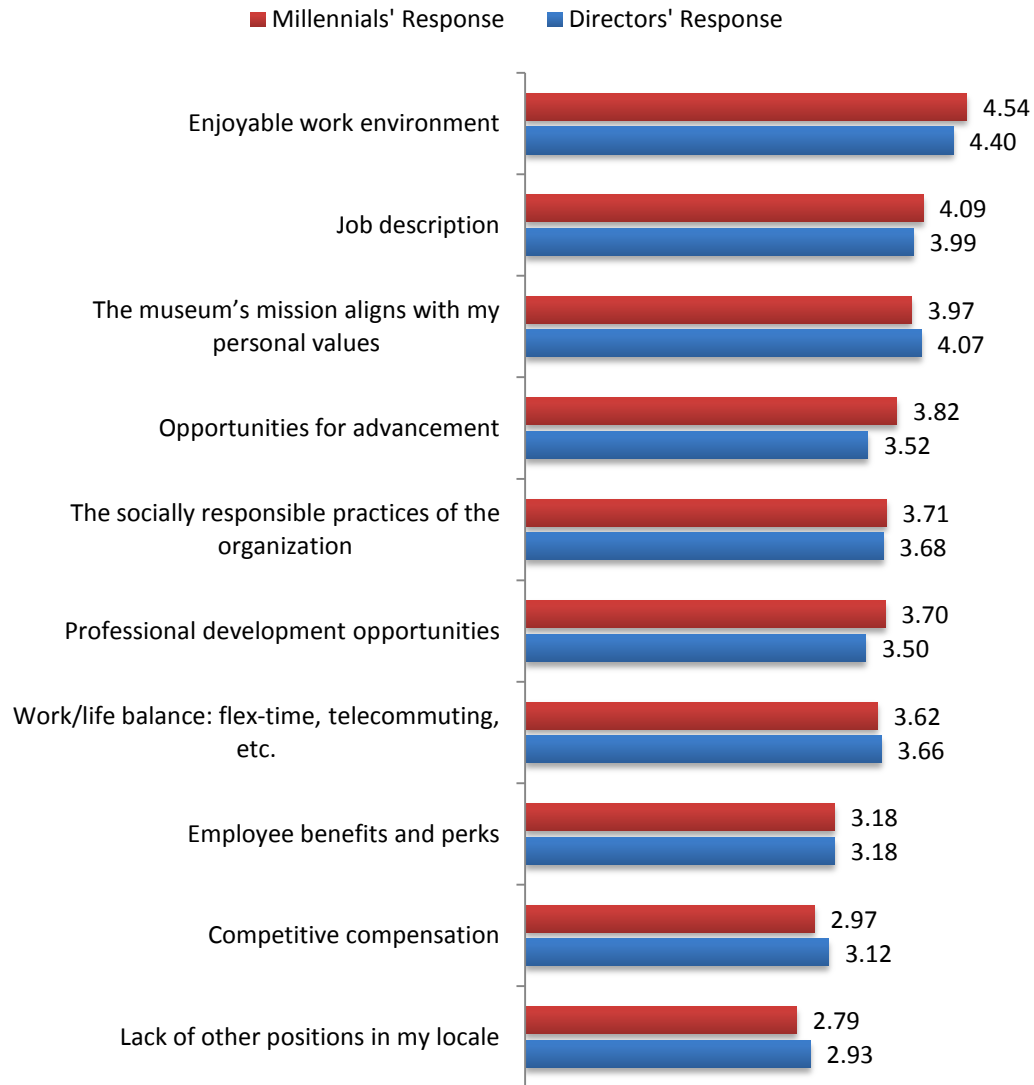
Survey questions were designed to provide quantitative data on the attitudes, motivations, and expectations of YMPs currently working in science centers and natural history museums in the U.S. The survey directed toward management included similar but fewer questions, asking for opinions on what they felt might attract, engage, and retain Millennials at their respective institutions. One goal of collecting this data was to understand the various factors affecting Millennials working in the science center/museum field, as well as their outlook on and aspirations of careers in the field. Through analysis of the survey data I ascertained which organizational practices, policies, and qualities that attract, engage, and retain Millennials in science centers/museums, as well as those practices, policies, and qualities that they believe support their career advancement in the field. Below is a description of the survey results most applicable to this thesis. To view all survey questions and responses, see Appendices A and B.

### **Motivators for Working at a Science Center/Museum**

The survey began with a question pertaining to the importance of certain factors when choosing to work at a science center/museum. In a ranking of least important (1) to most important (5), the most important factors in YMPs choosing to work at science centers/museums were the “enjoyable work environment” (rated 4.54 out of 5), followed by the “job description” (4.09) and the alignment of the museum’s mission with personal values (4.09) (See Figure 1). The directors’ responses mirrored those of the Millennials. Directors chose the same three factors as most important. Rated the two least important factors in choosing

**Figure 1: Factors attracting Millennials to science museums**

**Please indicate how important these factors are to Millennials when choosing to work at a science museum: (1 = LEAST important and 5 = MOST important)**

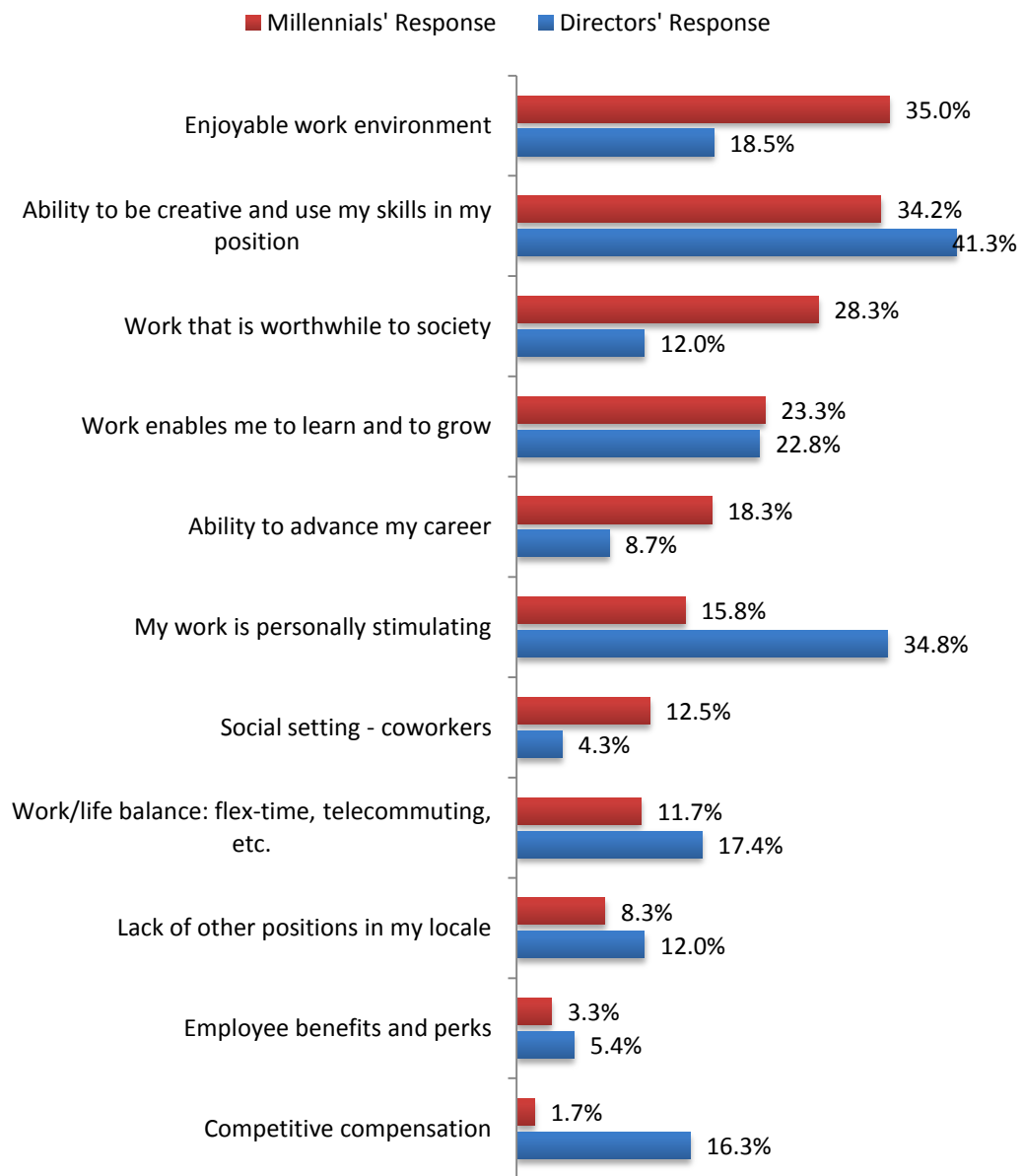


to work at a science museum were “lack of other positions in my locale” (2.79) and “competitive compensation” (2.97) (Figure 1).

### **Engagement in Science Center/Museum Positions**

Survey results reveal that what attracts Millennials to science center/museum positions, (the “enjoyable work environment”) also keeps them

**Figure 2: What keeps Millennials wanting to work (engaged) in a science museum/their position? (Select only ONE or TWO)**



there. Forty-two out of 120 Millennial respondents (35%) selected “enjoyable work environment” as a factor keeping them engaged in their positions (Figure 2). Also ranked highly were the “ability to be creative and use my skills” with 34.2% selecting that option. The third highest response was “work that is worthwhile to society” with 28.3% selecting that as an important engagement factor.

“Competitive compensation” (1.7%) and “employee benefits and perks” (3.3%) were ranked least important in choosing to work at a science center/museum.

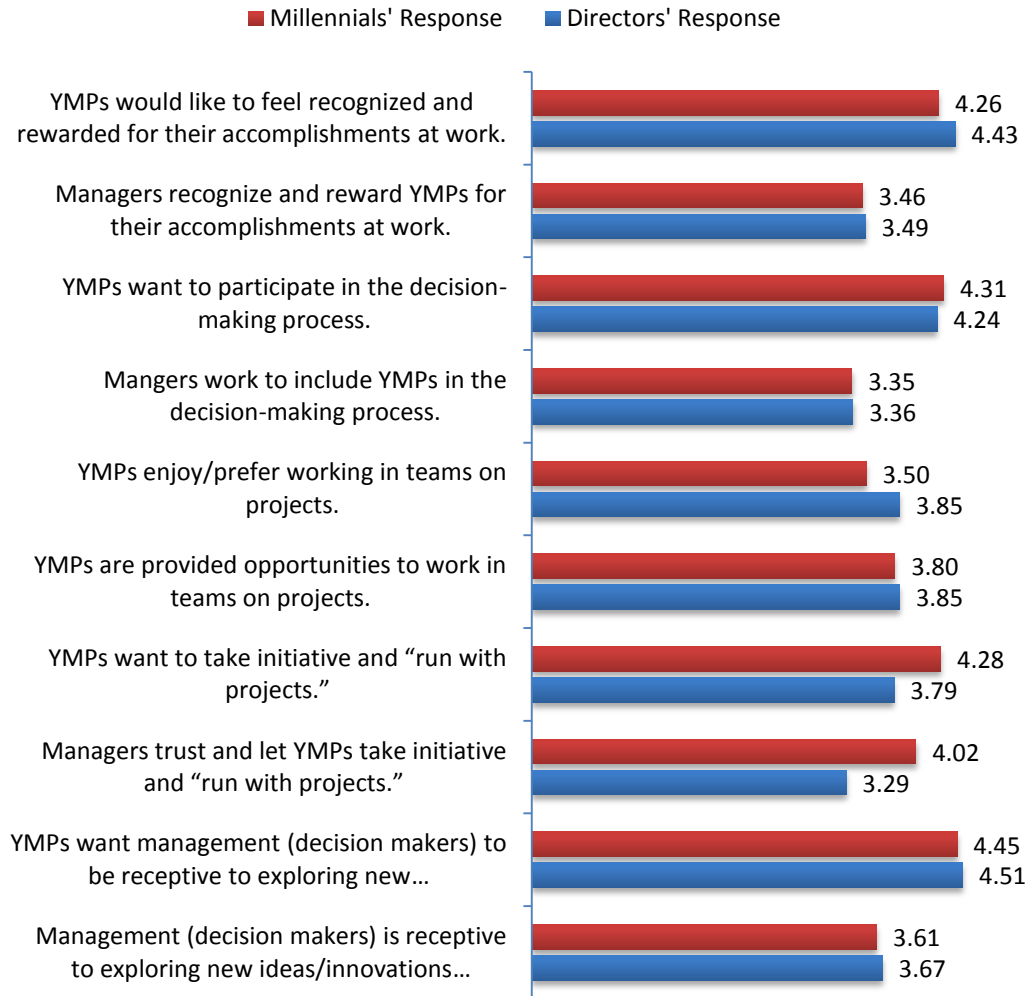
My survey revealed a variance between what Millennials chose as engagement factors and what directors believe are engagement factors for Millennials. To directors the type of work provided to YMPs at their institutions is the most important engagement factor. The directors’ top three choices were “ability to be creative and use their skills in the position” (41.3%), “their work is personally stimulating” (34.8%), and “work enables them to learn and grow” (22.8%). Also, “competitive compensation” was ranked higher by directors (16.3%) than YMPs (1.7%).

### **Science Center/Museum Millennials-Management Interaction**

To gain an understanding of how Millennials would like to be treated and viewed in the workplace by management, and whether they feel those preferences are being met, respondents were asked about their desires and experiences in the workplace. Each question in this series was asked two ways: what do Millennials want, and do Millennials believe that management is providing it. Consistently Millennials ranked higher their desire for such practices as “management being receptive to exploring ideas and innovations presented by YMPs,” “YMPs wanting to take initiative and ‘run with projects,’” and “YMPs wanting to feel recognized and rewarded for their accomplishments” than their institutions’ success at meeting their needs in these areas (Figure 3). The largest difference between Millennials’ desires and management’s success involved the decision-making process. Millennials ranked “YMPs want to participate in the decision-

**Figure 3: Science Center/Museum Millennials-Management Interaction**

**Please indicate how strongly you agree with the statements below pertaining to your institution: (1 = LEAST agree and 5 = MOST agree)**



making process” at 4.31, while ranking “managers work to include YMPs in the decision-making process” at 3.36.

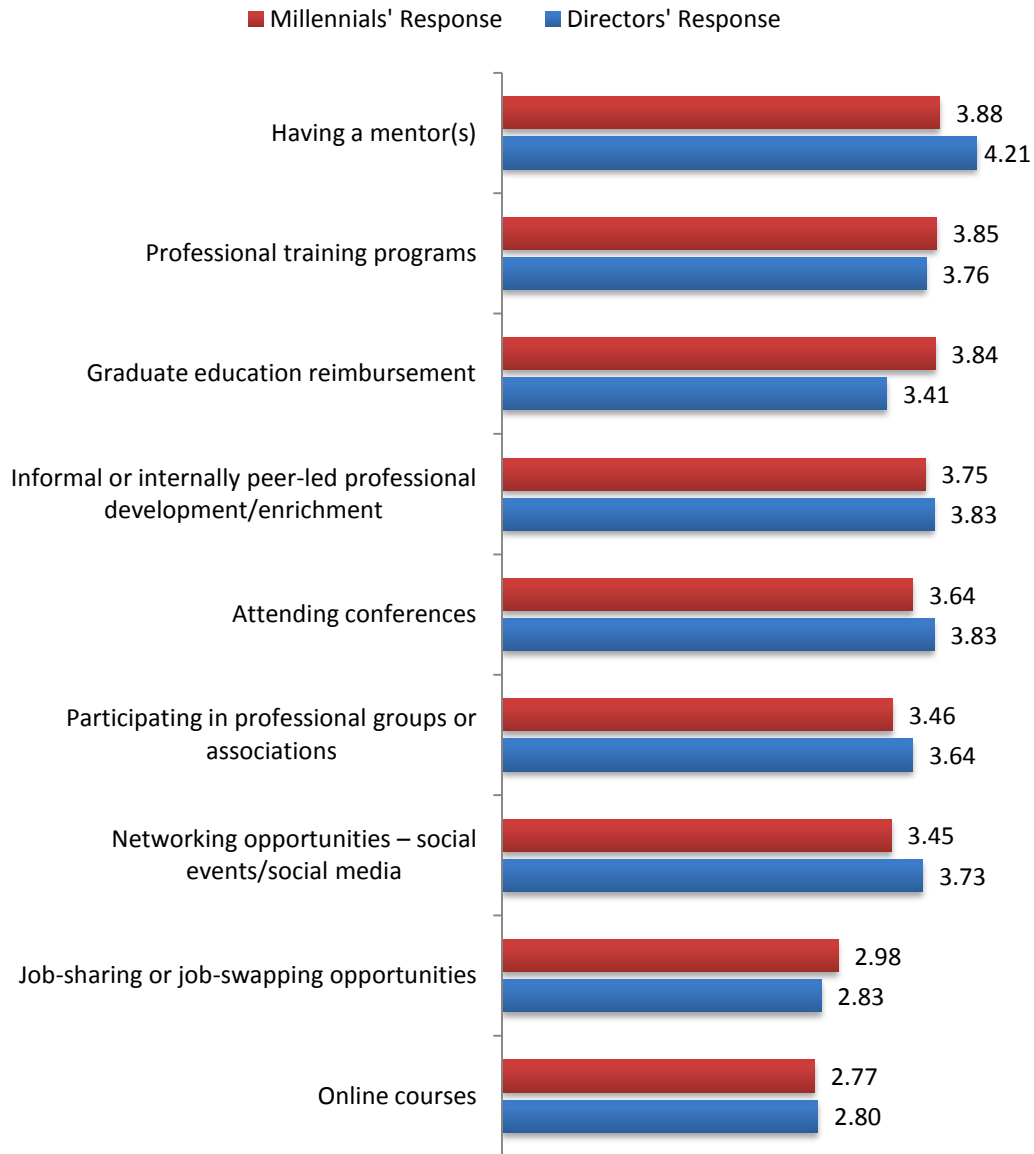
Directors were asked the same set of questions but from the perspective of what they believe Millennials desire and whether they believe management is providing for that desire. Again, Millennials preferences were ranked higher in

comparison to management actually providing for those preferences. For example, directors rated “YMPs would like to feel recognized and rewarded for their accomplishments at work” 4.43, while they rated “managers recognize and reward YMPs for their accomplishments at work” 3.49.

### **Professional Development at Science Centers/Museums**

To understand the types of professional development most important to Millennials, survey respondents were asked to rate a list of staff development opportunities. The top three ranked opportunities were “having a mentor(s)” (3.88), “professional training programs” (3.85), and “graduate education reimbursement” (3.84) (Figure 4). Ranked the least important were “job-sharing or job-swapping opportunities” (2.98) and “online courses” (2.77). Millennials were then asked to rate their satisfaction of these same professional development opportunities at their institutions. If a particular opportunity is not available at their institution they were directed to select “not available” (Figure 5). A majority of respondents selected “not available” for most opportunities. In the cases where professional development opportunities were provided to Millennials, several opportunities scored 3 or higher in terms of satisfaction: “having a mentor(s)” rated 3.52, “informal or internally peer-led professional development/enrichment” 3.34, “attending conferences” 3.20, and “networking opportunities” 3.19. The lowest satisfaction scores was expressed about “graduate education reimbursement” 1.75, “online courses” 2.29, and “job-sharing or job-swapping opportunities” 2.76.

**Figure 4: Indicate the importance of the following professional development opportunities for YMPs:  
(1 = NOT important and 5 = VERY important)**

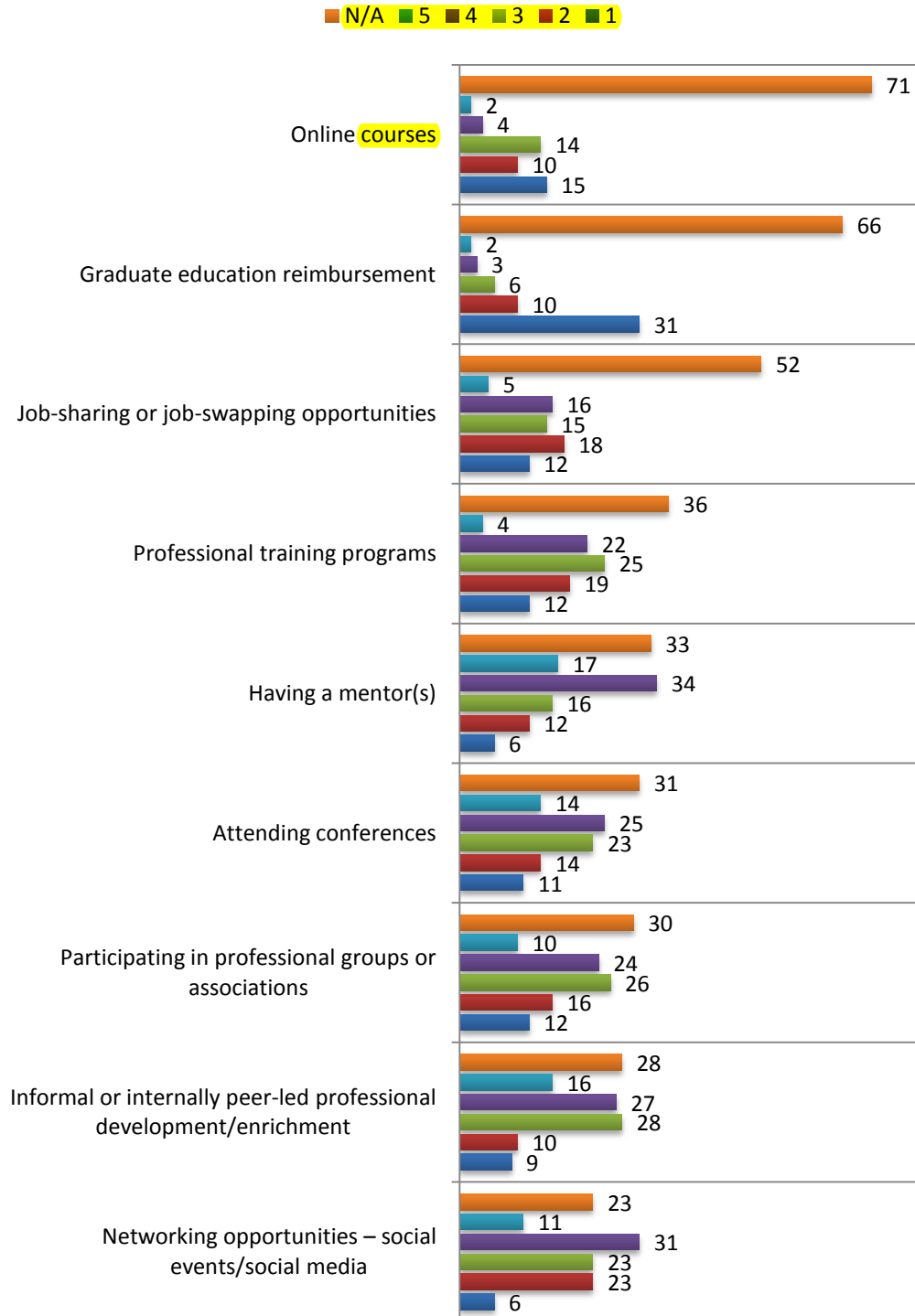


Millennials were also asked what they believed their employer could do to make it easier for them to participate in professional development opportunities.

The highest ranked desire was Millennials wanting their employers to help

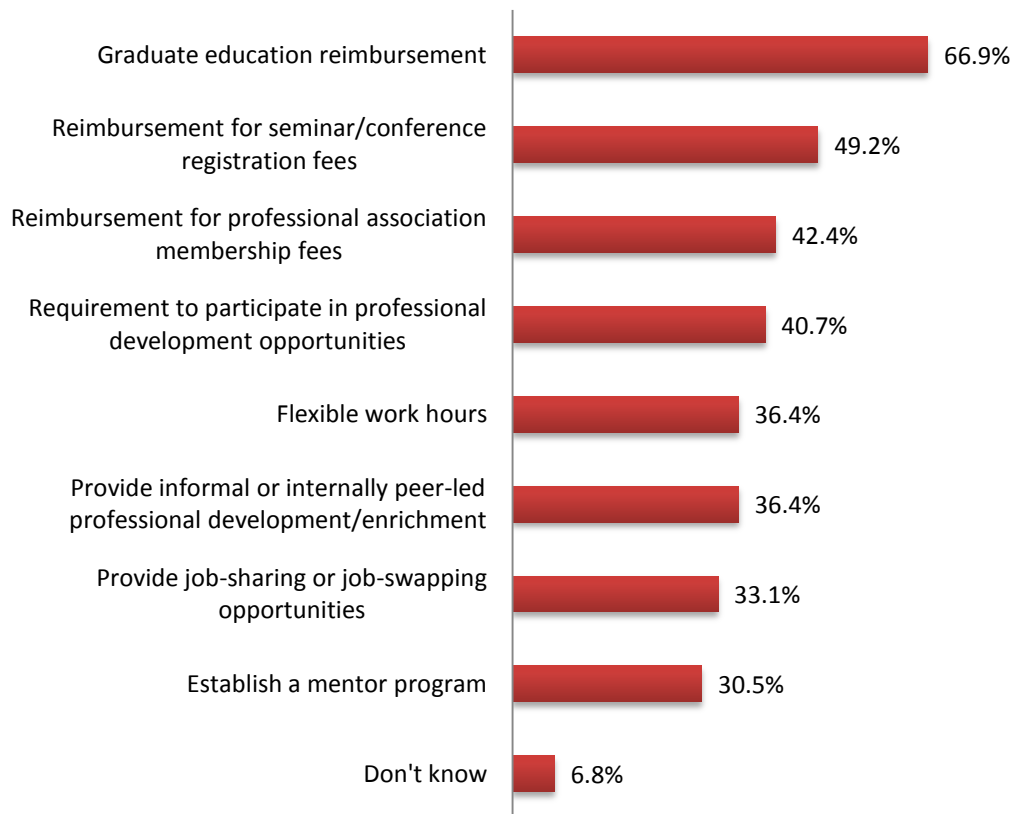


**Figure 5: Millennials Survey - How satisfied are you with the following professional development opportunities offered to you at your institution: If these opportunities are NOT AVAILABLE to you, please select N/A (Question 8) (1 = LEAST satisfied and 5 =**



reimburse them to attend graduate school at 66.9% (Figure 6). This figure can be compared to data from the CompassPoint (2008) survey *Ready to Lead?* which found that 67% of young nonprofit workers feel that they need an advanced degree in order to advance in their careers (Cornelius, Corvington, & Ruesga, 2008). According to the *NonProfit Times*, an increasing number of nonprofit organizations are supporting continuing education of its managers and employees. A 2007 survey found that “of 488 surveys returned, 270, or about 55 percent, responded that they offer professional development/education or tuition reimbursement as a benefit. This is an increase from 2006 when roughly 50

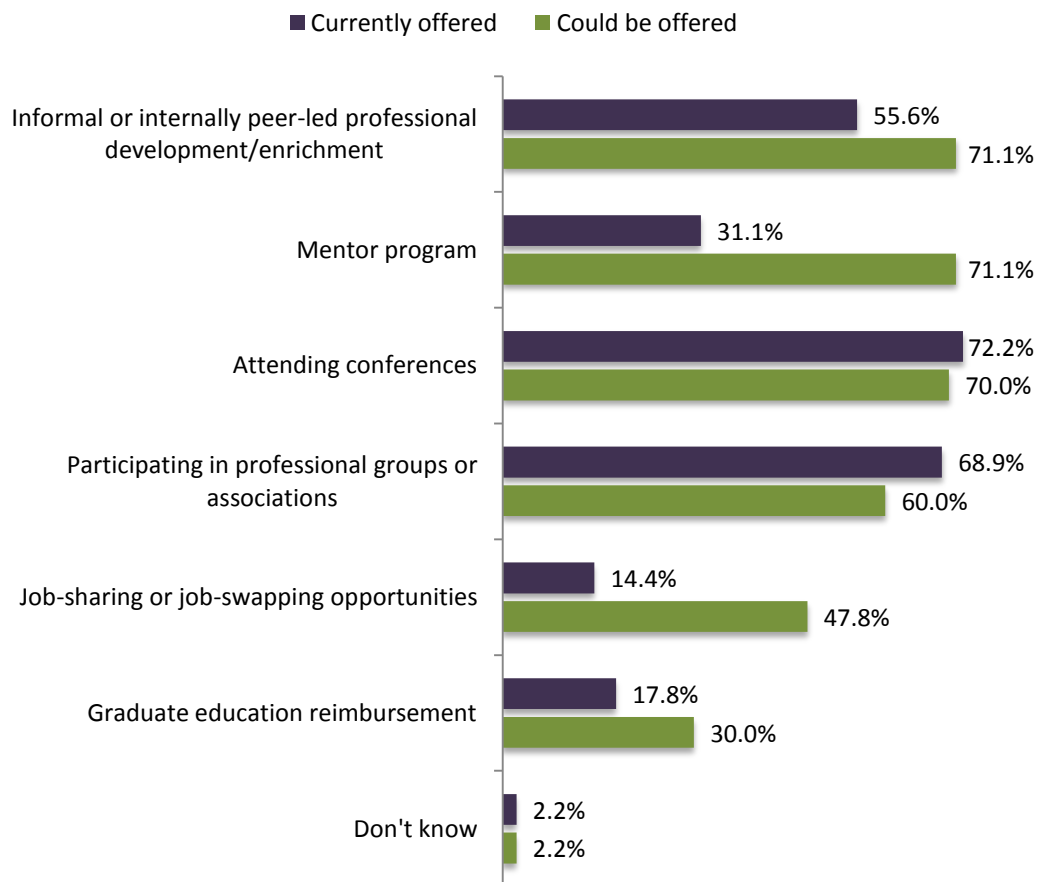
**Figure 6: Millennials Survey - How could your employer make it easier for you to participate in professional development opportunities? (Select all that apply) (Question 9)**



percent of respondents reported giving such benefits” (McNamara, 2007).

To gain the perspective of what types of professional development management feels is possible for their institutions to provide to Millennials, directors were asked what types of opportunities are currently offered (Appendix B, Question 8), and what could be realistically implemented or are being implemented (Appendix B, Question 9) at their institutions. Figure 7 compares the data of the response to these two questions to show what opportunities directors believe could be implemented in the future versus what they say is

**Figure 7: Management Survey - Professional development opportunities currently offered or could be offered at institutions to YMPs (Question 8 & 9 comparison)**



already offered. Not all of the professional development activities in questions 8 and 9 were identical, so figure 7 only compares the categories that were asked in both questions. Findings to note include that 71.1% of directors indicated that they could realistically “establish a mentor program” while only 30% indicated they could offer “graduate education reimbursement.” Also of note: most indicated that they do offer something. Most common professional development that directors said is offered include “attending conferences” (72.2%), “participating in professional groups or associations” (68.9%), and “informal or internally peer-led professional development/enrichment” (55.6%) (Figure 7).

### **Obstacles to Career Advancement in the Science Center/Museum Field**

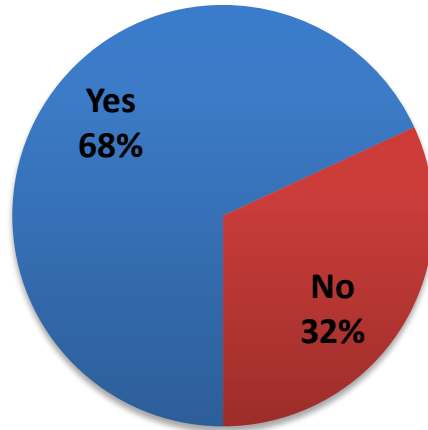
YMPs and directors both believe there currently are inherent obstacles to career advancement in the science center/museum profession. For Millennials, 68.1% responded “yes” while 73.3% of directors responded “yes” (Figure 8). Millennials rated the options “inadequate/limited open positions” (4.02 ) and “a lack of clear advancement paths” (3.87) as the largest obstacles to their career advancement (Figure 9). Directors also ranked these as the top two obstacles (4.51 and 3.87 respectively).

### **Science Center/Museum Profession Career Outlook**

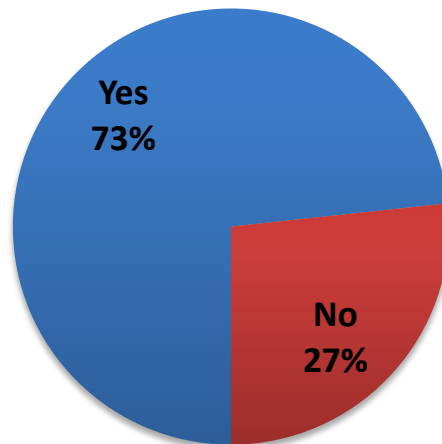
In the career outlook section of the survey, 87.6% of Millennials reported that they felt it was “likely” (41.6%) or “very likely” (46%) that they would need to take a position outside of their current organization in order to advance their career (Figure 10). An even higher percentage (91%) of directors responded that it was “likely” (41.6%) or “very likely” (49.4%) that YMPs on their staff would

**Figure 8: Percentage of Millennials and directors who believe there are inherent obstacles to career advancement of YMPs in the science museum profession at their institution**

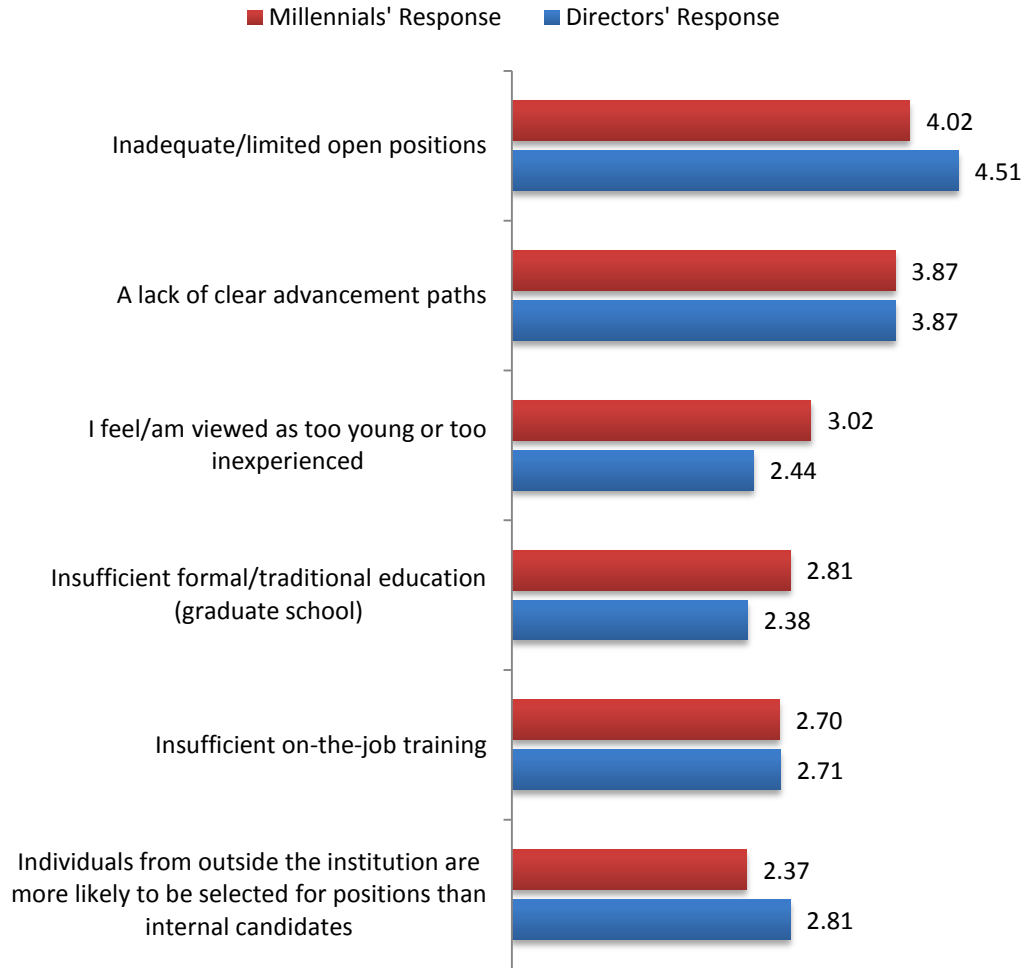
**Millennials' Response:**



**Directors' Response:**

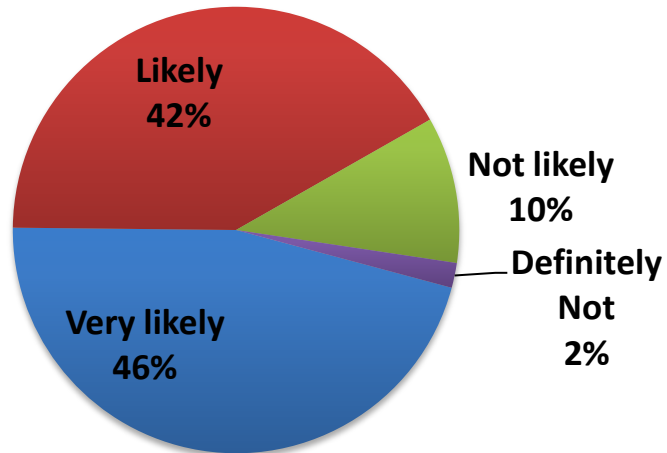


**Figure 9: How would you rate these potential obstacles to YMPs career advancement in the science museum profession at your institution (if you answered yes, there are obstacles to the career advancement of YMPs)? (1 = NOT an obstacle and 5 = VERY MUCH an obstacle)**

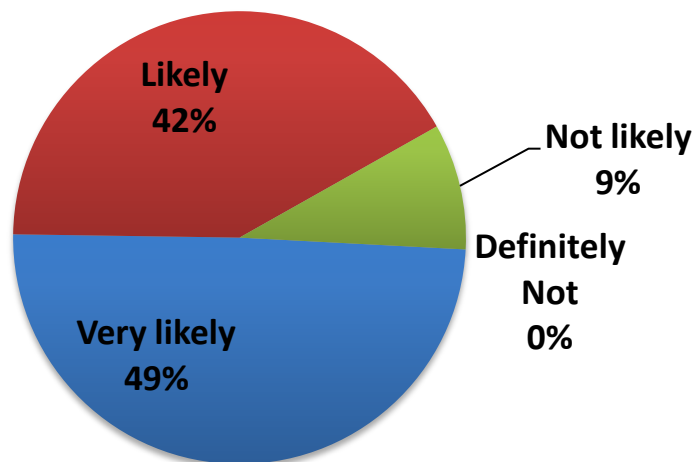


**Figure 10: Do you feel that you/Millennials will need to take a position outside of your/their current organization in order advance in your/their career?**

**Millennials' Response:**



**Directors' Response**

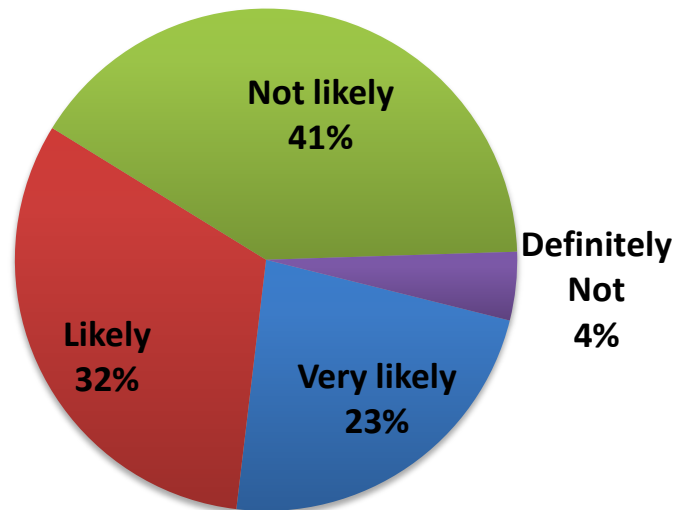


have to take positions outside their organizations to advance (Figure 10). These figures are significantly higher than the results of the CompassPoint (2008) survey *Ready to Lead?* which found that 55% of young nonprofit workers felt they had to leave their current organization to advance (Cornelius, Corvington, & Ruesga, 2008).

While a majority of Millennials felt the need to leave their current organization to advance, survey results showed that a majority do desire management/leadership positions at a science center/museum, with 13.3% currently in those types of positions and 73.4% interested for the future (38.9% “interested” and 34.5% “very interested”). While a majority of Millennials indicated an interest in management/leadership positions, fewer respondents, 41.5% (32.7% “interested” and 8.8% “very interested”) indicated an interest in being the executive director of a science center/museum. As another indicator of the future prospects of YMPs in the field, Millennials were asked to rate the likelihood of whether they will seek their next position in a nonprofit science museum. The results indicated that nearly half (45.1%) of respondents feel that it is “not likely” (40.7%) or “definitely not” (4.4%) likely that their next position will be at a nonprofit science museum (Figure 11). Similarly, when Millennials were asked to rate the likelihood that they will seek their next position at the museum in which they currently work, results were also split down the middle with 48.7% responded “not likely” (42.5%) and “definitely not” (6.2%). Additionally, Millennials were asked to rate the likelihood of seeking a position in a for-profit organization that incorporates socially responsible business practices.



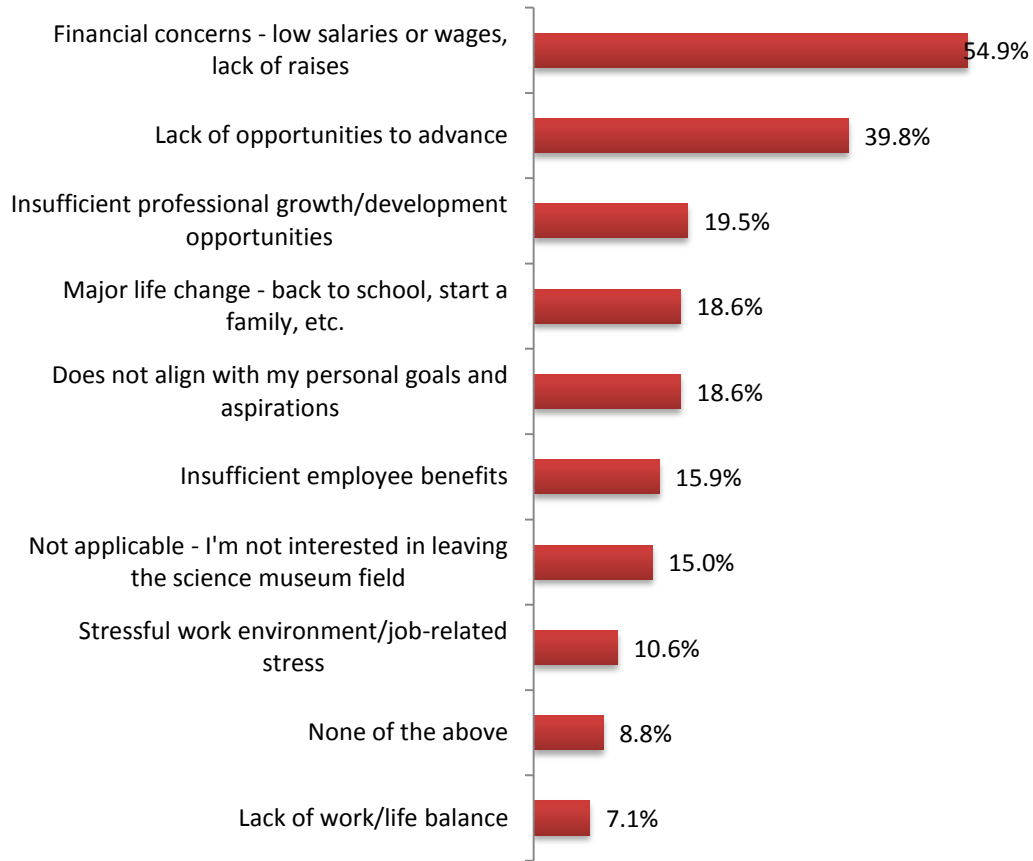
**Figure 11: Millennials Survey - What would you rate the likelihood that you will seek your next position in a nonprofit science museum? (Question 18)**



A majority, 74.3%, responded that they were “likely” (47.8%) or “very likely” (26.5%) to seek a position at this type of organization.

To better understand what might be causing Millennials to consider employment outside of the science center/museum field, YMPs were asked what reason best described why they might do so. Two reasons overwhelmingly stood out: “financial concerns – low salaries or wages, lack of raises” (54.9%) and “lack of opportunities to advance” (39.8%) (Figure 12). Table 1 show that this data aligns with results found in similar surveys indicating the reasons why young *nonprofit* workers would consider leaving the field (Solomon & Sandahl, 2007; Cornelius, Corvington, & Ruesga, 2008). While the top reasons for leaving align with the other surveys, the results from my research reveal that a smaller percentage of YMPs than nonprofit workers feel this way. Also of note, only 15%

**Figure 12: Millennials Survey - If you are considering seeking employment outside the science museum field, which statements best describe why (Select all that apply) (Question 22)**



of Millennials responded “not applicable – I’m not interested in leaving” when asked “if you are considering seeking employment outside the science museum field, which statements best describe why” (Figure 12). This indicates that 85% of Millennials surveyed are considering leaving the field.

**Table 1: Survey comparison of reasons stated for leaving the nonprofit or science center/museum field**

	YNPN	Ready to Lead?	This Survey
Low wages, salary, financial concerns	82%	64%	54.90%
Lack of career advancement	69%	no data	39.80%
Job-related stress	68%	no data	10.60%

## **Defining Career Advancement**

Each survey concluded with open-ended questions. To analyze these responses, I counted specific words or themes to determine how many times they were mentioned. The first question was “how would you define career advancement?” Sixty-one Millennials and 54 directors provided answers. Results were similar for both the Millennials and directors. The phrases mentioned the most in association with the definition of career advancement were “increased responsibilities” and “increased compensation.” These two phrases were followed by “mastery or increased use of skills.” Millennials also placed high importance on “opportunities for learning,” “the ability to fulfill personal career goals,” and “positions that ‘move up’ or into leadership and management roles.”

## **Millennials’ Contributions to Science Centers/Museums**

The second open-ended question was “what do you feel is the most important contributions of Millennials to science museums?” Fifty-four Millennials and 51 directors provided answers. Again, similar ideas emerged for both groups. Topping the list for both was the idea that Millennials bring “fresh, new ideas, and perspectives.” Both groups also felt that Millennials bring “energy,” as well as “a comfort with and knowledge of new computer-related technologies and social media.”

The final open-ended question was “is there anything else you would like to share?” To view these responses and other open-ended responses see Appendix A questions 38-40 and Appendix B questions 25-27. These two responses best reflect the spirit of these responses from Millennials: “One of the

biggest problems is lack of resources to give pay increases to the truly deserving employees who could be important for the future of the museum. This is causing these individuals to go to ‘for profit’ institutions or leave the field entirely so they can even afford the basics of life;” and “Professional development, advancement, and the ability to seek out new positions at a science museum is critical to keeping Millennials.” These two responses reflect the varied nature of responses from directors: “Young people are hired because they are seen as cheap and willing to take any job. Long-term development is seen as a cost that contributes nothing to the current quarter’s revenue;” and “Sometimes I do think that young museum professionals think they are ready for a new position when they actually need more experience. I’ve seen young professionals believe they are ready for management positions that they simply do not have the chops for yet. Some management positions simply require actual years of on-the-job work. Knowledge that comes from a degree program is not enough. Having said that, I do think that museums need to do more to provide the mentorships, scaffolding, and direction to young professionals so that they CAN acquire the skills and experiences needed. Keeping a young professional in the same position for years and years on end without guidance is not the answer.”

## **Interviews**

My ten interviews provided a deeper understanding of the specific motivations and experiences of Millennials currently seeking careers in the science center/museums field. The goal of these interviews was to use the examples and experiences provided by interviewees to help inform best practices

for other science centers/museums seeking to make the most of this emerging segment of the workforce.

Ten individuals from three science centers were interviewed including the Executive Director and three Millennial staff members from the Exploratorium in San Francisco, California; the President/CEO and three Millennials from the Oregon Museum of Science and Industry (OMSI) in Portland, Oregon; and the President/CEO and one Millennial from Sci-Port: Louisiana's Science Center (Sci-Port) in Shreveport, Louisiana. Interviews were conducted in person and via telephone. For a list of individuals interviewed for this project, see Appendix D.

The Millennials interviewed were born between the years of 1980 and 1985, had between two and eight years experience working in museums, and currently worked in a range of areas including education, outreach, administration, and visitor research and evaluation. All of the Millennials hold a bachelor's degree and one interviewee was currently pursuing a doctorate. To gain the perspective of Millennials as well as those who hire and manage them, the same set of questions was posed to the YMPs and the executive directors (Appendix E). Like my surveys, the questions were broken into these main sections: attracting, engaging, and retaining Millennials; career advancement perspectives; and Millennials' contributions to the field.

### **Science Centers/Museums Attracting Young Museum Professionals**

Interviewees all agreed that science centers/museums have very little difficulty attracting Millennials to their institutions. As the executive director of the Exploratorium, Dennis Bartels, put it, "They find us. We don't find them. By

just being ourselves we get incredibly bright people” (personal communication, February 15, 2011). When asked specifically what might attract or motivate Millennials to pursue positions at particular institutions or to the science center field in general, three themes emerged; 1) the perceived social “prestige” of working at a science center/museum; 2) a prior meaningful personal experience with the institution or a similar organization; and 3) the ability of work at a science center/museum to fulfill the altruistic desires of Millennials.

Several of the Millennials interviewed described the “prestige” of working at a science center/museum as a contributing factor in their decision to seek employment at their respective institutions. By “prestige,” they meant that others in the community, peers, friends, and family expressed a sense of envy and support that the YMPs “gets to work” for an institution with such a positive reputation. Chris Koenig, a project manager at the Exploratorium, speculated that many YMPs are drawn by the reputation of the Exploratorium as a well-known cultural institution. Koenig feels that working for the world-renowned Exploratorium has a similar level of status, for a nonprofit, as working for a for-profit Fortune 500 company (personal communication, February 17, 2011). Tim Hecox, an outreach educator at OMSI, explained that part of the prestige of working at a science center/museum has to do with the fact people associate science centers with places they go to have fun. They, therefore, assume that it must be a fun place to work, and express a desire to work in a similar enjoyable environment (personal communication, February 25, 2011). Another aspect of prestige pertains to the admiration staff receive from the local community for the

work they do. Ann Fumarolo, the President /CEO of Sci-Port, talked about how staff members are received like “rock stars” when they perform outreach in the surrounding community (personal communication, February 23, 2011). Overall, the status of working at a science center/museum evokes a sense of pride in Millennials, whether it is from admiration for working at an organization that is doing worthwhile work in the community or the fortune of working at a place that is perceived as “fun” and “cool.”

Several individuals interviewed described their personal experiences as children as drawing them to their current institution. Sarah Koik, the Public Programs Coordinator at the Exploratorium, said, “I grew up with the Exploratorium. I visited as a child. When a job opened up [at the Exploratorium], I *had* to apply” (personal communication, February 13, 2011). Elizabeth Dannen said, “my dream job was at OMSI, I came as a kid” (personal communication, February 25, 2011). Chris Koenig, “I used to come [to the Exploratorium] as a kid, it was always a fun, wholesome experience” (personal communication, February 17, 2011). While Millennials told stories of visiting science centers as children, Nancy Stueber, the President/CEO of OMSI, discussed why these visits created positive emotional connections. “There are landmark experiences that can happen in this [science center] environment. While schools measure benchmarks, we can provide landmarks that are so evocative or emotionally powerful that people make cognitive connections that help them make sense of other things in the world,” (personal communication, February 28, 2011). Stueber explains that these experiences may be momentary, but may still affect people 20 years later.

As she puts it, these positive experiences are part of the brand of the institutions and make science centers a desirable place to work for young people.

Of the seven Millennials interviewed, five directly correlated their desire to work at a science center with their passion for science and education, as well as their altruistic desire to give back to the community through their work. From staff working directly with the public as educators, like Greg Andrews at Sci-Port and Dannen at OMSI, to staff working internally in administration and research, like Exploratorium project managers Koenig and Lola Aleru and Scott Pattison conducting visitor research at OMSI, this altruistic desire was the same (G. Andrews, personal communication, March 8, 2011; L. Aleru, personal communication, February 14, 2011; C. Koenig, personal communication, February 17, 2011; E. Dannen & S. Pattison, personal communication, February 25, 2011). The executive directors also recognized this altruistic characteristic of the YMPs at their institutions. Bartels explained that since the Exploratorium is a cause-based, mission-driven organization seeking to “create a culture of learning through innovative environments, programs, and tools that help people nurture their curiosity about the world around them” (Exploratorium, 2010) it attracts cause-based young employees. Bartels feels YMPs have a desire to create meaning and bring personal values to their work lives. He feels this creates an “interesting blurring of the personal and professional lives of Millennials.” He witnesses this “blurring” in the flexible “kinds of hours YMPs keep,” working late or on weekends if desired and needed. Bartels sees YMPs choice to work nontraditional hours as an example of how YMPs blend fulfillment in their



personal and professional lives and don't compartmentalize those two like older generations used to (personal communication, February 15, 2011).

### **Engagement of Science Centers/Museums Positions**

Shifting from attracting to engaging YMPs, interviewees were next asked what keeps YMPs content and engaged in their positions. Interviewees cited specific aspects and characteristics of science center/museum work as being important aspects of job satisfaction, such as the ability to work on a variety of projects, opportunities for autonomy, and the social aspect of the work environment. Science centers/museums were described as workplaces that continually allow employees to participate in a variety of projects and work with a variety of individuals from different departments. For example, when traveling across Oregon delivering science programs to schools, each day is different for Hecox. While at OMSI headquarters in Portland, Hecox is involved in inter-departmental projects that fall outside of his job description responsibilities, such as working with the museum's diversity and rewards and recognition committees (personal communication, February 25, 2011). Koenig discussed how in his work at the Exploratorium he is constantly given new tasks that allow him to stretch his professional skills (personal communication, February 17, 2011). Executive directors also reflected on the diverse nature of science center responsibilities offered to YMPs. Bartels explained that science centers and their changing exhibit and program content allows these institutions to constantly recreate themselves (personal communication, February 15, 2011). This constant renewal provides opportunities for YMPs to be continuously stimulated by new projects.

Interviewees also noted the autonomy they are given in taking on new responsibilities. Bartels understands that “this generation wants to produce and take on responsibility much earlier on” (personal communication, February 15, 2011) and Fumarolo explains that due to the nature of science center programming and variety of activities, YMPs are provided the “ability to have a lot of responsibility fairly quickly in their career” (personal communication, February 23, 2011). Pattison equated new responsibilities with personal professional growth, “I have a lot of flexibility here [at OMSI] to grow in the way that I want to grow, and to explore what I’m interested in.” Pattison went on to explain that since management supports staff in pursuing ideas, staff feel ownership in the projects in which they are involved (personal communication, February 25, 2011).

The social aspect of the work environment is important to YMPs. Hecox finds appealing the organizational culture at OMSI and being surrounded by people who are all working on the “same great cause” (personal communication, February 25, 2011). Similarly, Koenig enjoys his coworkers and respects the passion they have for the work they do (personal communication, February 17, 2011).

The executive directors provided examples of ways they strive to motivate YMPs. Fumarolo discussed the importance of recognizing and rewarding employees in ways such as a staff-voted employee-of-the-year. The recipient is awarded \$200 paid for out-of-pocket by Fumarolo (personal communication, May 3, 2011). Fumarolo also discussed how management should consider individual

needs of staff as a way to keep them content and engaged. For example, she recognizes that younger staff members desire flexibility in their work schedules. At Sci-Port, if staff prefers, they may work four, 10 hour days as opposed to the typical five-day work week. (personal communication, February 23, 2011). Stueber discussed OMSI's desire to be transparent and inclusive in its decision-making processes as a means of keeping staff engaged. She cited a recent review of staff benefits as an example in which a staff-led committee was organized to collect input on current and desired benefit package options (personal communication, February 28, 2011).

### **Professional Development at Science Centers/Museums**

A wide range of local and national conferences were deemed important for professional growth, including conferences for the Association of Science-Technology Centers, Western Museums Association, American Association of Museums, Visitor Studies Association, National Association of Interpreters, and the Association of Children's Museums. Koik feels that conferences help attendees look outside of their organizations as a way to reflect on the organization's practices. However, while she did not speculate on why, she felt that she and other young staff members have fewer opportunities to attend conferences (personal communication, February 13, 2011).

Internally created and led professional development opportunities also stood out as important factors in the career growth of YMPs. Exploratorium staff members praised its extensive internally led brown bag lunches and talks that are generally well attended and cover a range of science and art topics, as well as

subjects such as grant writing and project management. Koik feels that “brown bags keep our brains active and encourage active learning” (personal communication, February 13, 2011). Stueber discussed an internally-led academy offered at OMSI that provided participants with certificates upon completion. The formal program ended shortly after the 2008 recession began, but peer training continues in other ways. The OMSI Academy was described as a two-track, "management, supervision, and leadership" and "core competencies" series of peer-led workshops on topics such as the history and foundations of nonprofits, planning and organization, and science inquiry. Classes were usually a couple days long for one or two hours during the work day, taught by OMSI employees, and employees attended voluntarily (N. Steuber, personal communication, February 28, 2011; S. Pattison, personal communication, May 11, 2011).

Other professional development opportunities mentioned included online courses, webinar series, and paid membership dues in professional associations.

Interviewees also discussed professional development opportunities that they felt could be important to staff career development, but are not currently offered at their institutions. Individuals at all three institutions felt that an institution-wide system of mentorship would contribute to their growth, as well as to the health of the organization. Koik believes that managers “should think of themselves not just as managers, but as mentors too” (personal communication, February 13, 2011). Hecox felt mentoring should be voluntary and informal, but highly encouraged by management for individuals at all levels of the institution, as his experiences working with upper management have helped him improve his

communication and project management skills and have provided networking opportunities. He also noted that these experiences made him “feel more like a museum professional” (personal communication, February 25, 2011).

While no interviewee cited a current institution-wide example of mentoring, Aleru did mention the Exploratorium’s Field Trip Explainers as a model program that includes mentoring (personal communication, February 14, 2011). According to the Exploratorium’s website, Explainers are young adult educators who primarily provide support for visiting school groups on weekday mornings. The program has two goals “first, to enhance the experiences of [Exploratorium’s] visitors; and secondly, to provide training in communication, inquiry-based learning, and leadership, and to deepen the science knowledge of the Explainers themselves” (Exploratorium About Us, 2011).

To understand the mentoring component of this program, I interviewed Anne Richardson, Associate Director of the Field Trip Explainer Program. Richardson explained that there are 16 part-time (with benefits) Field Trip Explainers in the program for a maximum of three years each. All Explainers begin in the fall with 2-3 weeks of introductory training, followed by 2-3 weeks of 1<sup>st</sup> year Explainers shadowing and partnering with more experienced Explainers performing visitor orientation and demonstrations. Throughout the program Explainers are mentored by each other as well as by Exploratorium staff members through daily trainings. Mentoring also occurs through peer-observation of Explainers leading activities with visitors and sharing of experiences in weekly meetings. Additionally, informal mentor-mentee

relationships occur organically between Explainers and Exploratorium staff based on individual circumstance and interest. For instance, an explainer who expresses an interest in biology may “hang around” the staff biologists or be introduced by Richardson. In this type of relationship, Explainers are introduced to the work of the mentor and assist them with activities during work hours or after work (personal communication, May 7, 2011).

Nearly all of the Millennials interviewed expressed an interest in pursuing a graduate degree, which was seen by some as a necessity to advancing in the science center/museum field (S. Pattison, personal communication, February 25, 2011; C. Koenig, personal communication, February 17, 2011), yet several expressed confusion about what type of degree would best suit their career goals (C. Koenig, personal communication, February 17, 2011; S. Koik, personal communication, February 13, 2011). Echoing a common finding in my survey, Pattison, who is currently pursuing a doctorate in science education, wishes his museum would provide graduate education reimbursement or cost-sharing, as continued learning can benefit both the employee and the museum (personal communication, February 25, 2011).

Several Millennials, as well as executive directors, made suggestions for how to increase staff professional development opportunities. Bartels expressed a desire to create a more structured professional development program at the Exploratorium that would include orientations, apprenticeships, mentorships, and a more systematic way of spotting and identifying talent within the organization (personal communication, February 15, 2011). Fumarolo explained, “I will not

cut it [professional development] out of the budget,” regardless of the current tough economic and funding climate (personal communication, February 23, 2011). Aleru explained that by putting professional development into her yearly goals, for example, her manager is also able to give her constructive feedback and help her along her career path (personal communication, February 14, 2011). Koenig explained that an important part of staff development is the freedom to pick those opportunities that are personally important and be given the time to pursue those opportunities during work hours, with management consent and encouragement (personal communication, February 17, 2011).

### **Science Centers/Museums Retaining Young Museum Professionals**

In discussing the retention of Millennials, two perspectives emerged: fostering appealing workplace and job responsibilities and the inevitability that Millennials will leave their institutions. The qualities of science center/museum work that Millennials attributed to their retention were similar to the qualities that attracted them to the field. For example, the fact that institution’s values align with those of the YMPs was mentioned several times. Hecox correlated his maintained tenure with opportunities to help the community (personal communication, February 25, 2011). Dannen mentioned that OMSI placing value on environmental sustainability in its internal practices and external programming was a factor to her job satisfaction (personal communication, February 25, 2011).

Growth opportunities and skill-building were also cited as key factors in the retention of Millennials. Koik explained that she desires a career in the science center/museum field because in almost all positions she has held, she is

given the ability to “try out new things” and work with different kinds of people and various departments (personal communication, February 13, 2011).

Similarly, Hecox mentioned that “room to grow” and the ability to work on different projects while collaborating across departments as reasons he feels compelled to stay in the field (personal communication, February 25, 2011).

Aleru explained, “if I feel like I am no longer gaining new skill sets, learning, or being mentored, I get bored and I will leave” (personal communication, February 14, 2011). Out of the Millennials interviewed, Pattison had been at his organization the longest: eight years. During his tenure at OMSI he has worked at the front desk, as an usher, as a museum floor educator, in exhibit research and development, and in evaluation and visitor studies. He explained “I wouldn’t have been here that long if I hadn’t done all those jumps. A formalized way for interested staff to move around would be appealing [to Millennials]” (personal communication, February 25, 2011).

On the other side of retention, as Aleru alluded to, is the undercurrent that Millennials will inevitably leave. Reinforcing the stereotype described in the literature review that Millennials lack institutional loyalty, Koik feels that “the grass is always greener to us. There isn’t anything any field can do to make us stay” (personal communication, February 13, 2011). Both Fumarolo and Stueber embrace the idea that Millennials will move on, but feel that it is their institution’s responsibility to continue to develop staff’s skills to benefit not only the employee, but the health of the institution and the community. Fumarolo recognizes that at her organization there are not growth enough opportunities, so



she feels it is her duty to train people for their next higher-paying job elsewhere. “Even if they don’t stay [at Sci-Port], most of them are going to stay in this community, so we are making Northwest Louisiana better by providing training.” She also encourages what she refers to as “repeaters,” which are individuals that leave the institution to gain experience and return later to positions of increased responsibility and pay (personal communication, February 23, 2011).

While these museums are preparing Millennials to move on, little is being done to prepare internally for these so-called inevitable transitions. “There is a lot of institutional knowledge lost that you can feel when people leave” (S. Pattison, personal communication, February 25, 2011). OMSI holds employee orientation and department trainings, but due to the “amorphous skill sets of people in this field, you can’t just replace someone that just has the feel for doing the work” (S. Pattison, personal communication, February 25, 2011). Bartels described the costs of turnover, including the time seeking and training new employees. The learning curve for many positions is sharp and it takes a long time for new staff to become productive. He acknowledges that the Exploratorium could do a better job at orientating new employees (personal communication, February 15, 2011). Fumarolo reiterates this idea by saying that at Sci-Port when people in “lower level positions move on, there are no systems or processes in place to handle those transitions, it is always a mess” (personal communication, February 23, 2011).

## **Obstacles to Career Advancement in the Science Center/Museum Field**

Similar to the survey, interviewees identified obstacles to career advancement in the science center/museum field. Three reasons were consistently expressed: low compensation, structural limitations and too few available positions, and unclear pathways to advancement.

Across the board, from Millennials to executive directors, the consensus is that compensation at science centers/museums is prohibitively low for YMPs seeking long-term careers in the profession. Going against the idea that Millennials are “job-hoppers” who lack organizational loyalty, Hecox said “most young people at OMSI don’t want to move on. They don’t want to job hop. But if you have a kid, family, or a house payment, you just can’t afford to stay here” (personal communication, February 25, 2011). Koik reflected, “I’m on a trajectory and want to work in the museum field, but I do wonder what it would be like to have a job that paid more or if it would be good to work in a for-profit and then come back later” (personal communication, February 13, 2011).

Other reflections on low compensation were mentioned including personal satisfaction and strategies for increasing ones salary. “I know the pay isn’t that great, and that is why the mission of the organization must match my personal goals; otherwise, I wouldn’t work here, because the compensation wouldn’t be enough” (L. Aleru, personal communication, February 14, 2011). “The only way I’ve figured out how to increase pay at OMSI is to jump departments. A lot of us wonder how long we are going to be here because people have to make hard

choices about raising a family on this salary” (S. Pattison, personal communication, February 25, 2011).

From an executive’s perspective, Nancy admits, that it is hard for non-profits to be truly competitive with for-profits concerning compensation. However, she feels “there is a danger in a poverty mentality and thinking that we never can and that we are lesser.” In her view, science centers offer other benefits that are attractive and can pay at the nonprofit market median and still attract really talented people (personal communication, February 28, 2011).

At both OMSI and the Exploratorium, Millennials cited a structural gap between lower level positions and the “next level up” as a factor prohibiting their advancement. All three Millennials interviewed at the Exploratorium described a perceived problem in how the museum structures its management levels (C. Koenig, personal communication, February 17, 2011; S. Koik, personal communication, February 13, 2011; L. Aleru, personal communication, February 14, 2011). They perceive a significant gap in the skill sets, education level, and age of much of the staff in “lower level positions” to those in the “next level up.” Part of the gap problem is that there are no positions available “between these levels” and there is no clear understanding or path to bridge this divide. As Koenig explains, “it will be hard to stay because you get to a certain level and you are trapped, you hit a ceiling” (personal communication, February 17, 2011). The outcome is a feeling that staff must return to graduate school and/or leave the organization to advance in their career.

Millennials interviewed at OMSI described a similar challenge. Pattison explained, “For nearly all departments there is a huge amount of staff being managed by one manager, who is managed by one manager. Unless those people leave...there is nowhere to go” (personal communication, February 25, 2011). The structural limitations and inadequate opportunities to advance are compounded by the problem that many YMPs, as well as executive directors, see no clear pathways to career advancement within their organizations. Bartels recognizes that “If we don’t pay more attention and create structural opportunities for people to grow, they become disenchanting and leave” (personal communication, February 15, 2011).

Speaking about OMSI, Stueber said, “It’s important for [YMPs] to see a path for career advancement, but we are a small organization, so the number of opportunities is limited” (personal communication, February 28, 2010).

Reflecting on her 15 years of experience as an executive director at two U.S. science centers, Fumarolo offered this comment on career advancement: “in this field there are great opportunities for advancement, but you have to be able to move and often out of state” (personal communication, February 23, 2011).

However, Pattison, a Millennial, said, “People say you have to jump museums to move up in this field. That just doesn’t seem like the ultimate solution. I shouldn’t have to move across the country to get a raise, and then move back to Portland to get another one.”

## **Defining Career Advancement**

When Millennials were asked to describe career advancement, traditional ideas of hierarchical “moves up a ladder” were replaced by more individualized experiences based on skill building. Koik explained that traditional advancement ideas do not align with her career goals. “I’m not sure I want to be a manager. The structure at the Exploratorium means that to advance you must manage people and do more administrative work or you have to be an academic with a doctorate degree” (personal communication, February, 13, 2011). Aleru explained that to her, career advancement is about building on skill sets you have and learning new skills, such as leadership skills (personal communication, February, 14, 2011). Hecox put simply it, “career advancement is moving in the direction that each individual person wants to go and you have to show initiative to advance” (personal communication, February, 25, 2011). For Pattison, career advancement included opportunities for higher pay and, along the same vein as a professor at a university, building a unique set of specialized skills that are valued and recognized within the field. Pattison also reflected on the specialized nature of many museum positions, such as exhibit developers, as raising questions about career advancement. He questioned how those specialized skills could be transferred to other positions, and if so, what the next step would be. In acknowledging the unique skills involved in museum work, Pattison remarked that the science center field is lacking a system to recognize people who have been in the field for a long time, but who do not want to go into management. While some may chose to become directors, he pondered incentive for those who

have become experts in their specialties to stay in the field yet not advance in a managerial role (personal communication, February, 25, 2011).

None of the Millennials I interviewed specifically described their personal vision of career advancement to include what the authors of *Museum Administration*, Genoways and Ireland (2003), describe as an inevitable increase in administrative duties. Executive director Stueber also recognized that “if ‘career advancement’ means increase in title or pay, then yes, it usually does mean taking on more administrative work. I resist that because we tend to say that the more people you manage, the more budget you’re responsible for, the more we will pay you and that isn’t always fair” (personal communication, February, 28, 2011). Stueber prefers the idea that career advancement means “gaining the skills to do what you really want to do. Those will be different for different people” (personal communication, February, 28, 2011). However, with the exception of the one example at the Exploratorium, none of the institutions I researched described any current practices in recognizing career advancement opportunities outside of the traditional hierarchical model. Aleru recommended the Exploratorium’s exhibit developers tier system, as one model to address this issue, (personal communication, February 14, 2011). In this system, staff members in the exhibit development department are part of a four “step” system in which they “advance a step” by learning new skills such as the use new machine shop equipment, training and mentoring others, and taking on increased responsibilities in the exhibit-making machine shop. In this way, exhibit developers “advance,” but not necessarily by taking on management, staff

supervisory roles, and/or administrative duties, although those types of duties are part of the higher “steps.” As exhibit developers advance to the next step they also earn a pay increase and job title change, i.e. Exhibit Developer I, Exhibit Developer II (P. Stepahin, personal communication, March 28, 2011). A tier system such as this provides opportunities for growth and engagement.

### **Millennials’ Contributions to Science Centers/Museums**

Interviewees believe a range of attributes, skills, and knowledge possessed by Millennials positively influences the museum field: energy, creativity, new ways of thinking, new ideas on how to reach new audiences or streamline organizational functioning and technological savvy (G. Andrews, personal communication, March 8, 2011; E. Dannen; T. Hecox; S. Pattison, personal communication, February 25, 2011; N. Stueber, personal communication, February 28, 2011).

Koik and Aleru went so far as to reflect on Millennials’ so-called job-hopping nature as being an asset to the field. In their view, job hopping gives employees the ability to bring new perspectives and different ideas, as well as best practices from other organizations (personal communication, February 13, 2011; and February 14, 2011).

Most importantly, interviewees feel that Millennials possess a strong sense of altruism and purpose to institutions. Pattison feels that Millennials have brought an undercurrent of “why we [as an institution] matter” to their workplaces.

## CONCLUSIONS

In the coming decade, a generational shift will occur in the workforce. Traditionalists and many Baby Boomers will retire, paving the way for a shift in leadership. However, there are fewer members of Generation X, the generation following the Baby Boomers. As a result, competition for talent and leadership will increase. Millennials, who are younger than Generation X, are on track to be the largest segment of the workforce by 2020 (Meister & Willyerd, 2010, p. 44). As Baby Boomers retire, it is inevitable that Millennials will increasingly fill leadership and talent positions. Science centers and natural history museums already compete for talent with a wide range of organizations including other nonprofits, academia, the public sector, government agencies, for-profit research and development enterprises and technology fields. Additionally, many for-profit organizations are embracing the idea of social responsibility in their practices and policies. These programs are attractive to young museum professionals (YMPs) currently working in science centers/museums as 74.3% of Millennials surveyed for this project responded that it was “likely” or “very likely” that they would seek a position in a for-profit organization that incorporated socially responsible business practices. As competition for talent increases, this project’s research indicates that if the status quo practices in science centers/museums continue, the field stands to lose much of its emerging talent to sectors or organizations which can offer higher salaries, articulated career trajectories, and opportunities for advancement. Now is the time for science centers and natural history museums to address these issues in order to position themselves as employers of choice.



Through my research I was able to draw conclusions about the overall state of, as well as the obstacles to career advancement for Millennials working at U.S. Association of Science-Technology Centers (ASTC) science center and natural history museum member institutions. Along with these conclusions I determined best practices for attracting, engaging and retaining Millennials.

A key research goal for this project was: “to determine the current key obstacles to YMPs’ career advancement and to provide recommendations to address these issues.” **Executive directors, directors, and YMPs all agree that low compensation and unclear career pathways are inherent obstacles to advancement and talent retention within the field.** Findings from this project align with similar studies about nonprofits, indicating that these issues are not restricted to ASTC member institutions, but affect the entire nonprofit sector. In the CompassPoint Nonprofit Services’ study *Ready to Lead? Next Generation Leaders Speak Out* (2008) the authors explain that young educated, talented and committed nonprofit employees are eager to move into leadership and management positions; yet find there are structural limitations and a lack of career advancement avenues limiting their leadership opportunities inside nonprofits (p. 16). In the same survey, 64% of respondents expressed financial concerns about committing to a career in the nonprofit sector (p.18).

Further demonstrating the gravity of the potential loss of talent at science center/museums, only 15% of Millennials surveyed for my project explicitly said they are not interested in leaving the field. *This means 85% of young museum professionals surveyed are considering leaving the profession.* This is not the end

of the story; Millennials want to advance at their current organizations and, in fact, 86.7% of those surveyed expressed an interest in holding management and leadership positions. However, a challenge many Millennials face, is a strong uncertainty of whether advancement is possible at their institutions. Eighty-seven percent (87%) of Millennials felt they would need to take a position outside of their current organization to advance their careers. If young museum professionals, and directors alike, feel that Millennials must leave their current organizations in order to advance, what does this mean for the science center/museum field at large? One possibility is that science centers may benefit from the “swap” of talented staff, who in order to advance, accept opportunities with increased responsibilities and pay at other science center/museums. In this scenario, Millennials eager to stay in the field will take positions at other institutions, and bring with them a wealth of knowledge and a range of museum experience.

Data collected for this project also suggests a more damaging option: science centers/museums will lose their most talented emerging staff members to other sectors. Around the same time that Millennials reach a transition-point in their careers, when their experience and knowledge base, and desire to grow becomes potentially the most useful to their organizations, many also reach a stage in their lives when financial concerns become increasingly important. Later than prior generations, around this age, late twenties and early thirties, this generation is choosing to get married, start families, own homes, and invest more in retirement savings (Taylor, Passel, Wang, & Velasco, 2011). Understandably,

this is also the point when Millennials desire promotions that include increased responsibilities and *increased pay*. Many Millennials interviewed proposed that they would have to leave their institutions and/or the sector to seek opportunities that can offer more advancement opportunities and higher salaries when they reach this life stage. Some Millennials, like Koik, have contemplated, “maybe I will go work at a for-profit and then come back [to the field] later” (personal communication, February 13, 2011). Which begs the question, would they *really* return?

In spite of the findings regarding obstacles to career paths, there were also positive findings, especially pertaining to attracting Millennials to the field. Reiterating the view that Millennials are socially conscious (Eisner, 2005), YMPs place great importance on the concept of social responsibility in their personal and professional lives. They are attracted by the ability to fulfill their altruistic desires through science center/museum work. Other important factors drawing Millennials to the field include the perceived social “prestige” of working at a science center/museum, a prior meaningful personal experience with the institution or a similar organization, and the job description and responsibilities. Upholding this combination of qualities attractive to Millennials will ensure that science centers/museums maintain a strong pool of young applicants seeking to connect meaning in their professional lives. Nevertheless, science centers/museums must address internal practices and structures in order to retain this talent.

In some ways science centers/museums are performing well. Yet research indicates opportunities for improvement. Science centers/museums and their constantly changing content and programming provide chances for Millennials early on in their careers to be creative, use their knowledge, build their skills, have autonomy, and work with like-minded individuals. The ability to perform work that is worthwhile to society is another important aspect of job satisfaction which aligns with research about this generation (Eisner, 2005).

However, my survey results show a disconnect between the workplace expectations of Millennials and the institution's success at meeting those needs. Millennials indicated a desire to have a greater impact on their organization by having "management be receptive to exploring new ideas/innovations presented by Millennials," "participate in the decision-making process," and "take initiative and 'run with projects,'" but they rated the management's achievement at meeting those desires low. Directors implied that they are aware of this potential job satisfaction problem and of their lack of success in meeting those desires. This data thus raises the question, why are senior managers unable to meet the workplace needs of YMPs in order to retain them? One possibility is generational differences in workplace expectations, i.e., management does not value the same experiences/expectations as Millennials and, therefore, do not work to meet those needs. A second possibility is that management feels that Millennials are not capable of taking on more. As one surveyed departmental director noted "I am unsatisfied with the leadership here (above me) as there is a feeling that young professionals are 'too young' and not valued." Another director wrote,

“Millennials can be more time-consuming to manage because they prefer frequent check-ins, review of details, and they can be a little reluctant to trust their gut and move forward without dotting every “i” and crossing every “t” with the full approval of the supervisor and other team members.” While these responses in some ways imply that Millennials’ youth or lack of confidence creates roadblocks to advancement, I would argue that the inability to meet the needs of YMPs may be, in part, due to managers’ lack of training or awareness. It is not uncommon to hear of nonprofits promoting employees who excel in lower level positions to management roles without prior related-experience or providing training. This suggests that some managers may lack the necessary supervisory or talent management skills to effectively ensure that staff needs are incorporated into the practices of the organization. Basically, amidst the other issues facing Millennials retention to the field (low salaries, structural challenges, and lack of career paths) the saying, “good people leave bad managers, not bad organizations” may also be a factor. Regardless of what is causing this disconnect, the perception of Millennials and directors is that management is not successful at meeting YMPs workplace expectations.

### **Professional Development at Science Centers/Museums**

Added to the issue of job satisfaction, a majority of Millennials expressed a lack of satisfaction with the professional development offerings at their institutions, if indeed they are offered at all. “Having a mentor” was rated of high importance to 71.2% of respondents yet 56.9% indicated that mentoring was not

available or of low quality. A desire for mentorship by Millennials aligns with research in related fields.

An even larger discrepancy between Millennials' desires and reality pertains to graduate education reimbursement. Sixty-eight percent (68%) of respondents expressed a desire for the employers to provide financial assistance so they could attend graduate school. Yet only 4.2% were satisfied with their institutions' offerings in this area. Millennials are on track to becoming the most educated-oriented generation in U.S. history (Kohut, et al., 2010) and, not surprisingly, many want to attend graduate school. As more and more of the workforce opt for graduate degrees, it is foreseeable that the standard minimum education qualifications for many positions will rise from a bachelors degree to masters degree. One could also conclude that, as in all sectors, as science center/museum employees become more educated, they will be better qualified to perform their duties and institutions will increase their efficiency, performance, and ability to impact the communities they serve. In a *NonProfit Times* article Don Crocker, President and CEO of The Support Center for Nonprofit Management in New York City, addressed the issue of why some organizations resist providing graduate education reimbursement. "Some organizations are not wanting to invest (in employee education) because they are afraid they'll move away from the organization (after getting the degree or certificate). Actually, research indicates they'll stay. We think (organizations) are mistaken in that regard." Crocker continues by explaining that the problem is two-fold, "On one hand, employees can get restless if they detect a lack of support or caring on the

part of the employer, and secondly they relish opportunities to get better at their jobs” (McNamara, 2007). Millennials’ graduate education aspirations present an opportunity for the science center/museum field to further professionalize careers in the sector while expanding their effectiveness, *assuming institutions will be successful at retaining these highly-educated employees.*

## **Retention**

Nearly half the survey respondents (45.1%) feel that it is “not likely” (40.7%) or “definitely not” (4.4%) likely that their next position will be at a nonprofit science center/museum. With only half of the YMPs surveyed expressing a desire for their next position to be in the field, it seems inevitable that many will leave. Executive directors Fumarolo and Stueber feel that many Millennials do not want careers in science center/museums and see their positions as simply ways to make money while they work toward other life goals (A. Fumarolo, personal communication, February 23, 2011; N. Stueber, personal communication, February 28, 2011). The idea that Millennials will inevitably move on is in part related to the perception of the kinds of positions many Millennials currently hold, part-time or on-call in areas such as visitor services or education. These kinds of positions are not viewed as “career-oriented” or sustainable over the long-term. In fact, some directors told me that they make it part of their institution’s philosophy to “train Millennials to leave,” equipping Millennials through on-the-job training and professional development for a higher paying position elsewhere. However, while museums may anticipate high turnover in entry-level positions, many are unprepared for the transitions that

follow their leaving. Creating systems and practices for these changes present an opportunity for science centers/museums to better prepare for staffing transitions and minimize a disruption in frontline services to visitors.

While one view is that Millennials in entry-level positions will inevitably move on, in fact many Millennials interviewed and surveyed expressed a desire to stay in the field. Yet they feel under-valued and uncertain about the long-term prospects of committing to science center/museum careers. Additionally, a lack of open positions prohibits the longevity of some YMPs' tenure. Richardson explained that while many of the Exploratorium's Explainers have been able to find positions in other areas of the museum after one to three years in the program, this is not always the case: "Some [Explainers] have said they would stay working [at the Exploratorium] forever if they could, but there just are not enough openings" (personal communication, May 7, 2011). While the reality is that many YMPs may in fact leave an institution, there is a danger in thinking of this cohort as expendable or unmotivated to move beyond their current roles. Millennials in science centers/museums cited the ability to perform meaningful work, acquire new skills and take part in a variety of projects as aspects of job satisfaction that keep them wanting to stay in the field, yet opportunities to do so are not consistently available to YMPs. Frontline and entry-level positions can serve as "breeding grounds" for potential talent within the institution. For example, myself and several individuals interviewed for this project began in either guest services or as part-time/on-call educators and have struggled to make moves to other positions around our institutions. Science centers/museums are



missing an important opportunity, and likely contributing to the loss of talent within field, by not deliberately identifying and internally cultivating talent from frontline and entry-level employees, as well as creating pathways for these individuals to expand their skills and responsibilities within the institution and beyond their current roles.

Outside of the need to attract and retain talent in the coming years, Millennials bring unique skills, qualities and experience to the workplace that, if utilized effectively, will help science centers stay innovative, competitive and relevant. As Diana Buchbinder, the Exploratorium's Director of Organizational Development explains, the ideas new staff bring to an organization help to break down the often out-dated systems and procedures that inevitably occur over time within an organization (personal communication, November 30, 2010). This fresh perspective and enthusiasm can be used not only to streamline organizational functioning, but to communicate with and reach new audiences. Millennials with their passion for social responsibility and meaningful work bring a strong sense of altruism and purpose to these mission-driven institutions. Millennials are also known for their comfort with and knowledge of new computer-related technologies and social media. This aptitude for new technologies and devices can be used to enhance the effectiveness of all employees. As one survey respondent explained, "Millennials have a vast knowledge of social media and a strong knowledge about our respective industries. We are, for the most part, highly educated, highly motivated and career oriented, but museums do not take advantage of our skills." It is clear that

YMPs are invaluable resources for the science center/museum sector, but the question remains: what can be done today to ensure that this segment of the workforce not only continues to be attracted to positions in the field, but feel they can experience successful and financially viable careers at science centers/museums?

## RECOMMENDATIONS

Now is the time for science museums to determine and implement the best strategies for attracting, engaging, and retaining Millennials to position themselves as employers of choice for entrants into the workforce. Science centers/museums will not be able to rely purely on their appeal in attracting bright, passionate young people. Short and long-term structural changes are needed to ensure that young talent is not lost to other sectors. Below are my recommendations for addressing these opportunities.

### **Recommendations to Executive Directors & Museum Directors:**

#### **1. Provide reasonable compensation**

Offering low wages and long hours is not a viable business or staff retention model. Millennials are eager to make a difference in their communities through meaningful work; however, they find themselves unable to afford careers at the nonprofit median pay rate. Directors must address low compensation practices or the field risks losing much of its top, emerging talent. To address low compensation, science centers/museums should perform salary surveys to determine what the local cost of living and nonprofit median rate is, and then pay staff *above* that rate. Along with raising the salaries, science centers/museums should ensure that all employees receive a yearly cost of living adjustment and work to include annual merit increases.

It is likely that nonprofit salaries may not reach the same level as for-profit organizations anytime soon; however, nonprofits can include other benefits to supplement lower salaries. In addition to health, dental and vision care, science

centers/museums can offer flex-time and flexible workplaces. When possible, allow staff the option to work four, 10 hour days as opposed to the traditional five-day work week or to work schedules outside of the typical 9 am to 5 pm hours. When work responsibilities do not require staff to be physically on-site, allow employees to work remotely, though you may want to consult local laws and insurance regulations to know your rights and responsibilities as an employer in regards to telecommuting.

To further address low compensation, provide financial planning workshops for employees on subjects such as family/childcare arrangements (E. Dannen, personal communication, February 25, 2011), home buying, and retirement investment. Workshops like these could help relieve the stress of lower salaries and equip interested staff with the knowledge of how to fulfill life goals while still committing to careers in the nonprofit sector.

Another area mentioned as a concern for Millennials seeking a career in the field, is the ability to balance the financial and time restraints of being a parent of young children while working at a science center/museum (E. Dannen; S. Pattison, personal communication, February 25, 2011; C. Koenig, personal communication, February 17, 2011). Science centers/museums could join together, possibly including other nonprofits as well, to create subsidized childcare for its employees. Science centers, with their kid-friendly design, vast science curriculum programming, and versatile staff are ideal locations for early childhood activities, pooled home-schooling, parent's support groups, and tutoring. Much like some large for-profit organizations offer on-site childcare,

science centers could utilize their current assets to support staff seeking to balance careers in nonprofits with parenthood by providing on-site childcare.

## **2. Access advancement structures and establish career pathways**

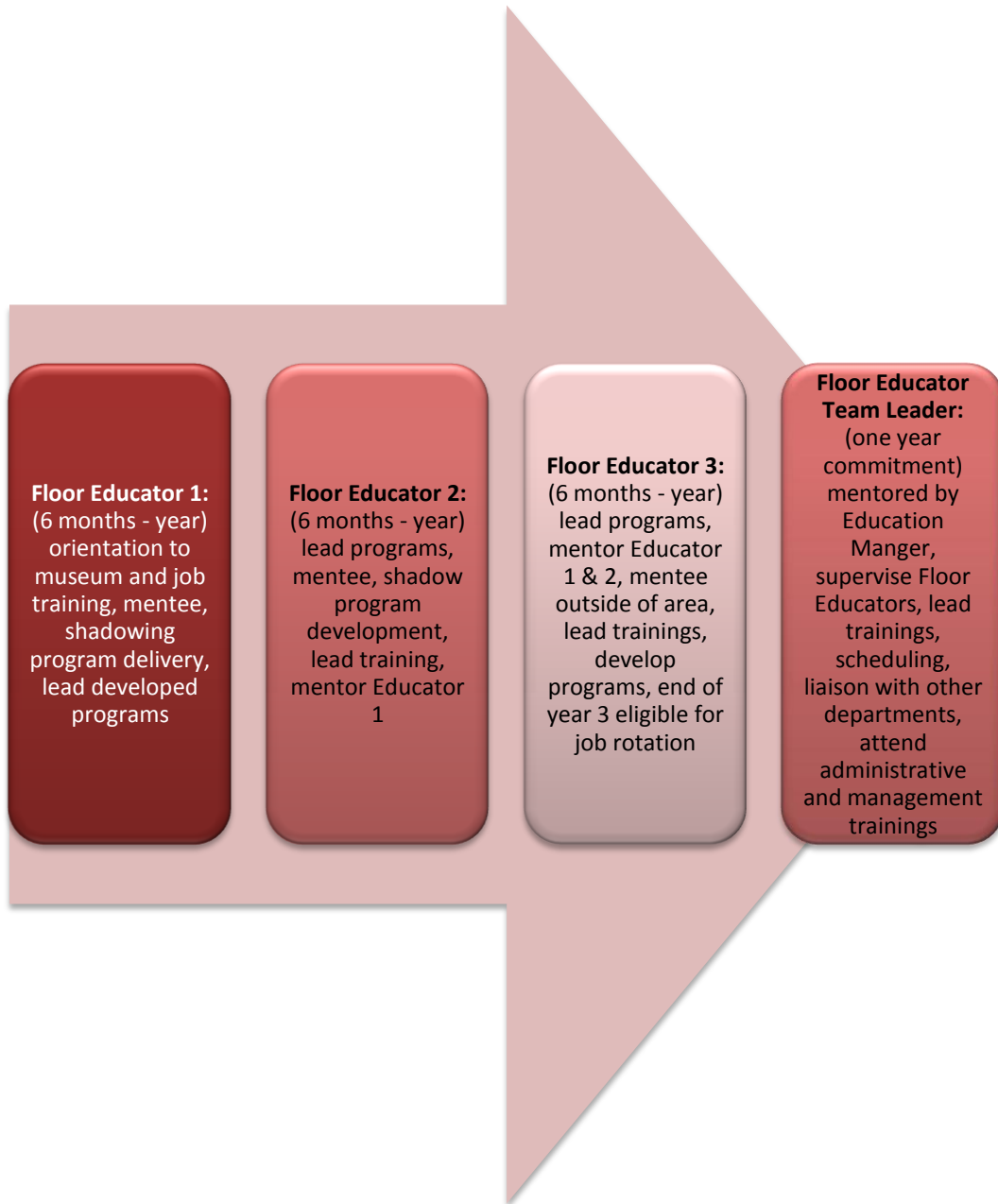
Directors must examine and make necessary changes to current organizational structures to make leadership and career development opportunities available for staff at all levels of the organization. The work environments, organizational structures, power dynamics that Millennials currently encounter in the workplace, were designed by older generations and may not suit today's changing business practices, technological advances, and newest workforce entrants needs. Prior generations had different workplace expectations, experiences, and aspirations that were appropriate then, but do not fit those of the incoming generation of employees. While many YMPs surveyed for this project expressed an interest in management positions, many interviewees described career aspirations that were different to the hierarchical model of career advancement typically found in many institutions. These career aspirations were based more on individualized goals and building of skills and knowledge; yet most organizations' current practices do not cater to this idea of advancement.

Directors need to seek ways of creating growth ladders and pathways. Utilizing components of the tier system used by exhibit developers at the Exploratorium cited by Aleru (personal communication, February 14, 2011) and including qualities described in the Exploratorium's Explainer program (A. Richardson, personal communication, May 7, 2011), I recommend a tier and rotation model to be used by frontline staff. In this system frontline staff, such as,

museum floor educators, outreach educators, and guest services, progress along a clear skill and experience level path for three to four years, with the option to leave the institution, or rotate to other areas of the museum at the end of year three (Figure 13). While every museum has a different staff size, structure, and programming needs, below is an overview of what this system might look like using a science center/museum floor educator position as an example.

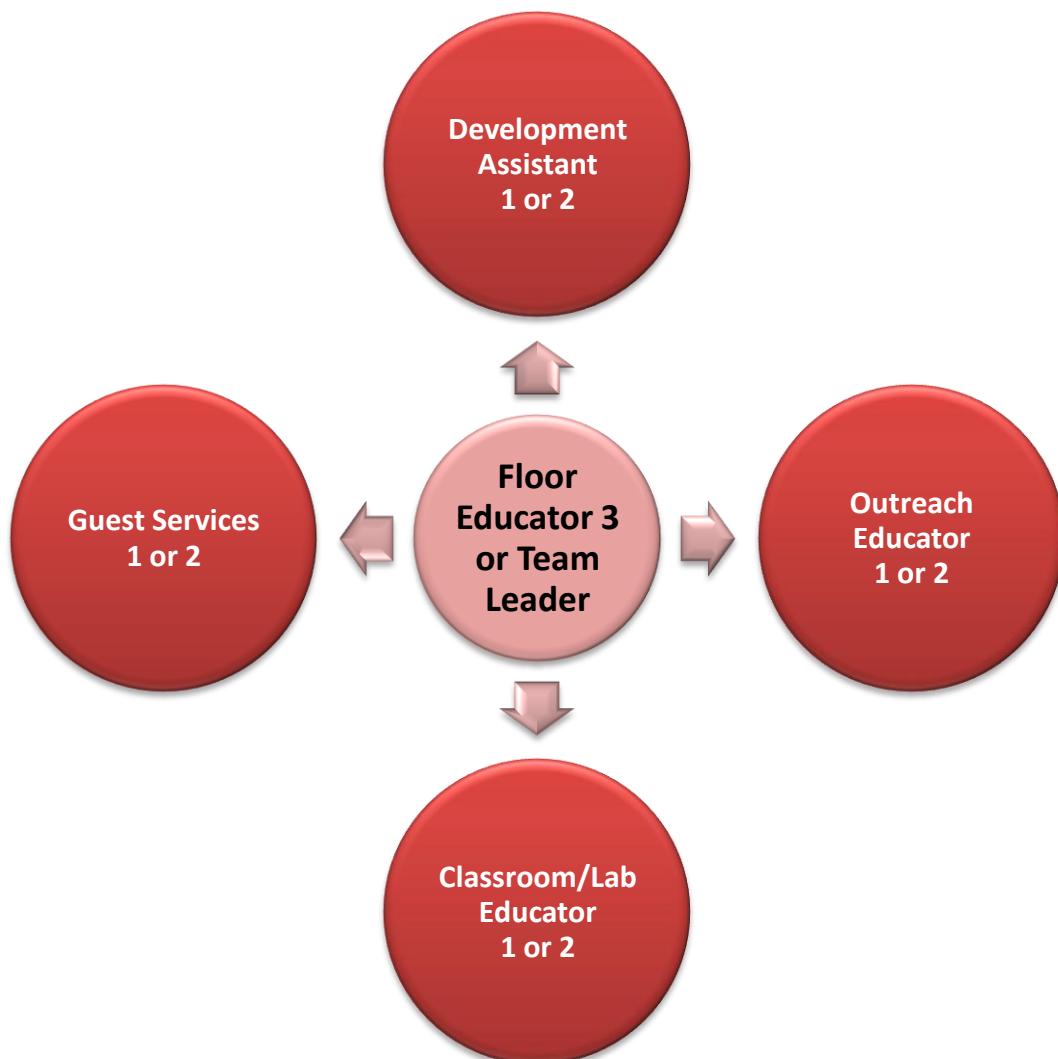
In year one, new employees hired in the fall spend the first few weeks undergoing orientation to the museum and job responsibility training. After museum floor educators are introduced to the organization, they shadow and are mentored by level 2 and 3 floor educators in the delivery of programming to visitors. After a month they begin to lead pre-developed programs while partnering with more experienced floor educators. After the first year and after demonstrating proficiency, floor educators 1 can apply to become a level 2 floor educator based on criteria that are clearly articulated. Floor educator 2 lead programs and continue to mentee, but also peer mentor floor educators 1. They also begin to shadow program development and curriculum design and lead trainings for other floor educators. At the end of year two, again assuming they have demonstrated proficiency, they can apply to become a floor educator 3 based on clearly articulated criteria. Level 3 leads and develops programs, deliver trainings, and peer mentors level 1 and 2 floor educators. At the end of year three, level 3's may choose to "graduate" from the program, apply to a level 1 or 2 position in another frontline area within the museum, such as outreach or classroom/lab educator, or apply to be the floor educator team leader for year

**Figure 13: Example of job title and responsibilities in a tier system for museum floor educators**



(Figure 14). If a level 3 becomes the team leader for a year, they work closely with and are mentored by the Education Manager, supervise floor educators, lead trainings, handle the team scheduling, liaison with other departments, take part in the floor educator hiring process, as well as attend administrative and management skills trainings with other team leaders and managers. In this model, a manager level position is a permanent staff member who handles much of the administrative and budgeting duties, but is also capable of modeling the delivery

**Figure 14: Example of rotation system for frontline staff**



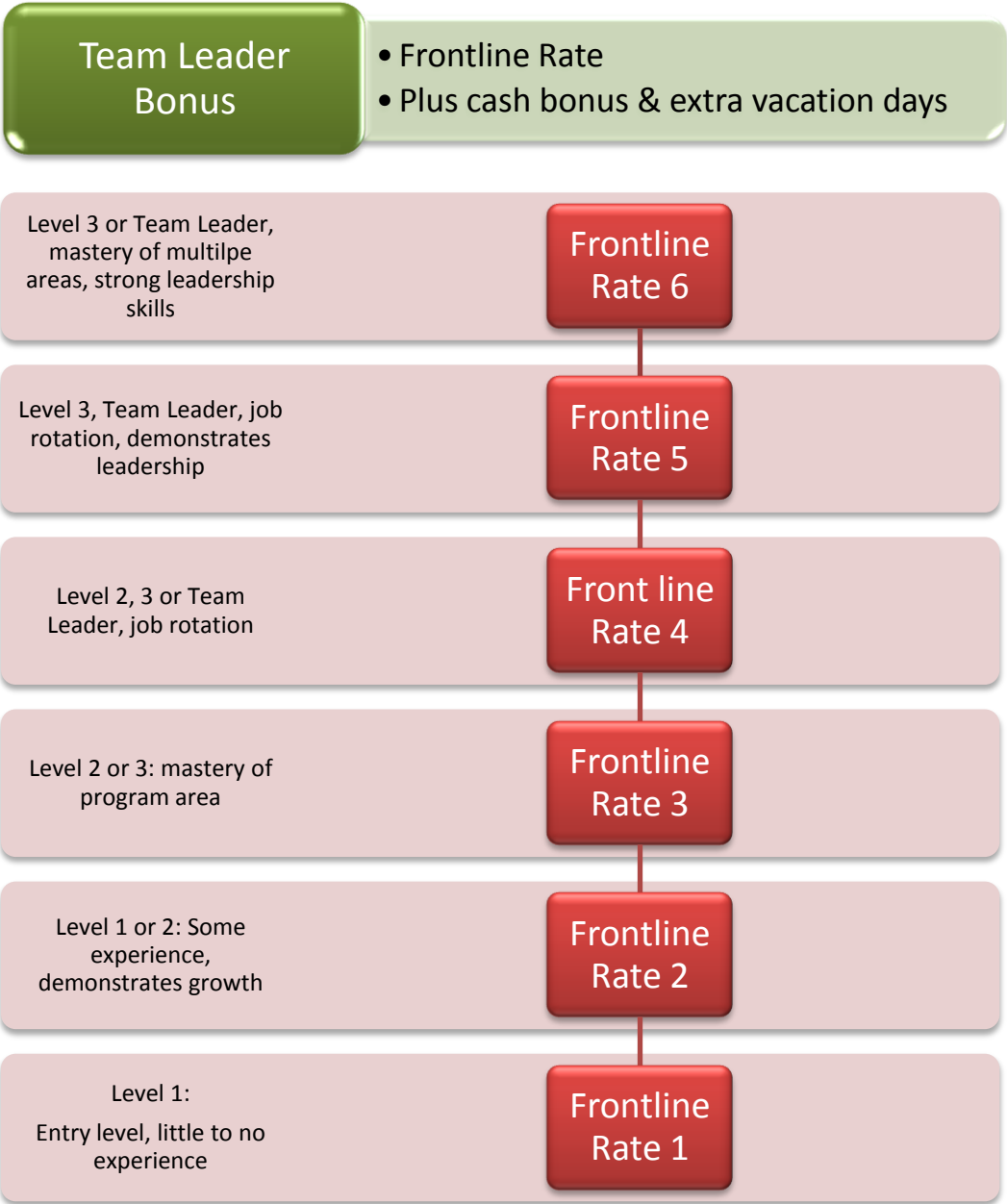


of programs and mentoring team leaders and educators. If a level 3 applies to another frontline area they will be hired on as either a level 1 or level 2 in that area depending on their experience level. Once working their way to a level 3 in another area, individuals can apply to be a team leader of that area.

Depending on the particular needs of the institution these positions can be full or part-time, however they should be fairly compensated and include benefits. Compensation levels should be based on local cost of living and the nonprofit median rates, though wages should be *above* the nonprofit median rate. Regular pay increases should be provided based on a yearly performance review by the manager and team leader. In the performance reviews staff set and discuss personal goals and professional development desires. Increases are based on experience level, demonstrated mastery of skills, quality of mentoring skills, and accomplishment of goals and responsibilities. As employees rotate through the institution and develop new skills, they become even more valuable as employees and should be compensated for their expanded responsibilities, increased mastery, and versatility. A hypothetical pay structure can be found in Figure 15. Successful team leaders who meet predetermined metrics for success are given a cash bonus and extra vacation days for the year of that service on top of their regular rate.

I used frontline entry level positions as an example above; however this model of mentoring and skill building could be expanded to other areas of the organization with varying levels of time requirements and rotation eligibility. For example, rotations to areas such as development, exhibit design, and marketing

**Figure 15: Hypothetical pay structure model for frontline staff as part of a tier and rotation system. Rate increases based on experience and responsibility level. Team Leader bonus applied for the one year commitment.**



could be added to the system. Additionally, another level could be added above level 3 and team leaders to include rotation into areas such as project management or program management.

A tier and rotation system appeals to Millennials' desires to take on new responsibilities and grow on the job. This system, in a sense, also speaks to some Millennials' desire to "job-hop" while providing opportunities to remain within one institution.

### **3. Ensure that all employees receive professional development**

A majority of Millennial respondents in this study revealed that professional development opportunities are unsatisfactory or not available to them at their institutions. Professional development is an important factor in building talent from within an organization. As Baldwin (2008) explains, "MANY [the Museum Association of New York] believes good management coupled with talent building keeps organizations nimble, ensures continuity, and perhaps most importantly, defines opportunities for the next generation of leaders" (p.12). Science centers/museums must provide optional professional development opportunities to all employees on company time. Professional development was ranked of high importance to Millennials in this study and they prioritized their desire for: mentors, professional training programs, graduate education reimbursement, informal or internally peer-led workshops, and opportunities to attend conferences. Some forms of professional development should be mandatory including science content trainings for frontline staff, and supervisory and administrative training for managers at all levels of the organization.

Bartels also outlined the concept that directors should work to create structured, systematic professional development that include orientations, apprenticeships, mentorships, internally-led workshops, and other-related opportunities (personal communication, February 15, 2011). Whether informally or through a yearly review process, under a structured system of professional development, employees and managers can work together to identify the kinds of opportunities that not only assist individuals' professional growth, but also help to best advance the needs of the organization. In an organization-wide professional development structure, participation should be optional but open to all. For certain kinds of professional development, such as conference attendance, external seminars, and graduate reimbursement, employees should "apply" for participation (unless, as in some grant-funded projects, attendance to conferences is a requirement of the grant proposal). Employees who participate in external professional development opportunities should be required to "share" what they learned in departmental or staff presentations.

As exemplified by the executive director of Sci-Port, Fumarolo maintains that museums should ensure that professional development remains in the budget for every staff member (personal communication, February 23, 2011). The amount budgeted per staff member will vary based on size and type of professional development offered, though I recommend 10-20% of staff time be allocated to professional development, mentoring, and activities that support the institution, such as creating internally-led professional development programs.

#### **4. Establish mentorship programs**

I recommend that science centers/museums establish institution-wide mentoring programs. In addition to the peer mentoring mentioned in the tier and rotation structure described above, every new staff member should be provided an “orientation mentor.” This is an assigned individual who may or may not be the employee’s direct supervisor and helps acclimate and orient new employees to an institution. This relationship may be temporary (six months to a year) or continue indefinitely based on the situation and need. Outside of orientation mentors, institutions should allow for skills and career development mentorship relationships throughout each employee’s tenure. A percentage of every employee’s staff time (10-20%) should be budgeted toward professional development, including mentoring. Additionally, mentors should attend training sessions on strategies for being an effective mentor. The Exploratorium’s Teacher Institute provides a leadership and mentor program for new classroom teachers. Sandra Robins, of the Teacher Institute explains that an important part of the program is the training the mentors receive in which they learn essential qualities of being an effective mentor such as: demonstrated experience, listening skills, mentee needs assessment, and follow-through (personal communication, May 6, 2011).

In designing a mentorship program Ken Williams (2005) of the Academy for Educational Development Center for Leadership Development outlines six essential administrative components in the monograph, *Mentoring the Next*

*Generation of Nonprofit Leaders: A Practical Guide for Managers*, which include:

1. The support of organizational leadership for the concept and implementation of a mentoring program;
2. Completion of a needs assessment and analysis of the opportunities and resources available to staff;
3. Establishment of clear objectives and evaluation measures;
4. Modest allocation of staff time to coordinate or administer the program;
5. Some form of orientation or training for mentors; and
6. The use of structured agreements to define roles, norms, and procedures (p. 5).

Skills and career-based mentoring should be done on a voluntary basis for both the mentee and mentor. Larger organizations have the ability to more easily take advantage of staff as mentors; however, smaller organizations may need to assist employees in finding external mentors. For establishing internal mentor and mentee relationships, Williams (2005) recommends the use of a staff survey of interests and competencies and then using a human resource staff member to make potential matches (p. 6). Speaking to both the interests of YMPs and the needs of organizational communication and mentor-mentee needs assessment, I also recommend creating an internal social networking site where employees can list their learning interests, areas of expertise, and career goals. Perspective mentors and mentees can view employee profiles to determine if they would be a possible match for a mentoring relationship. A social networking site can then be expanded for use as an institutional knowledge sharing hub, such as a curriculum repository and internal communications. For further information on mentoring,

Appendix F includes a resource list of online information pertaining to the creation and best practices of mentorship programs related to museums and nonprofits.

## **5. Provide graduate education reimbursement**

Sixty-seven percent of Millennials surveyed expressed a desire for their employers to offer graduate education reimbursement. Ultimately, Millennials seeking graduate education will benefit the institutions they work for and the increased knowledge base will enhance the field. Hannah Roberts (2011) of GradView, a website designed to help prospective students search for graduate programs and related information, explained that considering the financial and time pressures imposed by continuing education, “employers who offer tuition reimbursement programs have an edge in recruiting valuable employees.”

Science centers/museums should create employee assistance programs and/or scholarships for staff returning to school for field-related degrees. Roberts explained the ways in which employers provide tuition assistance. For example, museums will need to establish criteria for assistance programs such as which programs or coursework they will fund, what level of support will be provided (i.e., 100%, 75%, or 50%), and whether they will require a number of years of post-graduation service at the institution (Roberts, 2011). Additionally, organizations could benefit by requiring recipients to perform internal professional development opportunities based on ideas learned in school. For additional information on employer tuition assistance programs see the list of online resource found in Appendix F.

## 6. Recognize Generational Differences

Organizations that Millennials enter have power structures and expectations that were designed by older generations and may not fit the needs and expectations of this cohort. With each generation in the workforce having such varied expectations, experiences and attributes, it is easy for miscommunications and frustrations to occur among them in the workplace. Directors should work to create opportunities for intergenerational dialogue as a way to create an atmosphere that is based on understanding and respect. It is the individuals at the “top” of an organization who set the tone by modeling the kind of open culture that is inclusive of generational differences, as well as other differences like socio-economic status, ethnic background, gender, and sexual orientation diversity. Directors should work to understand the individual needs of staff members belonging to all generations as well as work to meet those needs.

In thinking specifically about Millennials, the authors of *Ready to Lead?* recommend that executive directors “understand that differences in style, approach, and priorities among younger staff don’t necessarily reflect a lack of passion or commitment. In addition, younger staff may be reluctant to spend more than a few years in a job where they have little potential for growth or professional development” (Cornelius, Corvington, & Ruesga, 2008, p.26). Creating opportunities for dialogue will help breakdown concepts of stereotypes and help all generations learn about each other’s strengths. For example, employers can sponsor professionally-led diversity trainings like those offered by ASTC, or informal “diversity lunches.” Similar to those once held at the



Exploratorium, “diversity lunches” provide an informal way for staff members from varied walks of life, different departments, and cross-generations to get together to discuss their experiences and history. The meetings are a way to help breakdown stereotypes by providing a means for staff to understand each other’s similarities and respect their differences.

### **Recommendations to Association of Science-Technology Centers:**

#### **1. Establish graduate education recommendations for the field**

Research shows that an increasing number of Millennials desire graduate degrees; however interviews revealed confusion about what type of degrees would be the most useful for career advancement within the field. As science center/museum jobs roles and responsibilities vary, the field would benefit from a recommended list of professional certificate and degree programs to guide individuals interested in staying in the field and pursuing further education. ASTC can assist the science center/museum field by recognizing which types of degree programs would best prepare professionals for particular career paths in the field. For instance, to supplement the listing of professional development programs currently on the ASTC website, Millennials may find a listing of museum studies, science education, or research and evaluation graduate degree program recommendations. ASTC can enhance this list by providing a “comment” section, vetted for inappropriate language, where graduates and prospective students can post questions and comments about the programs.

ASTC could also offer graduate education scholarships for professionals working in science centers/museums or working on a related degree program. Scholarship recipients could be encouraged to attend and/or present at ASTC conferences, participate in online webinars, or write articles for *ASTC Dimensions*, ASTC's newsletter.

## **2. Establish a Young/Emerging Museum Professionals Network**

Science center/museum professionals new to the field would benefit from a formalized networking system organized by ASTC. Similar to the American Association of Museum's Emerging Museum Professionals group (AAM EMP, 2011), ASTC should have a group that caters specifically to the needs of science center/museum professionals. Like the AAM, aspects of the network could include, a webpage with relevant information on professional development opportunities, graduate degree programs, mentoring information, an online social network page with opportunities for regional affiliations, and ASTC conference events that include opportunities for cross-generational networking. Solomon and Sandahl (2007) of the Young Nonprofit Professionals Network refer to a network group of this kind as a "talent bank." The authors explain that "creating these connections among young professionals can promote resource and idea-sharing between nonprofits coping with similar dilemmas while building a pipeline of talent that is more likely to stay in the sector and the region" (p.6).

Much like AAM provides an online mentoring program, YMPs would benefit from ASTC either collaborating with AAM or establishing a similar

program itself that provide for the specific mentoring needs of the science center/museum field.

### **3. Enhance the perception of science center/museum careers**

Interviewees referenced the notion that science centers/museums are seen as great employment places for young people to accumulate skills and take on responsibilities that prepare them for a variety of jobs *outside* the field, with the possibility of returning to the sector later in life (A. Fumarolo, personal communication, February 23, 2011; S. Koik, personal communication, February 13, 2011; T. Hecox; S. Pattison, personal communication, February 25, 2011; N. Stueber, personal communication, February 28, 2011). As recommended by Solomon and Sandahl (2007), nonprofits, “need to show professionals that they can think of this as a sector to spend their careers, not just as a ‘jumping off’ point for other opportunities or an end-of-career bridge to retirement” (p. 7).

To help establish the idea that science center/museum careers are viable, seasoned professionals should set an example for emerging talent by providing mentoring, supporting reasonable wages and growth opportunities at all levels of their institutions. Additionally, Millennials must advocate for themselves and continue seeking opportunities to utilize their talents and skills to advance the missions of their organizations and the field. ASTC can play a role in expressing the viability of science center/museum careers by performing nonprofit median salary surveys for the geographic areas of its member institutions and posting it on its website. Additionally, ASTC can continue its tradition of honoring distinguished leaders in the field with its Leading Edge Awards, which in 2010

was awarded to Ann Fumarolo of Sci-Port who was interviewed for this project. Fumarolo was honored, in part because of her insistence on “actively seeking out and personally funding professional development opportunities for her staff” (ASTC 2010 Leading Edge Award Recipients, 2011). ASTC should continue this recognition program, but also strive to acknowledge the accomplishments of emerging talent through a similar award program, and to honor those, like Fumarolo, who set an example of career viability for YMPs.

### **Recommendations to Funders:**

#### **1. Require science centers/museums to provide reasonable compensation**

Ensure that all grant proposals require employees be compensated above the local nonprofit median salary. Funders can actively participate in assuring that staff at science center/museums can afford basics needs and be able to afford to own homes, have families, and pay off student loans while maintaining a career in the nonprofit science center/museum sector.

#### **2. Ensure that all employees receive professional development**

Require that professional development for staff be included in the budget for grant proposals. Additionally, funders can invest in the long-term health and impact of science centers/museums by soliciting for and awarding proposals that are specific to employee talent and professional development. For example, funders could call for proposals designed to enhance nonprofit effectiveness by covering the costs of staff time and fees associated with establishing internal

professional development programs, graduate education reimbursement, conference attendance, and outside professional training courses.

## **Recommendations to Millennials - Young Museum Professionals:**

### **1. Find a mentor**

A mentor can help Millennials acclimate to the field and their institutions, teach them about their current positions, and help guide them along their career paths. If mentorship programs do not already exist at their museum, Millennials should locate individuals inside or outside of their organization to act as mentors. For Millennials desiring a mentor outside of their organization, AAM currently offers an online mentoring program through its website that may be of assistance (AAM Mentoring, 2011; also see Appendix F). Yet as recommended above, a mentoring program originating out of ASTC could be even more beneficial in meeting the specific needs of individuals working at science centers/museums.

As a mentee, Millennials should understand the mentor-mentee relationships are most effective when both parties are fully open to the experience and open to learning. Mentees should establish goals for the relationship and seek out individuals whom they respect and trust. In addition, mentees should remember to be gracious of the time and expertise their mentor is sharing.

### **2. Take charge of your career**

Millennials should understand that they are solely responsible for their own success. While employers may want to provide staff development opportunities, they are also balancing competing financial and time commitments.

Millennials should take initiative and ask managers for opportunities to take on new responsibilities that lie within and beyond their current skills and capabilities and do their best to excel. If no professional development opportunities are currently available to Millennials, YMPs should seek out workshops, trainings, local associations/professional groups and ask for institutional support (Cornelius, Corvington, & Ruesga, 2008, p. 26). YMPs should not assume that the institution has no funds for professional development. It is best to ask and find out. However, if no funds are currently available for professional development, YMPs could use it as an opportunity to collaborate with coworkers in creating informal professional development programs within the institution. Establishing informal professional development is also a way to partner with management by asking for their support and participation in sharing their expertise in the workshops. This form of collaboration creates knowledge sharing and networking opportunities.

## CONCLUDING THOUGHTS

As mission-based institutions, science centers/museums spend their resources and energies advancing the needs of the community. However, this philosophy is often overlooked when thinking of the internal staff development and financial well-being of employees. How can science centers/museums, as “cause-based” organizations, expect to successfully and innovatively enhance their communities when they fail to develop, provide for, and nurture their own staff?

Progressing through the inevitable generational demographic shift that is upon us, the field has an opportunity to transform the perception and viability of science center/museum careers. By incorporating these recommendations and addressing low compensation, lack of career pathways and structures, and providing meaningful professional development science centers/museums can cultivate and retain top talent in the coming decade. Someday soon, it is my hope that young museum professionals will find themselves not navigating through an “obstacle course of advancement” but smoothly progressing along personally fulfilling and financially viable careers.

## **PRODUCT DESCRIPTION**

To disseminate the findings and recommendations of this project and to increase exposure of the issues pertaining to the career advancement of young museum professionals (YMPs) in the science center/museum field I propose to submit a session proposal for the Association of Science-Technology Centers (ASTC) annual conference occurring in October of 2012, as well as be a panelist in the session entitled the Years 1-3-7-10: The Charm and Challenge of Gaining Mastery in the Field at the Western Museums Association (WMA) conference in September of 2011.

The WMA session, Years 1-3-7-10: The Charm and Challenge of Gaining Mastery, proposal has been submitted and accepted. The session will happen at the September 2011 WMA Conference in Honolulu, HI. The focus of the session is to explore what it takes to gain museum career mastery for emerging professionals. Panelists will include individuals who have one, three, seven, and ten years of experience in the museum field. I will represent the individual with ten years of experience, as well as deliver the findings, conclusions, and recommendations of this thesis project concerning obstacles and potential pathways to advancement for Millennials in the field. Panelists and session participants will explore career issues pertaining to workplace culture, professional development, and diversity awareness. The session is suited for emerging professionals, managers, and directors.

Leading the WMA session is Susan Spero, Professor of Museum Studies, John F. Kennedy University. Panelists will include; myself, Adrienne Barnett, Program Manager Teacher Institute, Exploratorium, San Francisco, California;



Timothy Hecox, Outreach Educator, Oregon Museum of Science and Industry, Portland, OR; and Angela Hudson, Museum Educator for Youth and Family Programs, Tacoma Art Museum, Tacoma, Washington. A fourth panelist is still to be determined, but will be joining the session. For more information about the session and to view the complete session proposal see Appendix G.

The ASTC session proposal will be submitted in December of 2011 and this session will explore the issues surrounding career advancement of YMPs and highlight key findings and conclusions of this project. Additionally, real-world examples of best practices in retaining and providing professional development to Millennials would be presented to participants based on the experiences of panelists. Panelists would ideally include individuals interviewed or surveyed for this project and from a range of geographic areas and institution size. A draft session proposal based on ASTC's guidelines including the names of possible panelists can be found in Appendix H.

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## Appendix A: Career Survey: Young Science Center/Museum Professionals, Completed by Millennials, Full Data with Quotes

1. This survey is to be completed by science center/museum staff members born in 1980 or after and that are in full or part time paid positions. If you do not fit this description, please feel free to forward this survey to coworkers who do. What year were you born?

	Response Percent	Response Count
1980 	7.4%	9
1981 	10.7%	13
1982 	9.9%	12
<b>1983 </b>	<b>14.9%</b>	<b>18</b>
1984 	13.2%	16
1985 	13.2%	16
1986 	8.3%	10
1987 	4.1%	5
1988 	7.4%	9
1989 	2.5%	3
1990 	4.1%	5
1991 	2.5%	3
1992 	1.7%	2
1993	0.0%	0
1994	0.0%	0
1995	0.0%	0
1996	0.0%	0
1997	0.0%	0
1998	0.0%	0
1999	0.0%	0
2000	0.0%	0
<b>answered question</b>		<b>121</b>
<b>skipped question</b>		<b>0</b>

**2. Please indicate how important these factors were to you when choosing to work at a science museum: (1 = LEAST important and 5 = MOST important)**

	1	2	3	4	5	Rating Average	Response Count
The museum's mission aligns with my personal values	3.3% (4)	1.7% (2)	21.5% (26)	<b>42.1%</b> <b>(51)</b>	31.4% (38)	3.97	121
Job description	1.7% (2)	4.1% (5)	13.2% (16)	<b>45.5%</b> <b>(55)</b>	35.5% (43)	4.09	121
Competitive compensation	12.6% (15)	21.0% (25)	<b>34.5%</b> <b>(41)</b>	20.2% (24)	11.8% (14)	2.97	119
Employee benefits and perks	7.4% (9)	19.8% (24)	<b>32.2%</b> <b>(39)</b>	28.1% (34)	12.4% (15)	3.18	121
Work/life balance: flex-time, telecommuting, etc.	3.3% (4)	11.6% (14)	28.1% (34)	<b>33.9%</b> <b>(41)</b>	23.1% (28)	3.62	121
Professional development opportunities	4.1% (5)	9.1% (11)	19.0% (23)	<b>47.9%</b> <b>(58)</b>	19.8% (24)	3.70	121
Opportunities for advancement	3.3% (4)	8.3% (10)	20.7% (25)	<b>38.8%</b> <b>(47)</b>	28.9% (35)	3.82	121
Enjoyable work environment	0.0% (0)	2.5% (3)	3.3% (4)	32.2% (39)	<b>62.0%</b> <b>(75)</b>	4.54	121
The socially responsible practices of the organization	2.5% (3)	10.8% (13)	22.5% (27)	<b>41.7%</b> <b>(50)</b>	22.5% (27)	3.71	120
Lack of other positions in my locale	<b>25.6%</b> <b>(31)</b>	19.8% (24)	21.5% (26)	16.5% (20)	16.5% (20)	2.79	121
Other (please specify)							5
							<a href="#">view</a>
						<b>answered question</b>	<b>121</b>
						<b>skipped question</b>	<b>0</b>

Question 2: Optional "Other" Responses

Please indicate how important these factors were to you when choosing to work at a science museum: (1 = LEAST important and 5 = MOST important)		
#	Response Date	Other (please specify)
1	Mar 8, 2011 7:25 AM	I have children who love science.
2	Mar 7, 2011 11:05 AM	Pay!
3	Feb 23, 2011 9:18 AM	To be honest, I just stumbled into the job originally after college based on a recommendation from a friend.
4	Feb 18, 2011 2:51 PM	Constant exposure to intelligent, curious people who seek understanding.
5	Feb 18, 2011 6:44 AM	I love my job but I also had to take what I could get. Which is why I make a poor salary but have an awesome job.

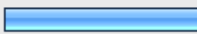


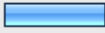

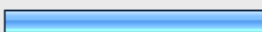


3. What keeps you wanting to work (engaged) in a science museum/in your position? (Select only ONE or TWO)		
	Response Percent	Response Count
Competitive compensation	1.7%	2
Employee benefits and perks	3.3%	4
Work/life balance: flex-time, telecommuting, etc.	11.7%	14
Ability to advance my career	18.3%	22
<b>Enjoyable work environment</b>	<b>35.0%</b>	<b>42</b>
Ability to be creative and use my skills in my position	34.2%	41
Social setting - coworkers	12.5%	15
Work enables me to learn and to grow	23.3%	28
My work is personally stimulating	15.8%	19
Work that is worthwhile to society	28.3%	34
Lack of other positions in my locale	8.3%	10
Other (please specify)		2
<b>answered question</b>		<b>120</b>
<b>skipped question</b>		<b>1</b>

Question 3: Optional "Other" Responses

What keeps you wanting to work (engaged) in a science museum/in your position? (Select only ONE or TWO)		
#	Response Date	Other (please specify)
1	Feb 17, 2011 2:09 PM	Enjoy teaching and working with children and their families
2	Feb 17, 2011 8:56 AM	It is a unique job. Little is available for a physics degree who does not want to teach. And is not pursuing a masters. Science museums are a great outlet for just such a person.

4. Please indicate how strongly you agree with the statements below pertaining to your institution: (1 = LEAST agree and 5 = MOST agree)							
	1	2	3	4	5	Rating Average	Response Count
I want management (decision makers) to be receptive to exploring new ideas/innovations that I present.	0.8% (1)	2.5% (3)	5.0% (6)	33.9% (41)	<b>57.9%</b> <b>(70)</b>	4.45	121
Management (decision makers) is receptive to exploring new ideas/innovations that I present.	3.3% (4)	9.9% (12)	26.4% (32)	<b>43.0%</b> <b>(52)</b>	17.4% (21)	3.61	121
I want to take initiative and "run with projects"	0.8% (1)	0.8% (1)	14.9% (18)	36.4% (44)	<b>47.1%</b> <b>(57)</b>	4.28	121
I have managers who "trust me" and let me take initiative and "run with projects."	2.5% (3)	3.3% (4)	17.4% (21)	<b>43.8%</b> <b>(53)</b>	33.1% (40)	4.02	121
I enjoy/prefer working in teams on projects.	3.3% (4)	9.9% (12)	<b>38.8%</b> <b>(47)</b>	28.9% (35)	19.0% (23)	3.50	121
I am provided opportunities to work in teams on projects.	3.3% (4)	5.0% (6)	24.0% (29)	<b>43.8%</b> <b>(53)</b>	24.0% (29)	3.80	121
I want to participate in the decision-making process.	0.8% (1)	1.7% (2)	10.8% (13)	39.2% (47)	<b>47.5%</b> <b>(57)</b>	4.31	120
Managers work to include me in the decision-making process.	7.5% (9)	10.0% (12)	<b>36.7%</b> <b>(44)</b>	31.7% (38)	14.2% (17)	3.35	120
I would like to feel recognized and rewarded for my accomplishments at work.	1.7% (2)	5.0% (6)	10.8% (13)	30.8% (37)	<b>51.7%</b> <b>(62)</b>	4.26	120
I feel that management recognizes and rewards me for my accomplishments at work.	3.3% (4)	17.4% (21)	23.1% (28)	<b>42.1%</b> <b>(51)</b>	14.0% (17)	3.46	121
<b>answered question</b>							<b>121</b>
<b>skipped question</b>							<b>0</b>


5. Please indicate the importance of the following compensation and benefits options in any workplace: (1 = NOT important and 5 = VERY important)							
	1	2	3	4	5	Rating Average	Response Count
Comprehensive benefits packages (healthcare, dental, vision, etc.)	3.3% (4)	2.5% (3)	9.9% (12)	31.4% (38)	<b>52.9%</b> <b>(64)</b>	4.28	121
Comprehensive retirement packages (401k, 403(b))	4.2% (5)	8.3% (10)	24.2% (29)	<b>41.7%</b> <b>(50)</b>	21.7% (26)	3.68	120
Regular raises	0.8% (1)	4.1% (5)	20.7% (25)	26.4% (32)	<b>47.9%</b> <b>(58)</b>	4.17	121
Flex-time /flexible work schedule	2.5% (3)	4.1% (5)	10.7% (13)	40.5% (49)	<b>42.1%</b> <b>(51)</b>	4.16	121
Telecommuting/flexible workplace	10.7% (13)	20.7% (25)	<b>30.6%</b> <b>(37)</b>	21.5% (26)	16.5% (20)	3.12	121
Paid time off/paid vacation	3.3% (4)	1.7% (2)	12.4% (15)	38.8% (47)	<b>43.8%</b> <b>(53)</b>	4.18	121
Sabbaticals/approved time off without pay	17.4% (21)	15.7% (19)	<b>37.2%</b> <b>(45)</b>	22.3% (27)	7.4% (9)	2.87	121
Domestic partner benefits	21.7% (26)	12.5% (15)	<b>24.2%</b> <b>(29)</b>	22.5% (27)	19.2% (23)	3.05	120
Paid maternity/paternity leave	20.2% (24)	8.4% (10)	24.4% (29)	21.8% (26)	<b>25.2%</b> <b>(30)</b>	3.24	119
Discounts to local museums	16.5% (20)	15.7% (19)	<b>32.2%</b> <b>(39)</b>	22.3% (27)	13.2% (16)	3.00	121
Wellness programs or fitness club memberships	22.3% (27)	24.0% (29)	<b>28.9%</b> <b>(35)</b>	12.4% (15)	12.4% (15)	2.69	121
Childcare/elder-care support	29.2% (35)	18.3% (22)	<b>32.5%</b> <b>(39)</b>	13.3% (16)	6.7% (8)	2.50	120
Other (please specify)							0
	<b>answered question</b>						<b>121</b>
	<b>skipped question</b>						<b>0</b>

6. What kind of technology do you feel is important to have access to in the workplace? (Select all that apply)			Response Percent	Response Count
Personal laptops			50.0%	60
Access to social networking sites/social media			49.2%	59
Instant messaging			19.2%	23
Wikis			25.8%	31
Blogs			39.2%	47
<b>Intranet</b>			<b>67.5%</b>	<b>81</b>
None of the above			8.3%	10
Other (please specify)				13
			 view	
			<b>answered question</b>	<b>120</b>
			<b>skipped question</b>	<b>1</b>

Question 6: Optional "Other" Responses

<b>What kind of technology do you feel is important to have access to in the workplace? (Select all that apply)</b>		
<b>#</b>	<b>Response Date</b>	<b>Other (please specify)</b>
1	Mar 9, 2011 3:31 PM	Search engines and scholarly databases
2	Mar 9, 2011 3:22 PM	I feel this very much depends on the type of job you're doing.
3	Mar 8, 2011 6:29 PM	As much as needed to keep up with everyone else.
4	Mar 8, 2011 6:03 PM	Mostly unfiltered internet in general if job has any sort of research or networking with other professionals component
5	Mar 8, 2011 7:25 AM	Creative programs like adobe. Classes to learn new technology
6	Mar 7, 2011 12:53 PM	Computers (not necessarily laptops) with internet
7	Mar 7, 2011 8:22 AM	Mobile phones/smart phones
8	Mar 2, 2011 3:06 PM	smartphone (with email)
9	Feb 22, 2011 5:14 PM	cell phones, wifi
10	Feb 18, 2011 12:46 PM	Work computers (they don't need to be personal)
11	Feb 17, 2011 4:45 PM	cell phone service and internet access
12	Feb 17, 2011 2:35 PM	I would rather have live learning opportunities at workshops or conferences instead of technology equipment.
13	Feb 17, 2011 11:06 AM	Internet



7. Please indicate the importance of the following professional development opportunities for you personally: (1 = NOT important and 5 = VERY important)							
	1	2	3	4	5	Rating Average	Response Count
Having a mentor(s)	2.5% (3)	7.6% (9)	18.6% (22)	<b>41.5%</b> <b>(49)</b>	29.7% (35)	3.88	118
Attending conferences	4.2% (5)	5.9% (7)	<b>36.4%</b> <b>(43)</b>	28.0% (33)	25.4% (30)	3.64	118
Participating in professional groups or associations	2.5% (3)	11.0% (13)	<b>37.3%</b> <b>(44)</b>	36.4% (43)	12.7% (15)	3.46	118
Networking opportunities – social events/social media	5.9% (7)	11.9% (14)	28.0% (33)	<b>39.8%</b> <b>(47)</b>	14.4% (17)	3.45	118
Job-sharing or job-swapping opportunities	11.0% (13)	21.2% (25)	<b>33.1%</b> <b>(39)</b>	28.0% (33)	6.8% (8)	2.98	118
Professional training programs	1.7% (2)	3.4% (4)	22.2% (26)	<b>53.0%</b> <b>(62)</b>	19.7% (23)	3.85	117
Graduate education reimbursement	10.2% (12)	5.1% (6)	16.9% (20)	26.3% (31)	<b>41.5%</b> <b>(49)</b>	3.84	118
Informal or internally peer-led professional development/enrichment	3.4% (4)	6.8% (8)	28.8% (34)	<b>33.1%</b> <b>(39)</b>	28.0% (33)	3.75	118
Online courses	15.7% (18)	21.7% (25)	<b>36.5%</b> <b>(42)</b>	21.7% (25)	4.3% (5)	2.77	115
Other (please specify)							1
							
<b>answered question</b>							<b>118</b>
<b>skipped question</b>							<b>3</b>




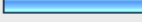
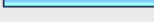
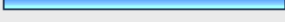
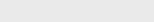


### Question 7: Optional “Other” Responses

Please indicate the importance of the following professional development opportunities for you personally: (1 = NOT important and 5 = VERY important)		
#	Response Date	Other (please specify)
1	Feb 23, 2011 9:20 AM	Money and support to publish.


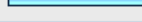
**8. How satisfied are you with the following professional development opportunities offered to you at your institution: If these opportunities are NOT AVAILABLE to you, please select N/A (1 = LEAST satisfied and 5 = MOST satisfied)**


	1	2	3	4	5	N/A	Rating Average	Response Count
Having a mentor(s)	5.1% (6)	10.2% (12)	13.6% (16)	<b>28.8%</b> <b>(34)</b>	14.4% (17)	28.0% (33)	3.52	118
Attending conferences	9.3% (11)	11.9% (14)	19.5% (23)	21.2% (25)	11.9% (14)	<b>26.3%</b> <b>(31)</b>	3.20	118
Participating in professional groups or associations	10.2% (12)	13.6% (16)	22.0% (26)	20.3% (24)	8.5% (10)	<b>25.4%</b> <b>(30)</b>	3.05	118
Networking opportunities – social events/social media	5.1% (6)	19.7% (23)	19.7% (23)	<b>26.5%</b> <b>(31)</b>	9.4% (11)	19.7% (23)	3.19	117
Job-sharing or job-swapping opportunities	10.2% (12)	15.3% (18)	12.7% (15)	13.6% (16)	4.2% (5)	<b>44.1%</b> <b>(52)</b>	2.76	118
Professional training programs	10.2% (12)	16.1% (19)	21.2% (25)	18.6% (22)	3.4% (4)	<b>30.5%</b> <b>(36)</b>	2.84	118
Graduate education reimbursement	26.3% (31)	8.5% (10)	5.1% (6)	2.5% (3)	1.7% (2)	<b>55.9%</b> <b>(66)</b>	1.75	118
Informal or internally peer-led professional development/enrichment	7.6% (9)	8.5% (10)	<b>23.7%</b> <b>(28)</b>	22.9% (27)	13.6% (16)	<b>23.7%</b> <b>(28)</b>	3.34	118
Online courses	12.9% (15)	8.6% (10)	12.1% (14)	3.4% (4)	1.7% (2)	<b>61.2%</b> <b>(71)</b>	2.29	116
<b>answered question</b>								<b>118</b>
<b>skipped question</b>								<b>3</b>

**9. How could your employer make it easier for you to participate in professional development opportunities? (Select all that apply)**

		Response Percent	Response Count
Establish a mentor program		30.5%	36
Reimbursement for seminar/conference registration fees		49.2%	58
Reimbursement for professional association membership fees		42.4%	50
Provide job-sharing or job-swapping opportunities		33.1%	39
Provide informal or internally peer-led professional development/enrichment		36.4%	43
<b>Graduate education reimbursement</b>		<b>66.9%</b>	<b>79</b>
Flexible work hours		36.4%	43
Requirement to participate in professional development opportunities		40.7%	48
Don't know		6.8%	8
	Other (please specify)		0
<b>answered question</b>			<b>118</b>
<b>skipped question</b>			<b>3</b>

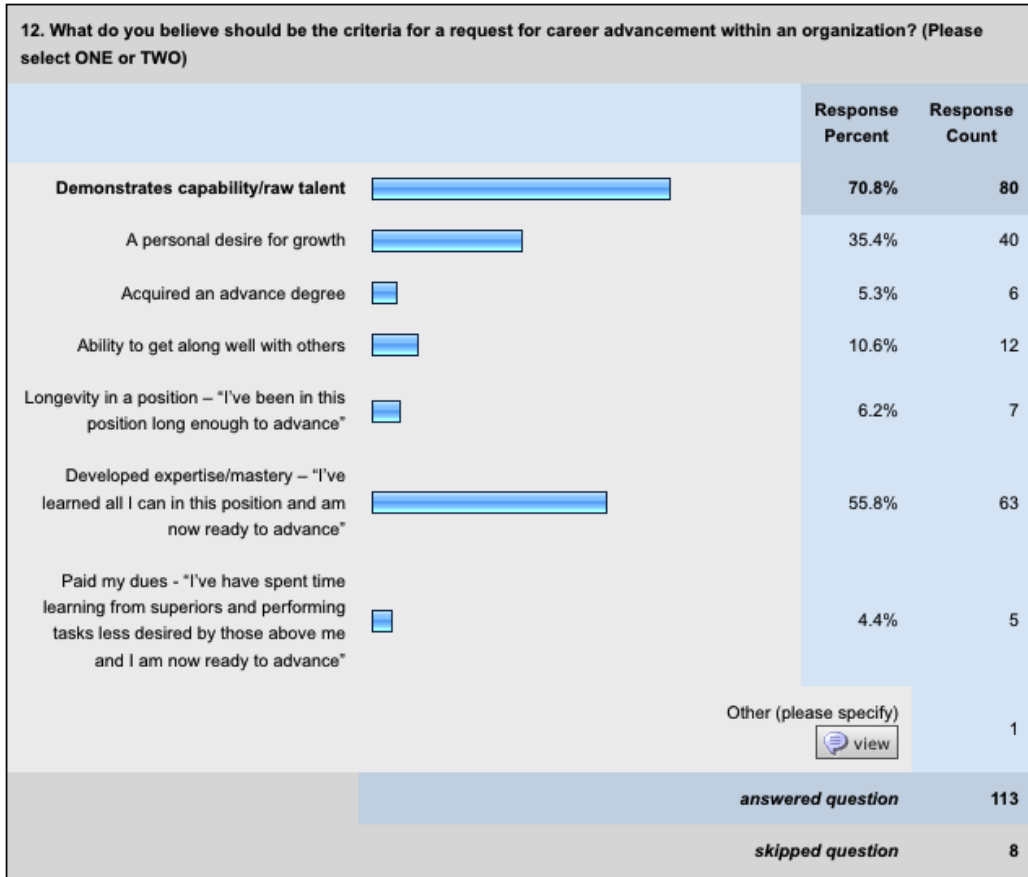
**10. Do you feel there are inherent obstacles to your career advancement in the science museum profession at your institution?**

		Response Percent	Response Count
Yes		68.1%	77
No		31.9%	36
<b>answered question</b>			<b>113</b>
<b>skipped question</b>			<b>8</b>

11. If you answered yes, how would you rate these potential obstacles to your career advancement in the science museum profession at your institution? (1 = NOT an obstacle and 5 = VERY MUCH an obstacle)							
	1	2	3	4	5	Rating Average	Response Count
I feel/am viewed as too young or too inexperienced	17.9% (15)	15.5% (13)	26.2% (22)	<b>27.4%</b> <b>(23)</b>	13.1% (11)	3.02	84
Individuals from outside the institution are more likely to be selected for positions than internal candidates	25.0% (21)	<b>35.7%</b> <b>(30)</b>	23.8% (20)	8.3% (7)	7.1% (6)	2.37	84
Insufficient on-the-job training	19.0% (16)	26.2% (22)	<b>29.8%</b> <b>(25)</b>	15.5% (13)	9.5% (8)	2.70	84
A lack of clear advancement paths	8.2% (7)	8.2% (7)	17.6% (15)	20.0% (17)	<b>45.9%</b> <b>(39)</b>	3.87	85
Inadequate/limited open positions	3.5% (3)	8.2% (7)	15.3% (13)	28.2% (24)	<b>44.7%</b> <b>(38)</b>	4.02	85
Insufficient formal/traditional education (graduate school)	<b>27.7%</b> <b>(23)</b>	12.0% (10)	25.3% (21)	21.7% (18)	13.3% (11)	2.81	83
Other (please specify)							3
							
<b>answered question</b>							<b>85</b>
<b>skipped question</b>							<b>36</b>

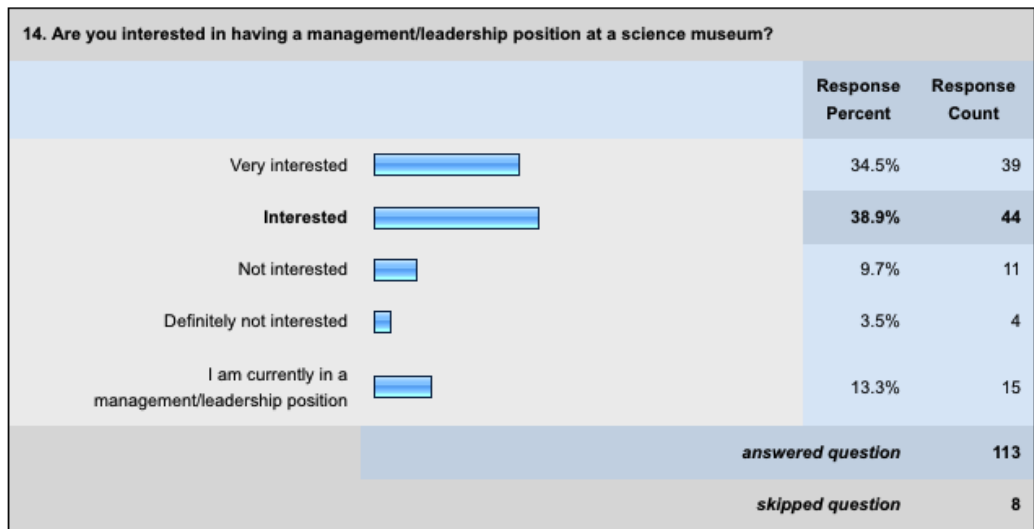
Question 11: Optional “Other” Responses





If you answered yes, how would you rate these potential obstacles to your career advancement in the science museum profession at your institution? (1 = NOT an obstacle and 5 = VERY MUCH an obstacle)		
#	Response Date	Other (please specify)
1	Mar 7, 2011 8:30 AM	Too many day-to-day tasks that impeded my ability to take on new, interesting projects, or to suggest and implement my own ideas---in other words, bone-crushing amounts of "putting out fire" assignments each week that make planning ahead, brainstorming, team projects, and long-term projects somewhat impossible.
2	Feb 17, 2011 2:15 PM	indifference of management
3	Feb 17, 2011 11:42 AM	When positions are vacated, the duties are just redistributed; ED is averse to hiring anyone full time if it can in any way be avoided; the few full-time staff are "encouraged" to work about 60 hrs/wk.






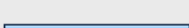




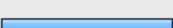

Question 12: Optional "Other" Responses

<b>What do you believe should be the criteria for a request for career advancement within an organization? (Please select ONE or TWO)</b>		
#	Response Date	Other (please specify)
1	Mar 9, 2011 11:35 AM	I am a curator - so the #1 criterion should be track-record of published quality research, and development of the research collections


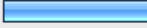




16. Are you interested in being the executive director of a science museum?		
	Response Percent	Response Count
Very interested 	8.8%	10
<b>Interested</b> 	<b>32.7%</b>	<b>37</b>
Not interested 	27.4%	31
Definitely not interested 	31.0%	35
I am currently the executive director	0.0%	0
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>





17. If you answered "Very interested" or "Interested" to the last question when do you feel you will be ready to take on an executive director position?		
	Response Percent	Response Count
I'm ready now 	1.8%	2
1-2 years 	1.8%	2
3-4 years 	8.0%	9
5-10 years 	27.4%	31
10-15 years 	16.8%	19
<b>15 or more years</b> 	<b>44.2%</b>	<b>50</b>
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>

18. What would you rate the likelihood that you will seek your next position in a nonprofit science museum?		
	Response Percent	Response Count
Very likely 	23.0%	26
Likely 	31.9%	36
<b>Not likely</b> 	<b>40.7%</b>	<b>46</b>
Definitely Not 	4.4%	5
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>













**19. What would you rate the likelihood that you will seek your next position at the museum in which you currently work?**

	Response Percent	Response Count
Very likely 	16.8%	19
Likely 	34.5%	39
<b>Not likely</b> 	<b>42.5%</b>	<b>48</b>
Definitely Not 	6.2%	7
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>

**20. How likely would you be to seek a position in a for-profit organization that incorporated socially responsible business practices?**

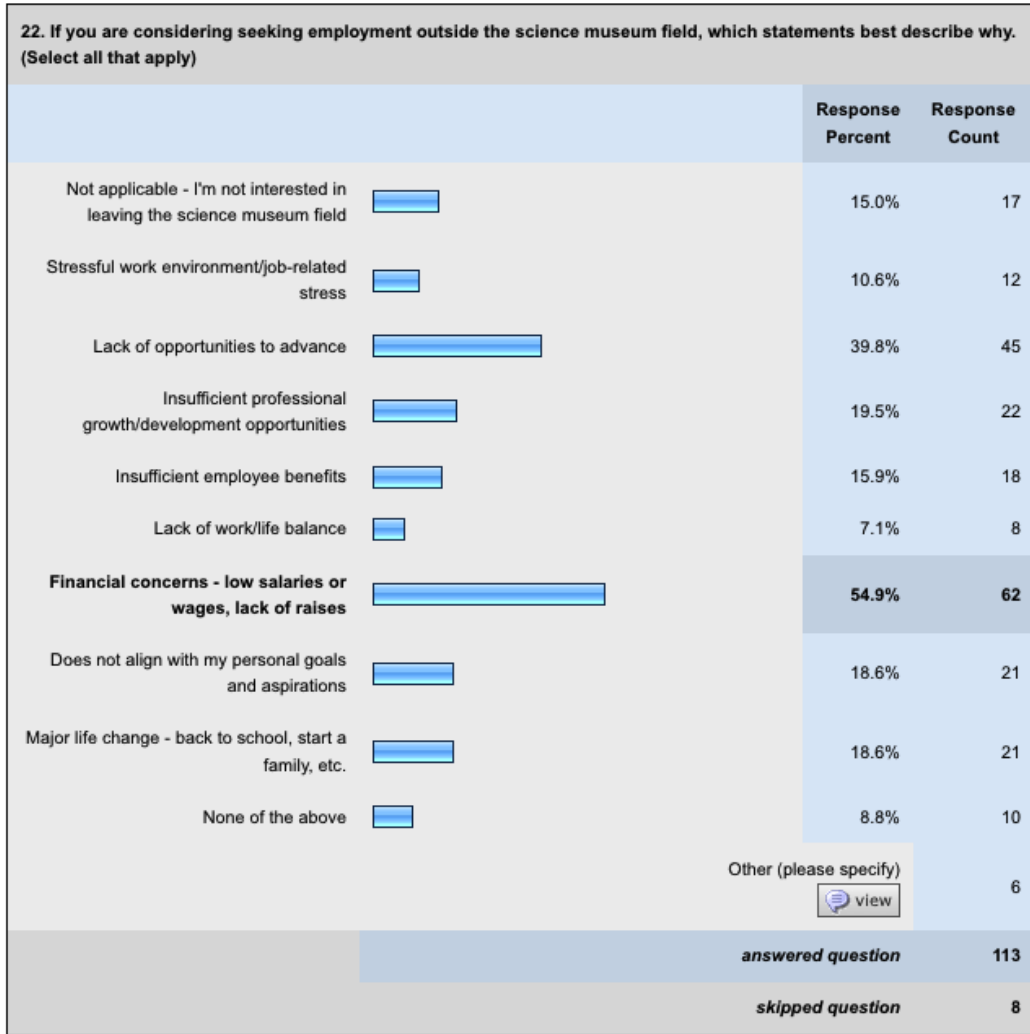
	Response Percent	Response Count
Very likely 	26.5%	30
<b>Likely</b> 	<b>47.8%</b>	<b>54</b>
Not likely 	22.1%	25
Definitely Not 	3.5%	4
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>



21. If you left the science museum field, in which sector is your ideal next job?		
	Response Percent	Response Count
Not applicable - I'm not interested in leaving the science museum field 	6.7%	7
For-profit/corporate industry 	17.3%	18
<b>Education/research</b> 	<b>32.7%</b>	<b>34</b>
Consulting 	1.0%	1
Nonprofit (not museum-related) 	18.3%	19
Nonprofit (museum) 	9.6%	10
Philanthropy 	3.8%	4
Government 	6.7%	7
Public service 	1.9%	2
Service industry/customer service 	1.0%	1
In school 	1.0%	1
Other (please specify)  view		10
	<b>answered question</b>	<b>104</b>
	<b>skipped question</b>	<b>17</b>

Question 21: Optional “Other” Responses

If you left the science museum field, in which sector is your ideal next job?		
#	Response Date	Other (please specify)
1	Mar 11, 2011 5:27 PM	In School or Education-based Non-profit
2	Mar 8, 2011 9:23 AM	Parks or outdoor education
3	Mar 8, 2011 7:29 AM	Non-profit, arts management
4	Mar 7, 2011 12:40 PM	In a zoo/aquarium
5	Mar 4, 2011 9:38 AM	Event Management in any sector
6	Mar 1, 2011 12:47 PM	unknown
7	Feb 25, 2011 8:32 AM	Zoo, Aquarium or Theme Park with Education Department
8	Feb 20, 2011 11:24 AM	Mechanical Engineering
9	Feb 17, 2011 3:50 PM	library or museum
10	Feb 17, 2011 11:14 AM	Public Health











Question 22: Optional "Other" Responses
















<b>If you are considering seeking employment outside the science museum field, which statements best describe why. (Select all that apply)</b>		
#	Response Date	Other (please specify)
1	Mar 26, 2011 11:00 AM	it would only be if i moved or got fired
2	Mar 11, 2011 9:11 AM	Try new things
3	Mar 9, 2011 6:24 PM	Finishing graduate school (in non-science field)
4	Mar 7, 2011 12:40 PM	I want an animal husbandry position not available at a museum.
5	Mar 7, 2011 8:30 AM	I'm interested in staying in the MUSEUM field. Within that sector, either a science museum or heritage site/historic location would be preferable.
6	Feb 16, 2011 11:12 AM	I'm a Student in Public Relations

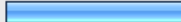


23. What is your primary job function?			Response Percent	Response Count
Administration/Management			5.3%	6
Collections			2.7%	3
Development/Membership			8.0%	9
Director/CEO			0.0%	0
<b>Education</b>			<b>38.9%</b>	<b>44</b>
Exhibitions			6.2%	7
Marketing/Public Relations			10.6%	12
Online Engagement/Social Media			1.8%	2
Public Programs/Outreach			8.0%	9
Visitor Services			9.7%	11
Volunteer Services			1.8%	2
Website/IT/New Media			0.0%	0
General - All of the Above			2.7%	3
Not Applicable			4.4%	5
Other (please specify)				12
				view
<b>answered question</b>				<b>113</b>
<b>skipped question</b>				<b>8</b>



Question 23: Optional "Other" Responses











What is your primary job function?		
#	Response Date	Other (please specify)
1	Mar 11, 2011 3:47 PM	Project Manager
2	Mar 11, 2011 2:33 PM	floor staff
3	Mar 9, 2011 12:49 PM	Out of school time youth work
4	Mar 9, 2011 11:36 AM	Research - I'm Curator of Paleontology
5	Mar 8, 2011 5:03 PM	Youth Program
6	Mar 7, 2011 4:17 PM	Evaluation
7	Mar 7, 2011 9:35 AM	Administrative support
8	Mar 4, 2011 9:40 AM	Event Management
9	Feb 23, 2011 9:24 AM	Research and evaluation
10	Feb 18, 2011 10:46 AM	Facility rental sales / Special Events
11	Feb 18, 2011 8:45 AM	animal care
12	Feb 18, 2011 6:26 AM	Facilities and Finance

24. How long have you been in your current position?		
	Response Percent	Response Count
less than 6 months 	18.6%	21
1 year 	32.7%	37
2 years 	15.9%	18
3 years 	15.9%	18
4 years 	8.0%	9
5 years 	5.3%	6
6 years 	2.7%	3
7 years	0.0%	0
8 years 	0.9%	1
9 years	0.0%	0
10 years	0.0%	0
11 years	0.0%	0
12 years	0.0%	0
13 years	0.0%	0
14 years	0.0%	0
15 years	0.0%	0
15+ years	0.0%	0
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>







25. How many years have you been in the museum field (including internships and/or volunteering)?		
	Response Percent	Response Count
less than 6 months 	5.3%	6
1 year 	14.2%	16
2 years 	9.7%	11
3 years 	16.8%	19
<b>4 years </b>	<b>17.7%</b>	<b>20</b>
5 years 	8.8%	10
6 years 	8.0%	9
7 years 	1.8%	2
8 years 	8.8%	10
9 years 	1.8%	2
10 years 	2.7%	3
11 years 	0.9%	1
12 years 	1.8%	2
13 years	0.0%	0
14 years	0.0%	0
15 years 	0.9%	1
15+ years 	0.9%	1
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>


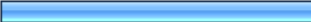
26. Was your previous job at a science museum?		
	Response Percent	Response Count
Yes 	42.5%	48
<b>No </b>	<b>49.6%</b>	<b>56</b>
Not applicable 	8.0%	9
<b>answered question</b>		<b>113</b>
<b>skipped question</b>		<b>8</b>

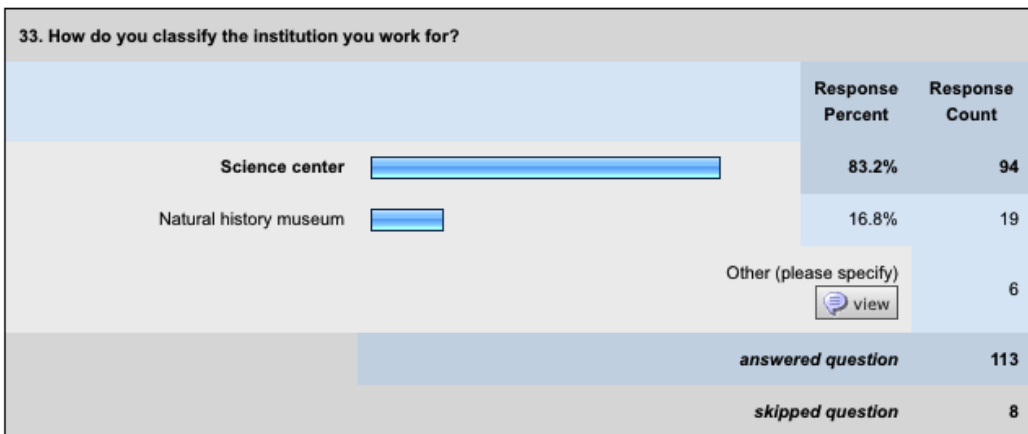
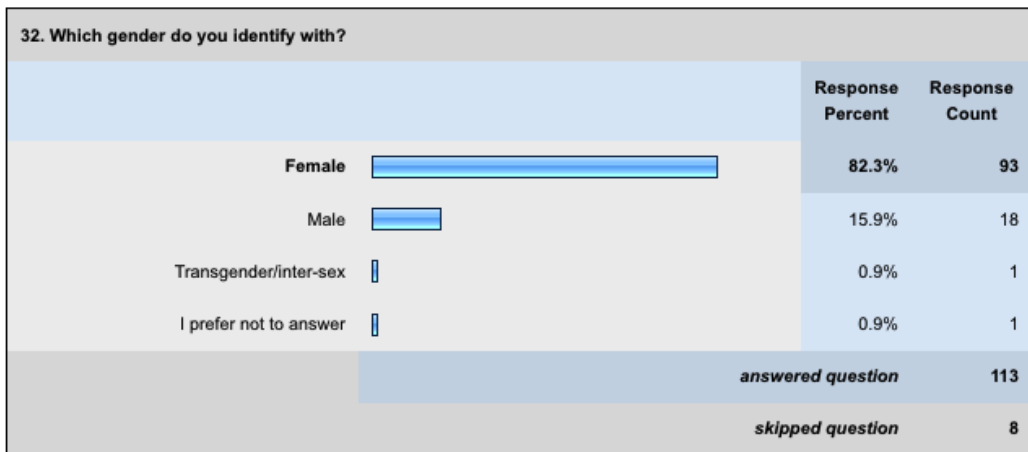
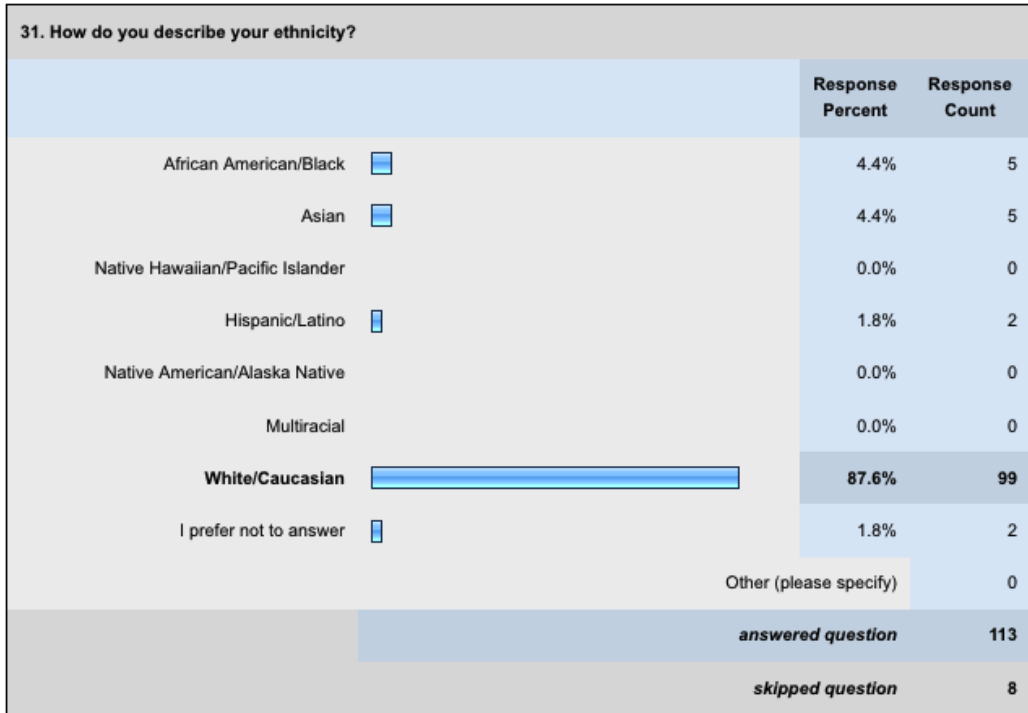
27. If you answered yes to the last question, was it at the museum you currently work for?		
	Response Percent	Response Count
Yes 	53.4%	39
No 	46.6%	34
<b>answered question</b>		<b>73</b>
<b>skipped question</b>		<b>48</b>

28. If you answered no to question 26, in which sector was your previous job?		
	Response Percent	Response Count
For-profit/corporate industry 	8.7%	6
Education/research 	15.9%	11
Consulting 	1.4%	1
<b>Nonprofit (not museum-related)</b> 	<b>17.4%</b>	<b>12</b>
Nonprofit (museum) 	10.1%	7
Philanthropy	0.0%	0
Government 	8.7%	6
Public service 	1.4%	1
Service industry/customer service 	10.1%	7
In school 	15.9%	11
Other 	10.1%	7
<b>answered question</b>		<b>69</b>
<b>skipped question</b>		<b>52</b>



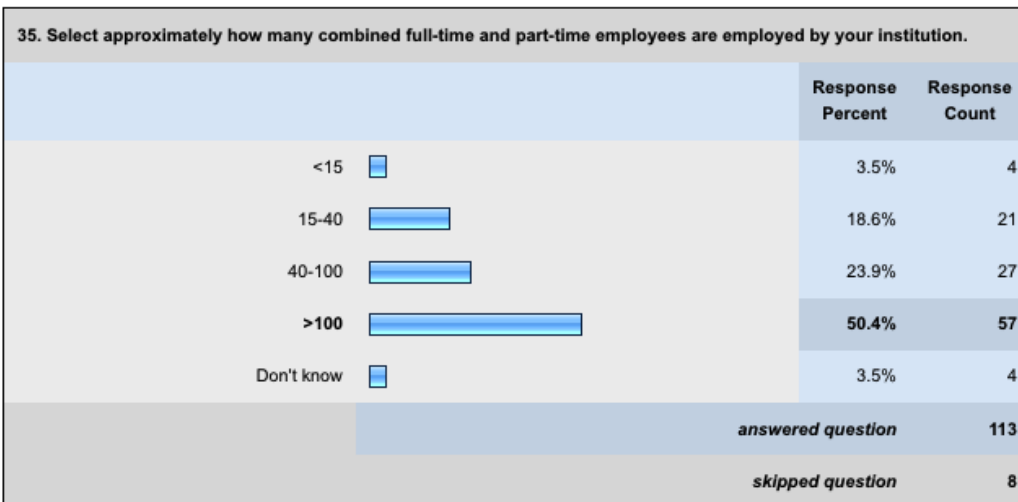
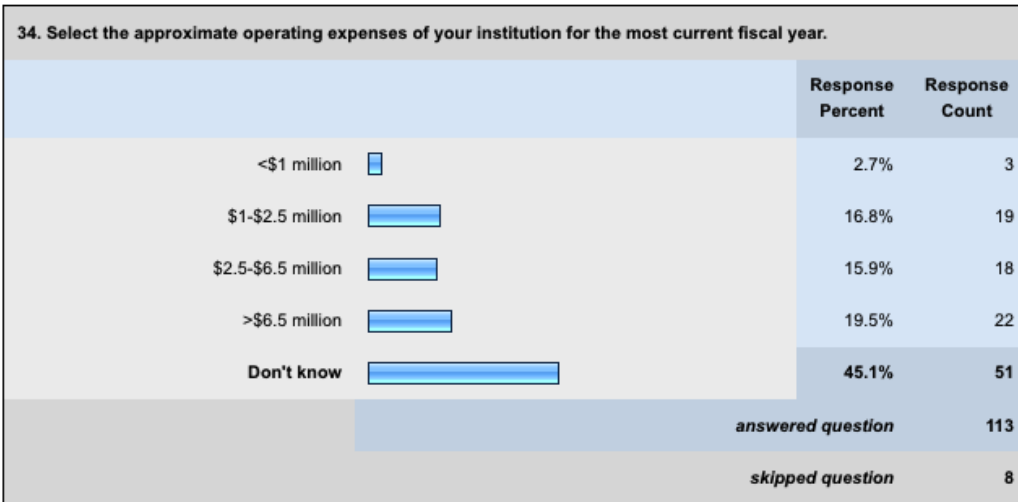
29. What is your highest level of education completed?		
	Response Percent	Response Count
High school 	2.7%	3
Some college but no degree completed 	10.6%	12
Associates degree or equivalent 	1.8%	2
<b>Bachelor's degree</b> 	<b>63.7%</b>	<b>72</b>
Master's degree 	20.4%	23
Doctorate 	0.9%	1
	<b>answered question</b>	<b>113</b>
	<b>skipped question</b>	<b>8</b>

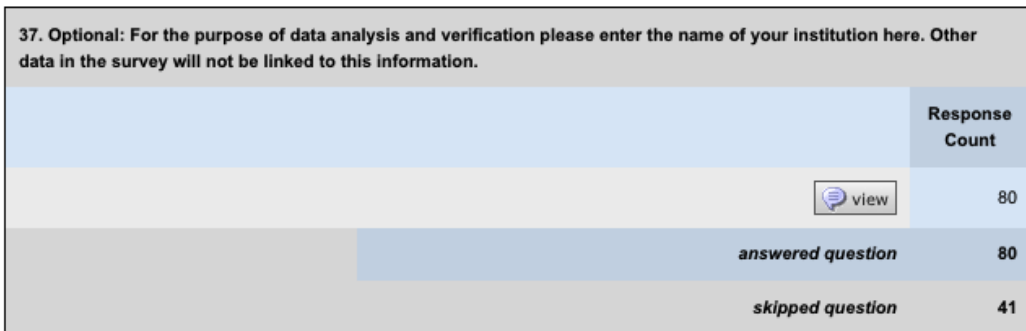
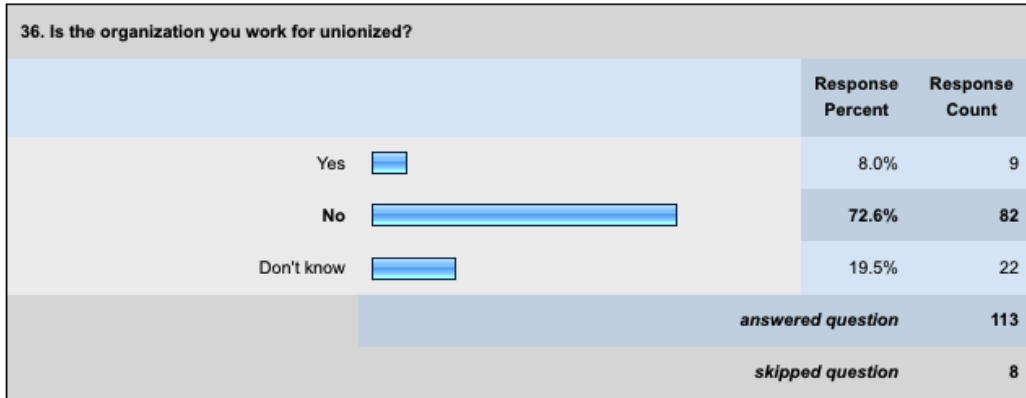
30. Are you currently a student?		
	Response Percent	Response Count
Yes 	25.7%	29
<b>No</b> 	<b>74.3%</b>	<b>84</b>
	<b>answered question</b>	<b>113</b>
	<b>skipped question</b>	<b>8</b>



Question 33: Optional "Other" Responses


How do you classify the institution you work for?		
#	Response Date	Other (please specify)
1	Mar 8, 2011 6:41 PM	Air and Space Museum
2	Mar 7, 2011 9:05 AM	History and Science Museum
3	Mar 1, 2011 12:49 PM	both
4	Feb 18, 2011 3:01 PM	Interdisciplinary Museum
5	Feb 18, 2011 7:43 AM	Children's Museum
6	Feb 17, 2011 7:12 AM	Science Technology and History





- |  |  |
|--|--|
| 1. Cape Fear Museum of History and Science | 15. Maryland Science Center                          |
| 2. Carnegie Museum of Natural History      | 16. McWane Science Center                            |
| 3. Carnegie Science Center                 | 17. Mid-America Science Museum                       |
| 4. Cleveland Museum of Natural History     | 18. Museum of Flight                                 |
| 5. COSI - Center of Science and Industry   | 19. Museum of Life and Science, Durham, NC           |
| 6. Cosi Columbus                           | 20. Museum of Science & History                      |
| 7. CuriOdyssey (Coyote Point Museum)       | 21. Natural History Museum of the Adirondacks        |
| 8. Discovery Center Children's Museum      | 22. NC Museum of Life and Science                    |
| 9. Discovery Center Museum                 | 23. New Mexico Museum of Natural History and Science |
| 10. Discovery Center of Springfield        | 24. New York State Museum                            |
| 11. ECHO Lake Aquarium and Science Center  | 25. Oregon Museum of Science and Industry            |
| 12. Exploratorium                          | 26. Orlando Science Center                           |
| 13. Great Lakes Science Center             | 27. Pacific Science Center                           |
| 14. Louisville Science Center              | 28. Rochester Museum and Science Center              |

- 29. San Diego Natural History Museum
- 30. Science Museum of Minnesota
- 31. Sci-Quest
- 32. Shenandoah Valley Discovery Museum
- 33. St. Louis Science Center
- 34. The Franklin Institute
- 35. Turtle Bay Exploration Park
- 36. Utah Museum of Natural History
- 37. WonderLab Museum of Science, Health & Technology

38. How would you define career advancement?	
	Response Count
 view	60
<i>answered question</i>	60
<i>skipped question</i>	61

Question 38: Optional "Other" Responses


How would you define career advancement?		
#	Response Date	Response Text
1	Mar 11, 2011 5:29 PM	Ability to move towards ultimate professional aspirations
2	Mar 11, 2011 3:09 PM	Moving into positions with more responsibilities, and thus more money
3	Mar 11, 2011 9:14 AM	Moving up to a job that you desire to do.
4	Mar 10, 2011 8:32 PM	Opportunities to move forward in a field
5	Mar 10, 2011 4:56 PM	Having options to gain more responsibilities, better pay, and other opportunities after performing well.
6	Mar 10, 2011 7:54 AM	A clear career ladder with future options to learn new skills and work in leadership positions
7	Mar 9, 2011 3:41 PM	The process of obtaining resources and knowledge required to be able to feel comfortable, satisfied, stable and capable in life and an enjoyable career.
8	Mar 9, 2011 3:30 PM	Larger salary, more responsibilities and capacity for decision-making
9	Mar 9, 2011 12:52 PM	Moving forward within a specific career track, developing skills in a position and then moving on to another, more advanced position in the same field.
10	Mar 8, 2011 6:44 PM	Moving up or training in preparation for moving up
11	Mar 8, 2011 6:12 PM	Moving into a position with more responsibilities and more pay.
12	Mar 8, 2011 5:08 PM	continuous learning and mastery of skills and impact on the institution, which corresponds to responsibility level, job title and pay grade
13	Mar 8, 2011 9:30 AM	Increased responsibility for managing employees and a budget, pay raise. Leadership opportunities
14	Mar 8, 2011 7:32 AM	Steady taking on more responsibilities, learning more about your field, and getting a pay increase to reflect your knowledge and experience
15	Mar 7, 2011 5:15 PM	Moving into positions with more responsibility and more pay
16	Mar 7, 2011 4:22 PM	Career advancement for me is working closer to that "dream job"
17	Mar 7, 2011 1:04 PM	Gaining more responsibility and prestige
18	Mar 7, 2011 12:43 PM	Moving towards your career goals or towards higher pay/full time status.

19	Mar 7, 2011 11:27 AM	Increased job responsibilities with personal growth development and increased pay
20	Mar 7, 2011 9:50 AM	Career advancement includes increased expectations, responsibilities, salary, and trust
21	Mar 7, 2011 8:48 AM	Increased responsibility with increased compensation.
22	Mar 7, 2011 8:43 AM	Moving from one position to the next that involves increasing levels of responsibility (budget, employees) or parallel position shifts to better align with interests, talents, skills, education, etc.
23	Mar 7, 2011 8:31 AM	Higher pay, more responsibility
24	Mar 4, 2011 9:41 AM	Moving up the ladder
25	Mar 4, 2011 8:17 AM	Positions of decision making and better salary.
26	Mar 1, 2011 12:50 PM	new opportunities and responsibilities
27	Feb 25, 2011 8:35 AM	New job duties and increase in pay, could be within an existing position or it could entail being promoted into the next level of the hierarchy.
28	Feb 22, 2011 5:24 PM	New job, new roles, new opportunities to learn
29	Feb 22, 2011 4:10 PM	Opportunity to develop or refine a new skill set, increase in leadership level
30	Feb 22, 2011 12:34 PM	Ability to move into a role with more responsibility that has some characteristics of previous position
31	Feb 22, 2011 12:07 PM	Gaining new skills and utilizing talents to develop public programs and outreach.
32	Feb 22, 2011 11:56 AM	Moving upward into management/supervisor/director positions within the museum, but not necessarily into the same department/area
33	Feb 22, 2011 11:22 AM	New position with new responsibilities
34	Feb 22, 2011 10:14 AM	Learning new things and feeling challenged without being discouraged.
35	Feb 22, 2011 7:19 AM	gaining more responsibility, input in decision making and taking on a larger management role; should be accompanied with greater compensation
36	Feb 21, 2011 8:04 AM	Progressing to higher levels of responsibility and salary
37	Feb 21, 2011 7:46 AM	Promotion in terms of job title, expanded responsibilities and financial compensation. Recognition of ability to contribute more individually to the museum.
38	Feb 19, 2011 10:41 AM	raise

39	Feb 19, 2011 6:46 AM	Not only advancing positions and responsibility, but having a competitive salary to match any promotion.
40	Feb 18, 2011 11:54 AM	Gaining additional responsibilities and skills
41	Feb 18, 2011 7:44 AM	Learning opportunities and promotions
42	Feb 18, 2011 6:57 AM	Higher salary with more responsibilities such as increasing supervisory roles, more autonomy, more input in decision-making process
43	Feb 18, 2011 6:27 AM	Opportunities for greater responsibility and a more active role in the organization
44	Feb 17, 2011 7:53 PM	Increase in responsibility, impact on the organization and pay
45	Feb 17, 2011 5:03 PM	management position, more responsibilities and more money
46	Feb 17, 2011 4:18 PM	being successful in your current position, and therefore being promoted to a position that entails more responsibility, pay, and respect.
47	Feb 17, 2011 3:54 PM	Moving to positions that present daily challenges but do not exceed abilities/skills
48	Feb 17, 2011 2:20 PM	Ability to grow and continue to be challenged in new and different ways with greater compensation.
49	Feb 17, 2011 1:37 PM	gaining leadership roles and fulfilling your dream job
50	Feb 17, 2011 1:10 PM	The ability to strengthen personal skills via the addition of requirements to one's job description.
51	Feb 17, 2011 12:17 PM	Taking on increased responsibilities along with increased compensation.
52	Feb 17, 2011 11:17 AM	Limited opportunities due to the NYS employment system
53	Feb 17, 2011 11:17 AM	Showing your want and ability to advance beyond your current position to one with more responsibility and higher pay.
54	Feb 17, 2011 10:47 AM	Deepening knowledge in field and expansion of opportunities to learn
55	Feb 17, 2011 9:09 AM	Career advancement is a ladder system built into a company to retain those employees who show the capabilities and have the understanding of becoming more than their initial role.
56	Feb 17, 2011 8:44 AM	the ability to move up the ranks to higher responsibility within the organization

57	Feb 17, 2011 8:18 AM	increasing responsibilities, pay, and skills
58	Feb 17, 2011 7:17 AM	A clear path from low level, introductory positions to more senior, supervisory positions based on mastery of necessary skill sets.
59	Feb 16, 2011 11:16 AM	I would define it as a continuous learning in the field of study you are in.
60	Feb 16, 2011 11:14 AM	Ability to move up not only in responsibilities but also in salary/wages



39. What do you feel is the most important contributions of Millennials to science museums?		Response Count
 view		53
<i>answered question</i>		53
<i>skipped question</i>		68

Question 39: Optional “Other” Responses

What do you feel is the most important contributions of Millennials to science museums?		
#	Response Date	Response Text
1	Mar 11, 2011 5:29 PM	Connecting to today's youth in science
2	Mar 11, 2011 3:09 PM	To connect with other Millennials in the public sector, and to give a different, more modern perspective on science that museums can offer.
3	Mar 11, 2011 9:14 AM	Young, fresh people!
4	Mar 10, 2011 8:32 PM	New technology; buying tickets and fostering a lifelong interest in science
5	Mar 10, 2011 4:56 PM	Not sure.
6	Mar 10, 2011 7:54 AM	Desire for altruism, enthusiasm, creativity, ability to work with technology and social media
7	Mar 9, 2011 3:41 PM	A fresh outlook and a connection with new forms of communication, technology, and open-mindedness.
8	Mar 9, 2011 3:30 PM	I don't know what that is.
9	Mar 9, 2011 1:49 PM	innovation
10	Mar 9, 2011 12:52 PM	We have a different perspective than people younger or older than us. We are not better or worse than any other generation of people. We add diversity of thought and practice to wherever we work.

Question 39: Optional "Other" Responses


11	Mar 8, 2011 6:44 PM	Keeping them relevant
12	Mar 8, 2011 6:12 PM	Keep things turning over and moving forward, not allowing museums to get stuck in the 1960s.
13	Mar 8, 2011 9:30 AM	Younger generations are pursuing a "traditional" life path later on, we're postponing marriage and families and dedicating ourselves to our careers and public service. We're flexible and hard working and a huge asset to any organization.
14	Mar 8, 2011 7:32 AM	Enthusiasm, spirit of collaboration, efficiency, technology
15	Mar 7, 2011 4:22 PM	new ideas- a more theory trained eye with technological know how
16	Mar 7, 2011 1:04 PM	Enthusiasm and education
17	Mar 7, 2011 12:43 PM	I don't think there's a more important contribution from millennials than there is from other generations...
18	Mar 7, 2011 8:48 AM	Fresh perspective.
19	Mar 7, 2011 8:43 AM	We have joined the museum ranks with others that have been doing the museum thing a long time (it's not uncommon to find someone in my institution that has been in the same position for 30-40 years). While I hate to use the phrase "new blood," we are: we challenge old Victorian ideals of museums and can help the institutions realign to fit more with social needs, keep up with changing demographic profiles, and champion the constructivist trends in museums.
20	Mar 7, 2011 8:24 AM	Technological approaches to improving museum visibility
21	Mar 4, 2011 9:41 AM	Views of guests our age, how to get them to the museum
22	Mar 4, 2011 8:17 AM	Different way of seeing things.
23	Mar 1, 2011 2:27 PM	fresh outlook on education.
24	Mar 1, 2011 12:50 PM	fresh ideas and energy
25	Feb 25, 2011 5:03 PM	to bring museums into acting as change agents
26	Feb 22, 2011 5:24 PM	New ideas, most culturally connected

### Question 39: Optional "Other" Responses

27	Feb 22, 2011 4:10 PM	High tech-savvy, competent in new forms of communication, raised to generate new ideas and practices
28	Feb 22, 2011 12:34 PM	Ideas of innovation, knowledge of diversity, and technology know-how
29	Feb 22, 2011 11:56 AM	Energy and new ideas
30	Feb 22, 2011 11:22 AM	Hard work ethic and new ways of problem solving
31	Feb 22, 2011 10:14 AM	Dedication and commitment to really caring about the place you work and getting out of the "it's just a job" mode.
32	Feb 22, 2011 7:19 AM	Millenials have a vast knowledge of social media and a strong knowlegde about our respective industries. We are, for the most part, highly educated, highly motivated and career oriented, but museums do not take advantage of our skills.
33	Feb 21, 2011 8:04 AM	Familiarity with new media; fresh perspective on museum programs and operations
34	Feb 19, 2011 10:41 AM	energy
35	Feb 19, 2011 6:46 AM	New fresh ideas and the energy and excitiment to bring museums to a higher level of education and entertainment.
36	Feb 18, 2011 11:54 AM	Comfort with digital technology in education
37	Feb 18, 2011 7:44 AM	Knowledge of current technology
38	Feb 18, 2011 6:57 AM	Breathing vitality to old ideas and approaches; providing an example for those even younger than ourselves in the sciences
39	Feb 18, 2011 6:27 AM	New perspective
40	Feb 17, 2011 7:53 PM	Providing fresh ideas
41	Feb 17, 2011 4:18 PM	The young energy and minds of modern education.
42	Feb 17, 2011 3:54 PM	Perpetuating these important cultural instutitions, bringing in new volunteers, better understanding modern audiences
43	Feb 17, 2011 3:32 PM	Social networking
44	Feb 17, 2011 2:20 PM	Passion, new and creative ideas.

Question 39: Optional "Other" Responses

45	Feb 17, 2011 1:10 PM	A fresh outlook on science? See, most Millennials don't really care about science. The majority that I see are constantly 'plugged in' to their technology. I know some that couldn't tell you what NASA does, but will ask you if it's come out with any good records lately. I have very little hope for Millennials for this fact alone. Fewer and fewer are coming up with truly inspirational ideas that will advance our species. Until I see them start to break away from the bubblegum world that they've been placed in, I doubt they'll ever make a big difference.
46	Feb 17, 2011 12:17 PM	Younger perspectives disproportionately represent concepts of change and research-driven decision making.
47	Feb 17, 2011 11:17 AM	A fresh take on museum education
48	Feb 17, 2011 9:09 AM	Fresh breath. The one thing I have noticed while being apart of my museum is that the Sci. Center industry is predominately run by the same people for nearly 20 years. A new thought process, and new way of looking at the usefulness of a museum how their mission may actually reflect today's youth. We need more insight into how it is all evolving today. The industry needs evolution.
49	Feb 17, 2011 8:44 AM	we bring new energy and perspective.
50	Feb 17, 2011 8:18 AM	energy and new ideas
51	Feb 17, 2011 7:17 AM	Understanding and utilizing the benefits that computing and the internet provide to a science museum.
52	Feb 16, 2011 11:16 AM	I think the most important contribution is sharing what they want to learn and going and finding answers to their questions.
53	Feb 16, 2011 11:14 AM	Social media/internet and technology capabilities

40. Is there anything else you would like to share?		Response Count
 view		23
<b>answered question</b>		<b>23</b>
<b>skipped question</b>		<b>98</b>

Question 40: Optional "Other" Responses

Is there anything else you would like to share?		
#	Response Date	Response Text
1	Mar 11, 2011 3:09 PM	I believe that Millennials are necessary to science museums especially if their goals concern connecting with the public. In my opinion, this is because we bring a perspective similar to the more youthful backgrounds that visit the museums so it allows us to better connect with visitors of those backgrounds. In many respects, especially at the museum I work at, I feel as if we are taken for granted and not given as many benefits as employees in similar part-time jobs.
2	Mar 10, 2011 4:56 PM	Nope!
3	Mar 9, 2011 3:30 PM	I answered "not interested" in being an executive, but it made me answer the next question pertaining to the previous one anyway.
4	Mar 8, 2011 6:12 PM	We are all highly underpaid, and those of us who want to stay and advance are signing on for a life of being underpaid.
5	Mar 8, 2011 5:08 PM	I'm excited to see the results, Adrienne! Thanks for putting this together! Also, manager is spelled "manger" in one of the Q's on the first page
6	Mar 8, 2011 9:30 AM	I'm interested in working in a science/natural history museum if I have an opportunity to teach out in the field or oversee community/outreach programs. I'm learning a lot in my current position but feel limited, literally by the four walls of this building and a lack of investment in programming for underserved communities.
7	Mar 7, 2011 4:22 PM	make sure when you are processing your data you realize that some of your "if you chose..." questions were required
8	Mar 7, 2011 11:27 AM	I joined the Museum from a corporate environment because I make identical amount now, but with fewer hours. However, I received regular quarterly bonuses in the thousands and numerous perks. As cost of living climbs, I'm increasingly interested working longer hours for better wages. I think it's going to be difficult to sustain top tier Millennials on low wages. I think there will be a hollowing out between Coordinators and Directors. Many individuals might accept job right out of college on a low salary, perform well then move on to a top tier b-school and accept a job in corporate america. Then, after a few years, might return to museum as Director or higher when the pay is decent. Going to be difficult to find top talent to cover the in between. It takes too long (10+ years) on low wages, same job, and little career development.
9	Mar 7, 2011 9:50 AM	I would like to add that one of the reasons I would not seek further positions at my institution is that there is no "middle class" I am currently in an executive support role which pays little. There are some top jobs which I would not be qualified for, and many jobs that are at the same level as mine. There is really nowhere to go but sideways. I know others who share this view.

Question 40: Optional "Other" Responses

10	Mar 7, 2011 8:48 AM	No.
11	Mar 7, 2011 8:43 AM	When I answered the early questions about importance of compensation, I ranked it low. I work in this field because I feel passionately about museums. I know that many of my friends feel the same way. My ranking probably gives an inaccurate picture of my thoughts: compensation is very important, and many times I've considered leaving the field so that I can manage my financial life better than I can now. I'm in grad school now for Museum Studies, and plan on having a long career in the museum field, but make that decision knowing that the long-term financial outlook is bleak for non-executive level museum workers, and that I'll likely financially struggle for some time!
12	Mar 1, 2011 12:50 PM	i enjoy working at a museum/science center
13	Feb 23, 2011 9:27 AM	There were some issues with the logic of this survey. I was required to answer some questions that were not applicable in order to advance to the next page. Sorry to add junk data to your survey. (Also, requiring respondents to answer questions is usually not allowed by IRB.)
14	Feb 22, 2011 5:24 PM	Professional development, advancement, and the ability to seek out new positions at a science museum is critical in keeping millenials.
15	Feb 22, 2011 7:19 AM	Millenials seem to have little to no growth opportunities in Museums. There is little room for inovation, change and advancement in non-research fields.
16	Feb 21, 2011 7:58 AM	No.
17	Feb 19, 2011 10:41 AM	i hate my job because my boss is a moron and doesnt have a spine, and lets my department get dumped on by every other department.
18	Feb 19, 2011 6:46 AM	One of the biggest problems is lack of resources to give pay increases to the truly deserving employees who could be important for the future of the museum. This is causing these individuals to go to "for Profit" institutions or leave the field entirely so they can even afford the basics of life.
19	Feb 17, 2011 3:54 PM	I'm glad this survey exists! It seems very useful.
20	Feb 17, 2011 2:20 PM	Not at this time.
21	Feb 17, 2011 12:17 PM	No, thank you.
22	Feb 16, 2011 11:16 AM	No
23	Feb 16, 2011 11:14 AM	n/a

41. If you would like to receive information about the results of the young museum professional survey research please leave your email address below.

	Response Count
 view	47
<i>answered question</i>	47
<i>skipped question</i>	74

**Appendix B: Survey: Management of Young Science Center/Museum Professionals, Completed by Directors, Full Data with Quotes**

1. This survey is to be completed by Executive Directors, Deputy Directors, Directors, Assistant Directors, and/or HR staff at your institution. Which best describes your position? (Select both if you serve as a director, as well as the HR specialist for your institution)

	Response Percent	Response Count
Executive Director	10.9%	10
Deputy Director	7.6%	7
<b>Director</b>	<b>66.3%</b>	<b>61</b>
Assistant Directors	12.0%	11
Human Resources staff	6.5%	6
Other (please specify)		15
<b>answered question</b>		<b>92</b>
<b>skipped question</b>		<b>0</b>



Question 1: Optional "Other" Responses

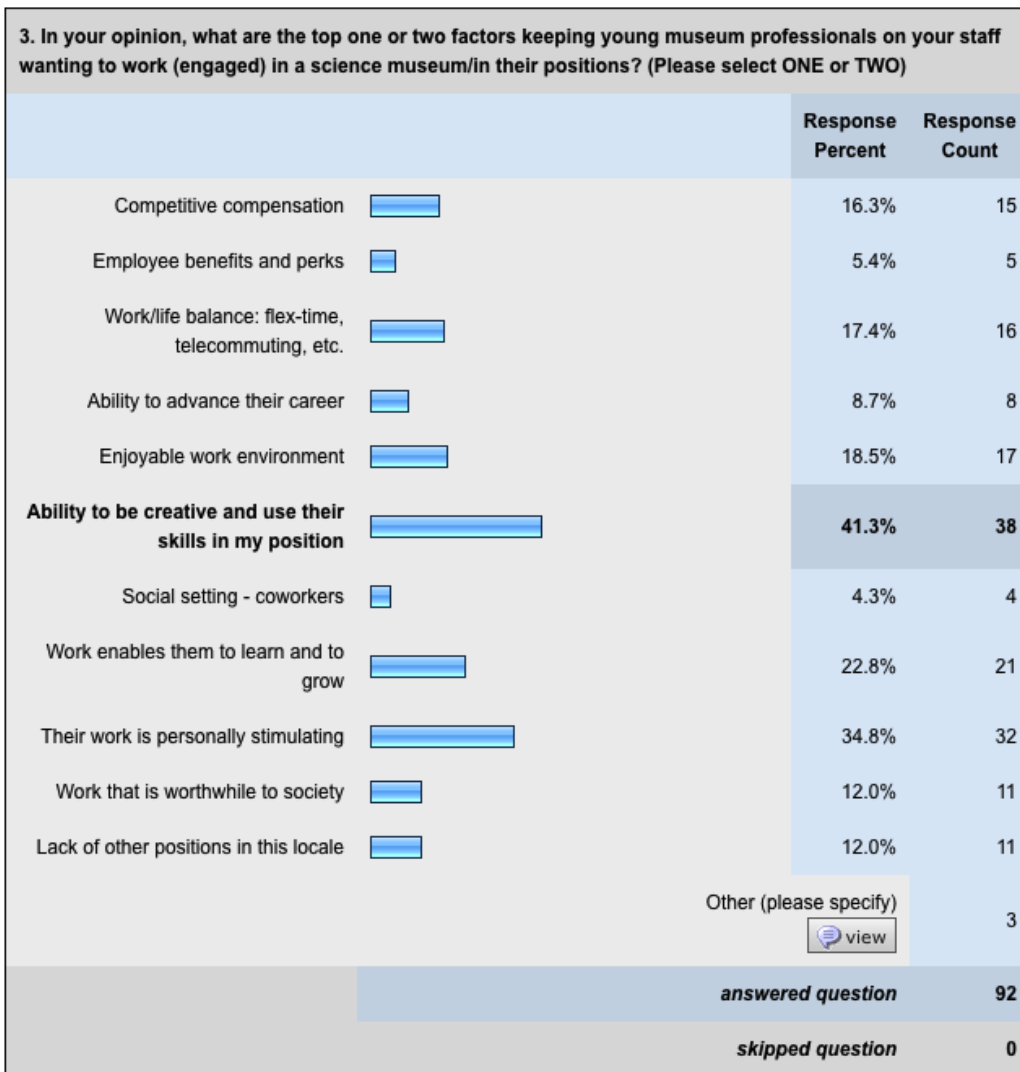
<b>This survey is to be completed by Executive Directors, Deputy Directors, Directors, Assistant Directors, and/or HR staff at your institution. Which best describes your position? (Select both if you serve as a director, as well as the HR specialist for your institution)</b>		
#	Response Date	Other (please specify)
1	Mar 9, 2011 5:11 PM	Vice President for Science and Education
2	Mar 7, 2011 10:52 AM	Senior Director
3	Mar 6, 2011 7:53 AM	Dir of Development & External Relations
4	Mar 5, 2011 6:48 PM	senior director
5	Feb 21, 2011 1:38 PM	Associate Curator
6	Feb 21, 2011 1:14 PM	Talent Management & Professional Development
7	Feb 21, 2011 11:39 AM	Director of Education
8	Feb 21, 2011 7:15 AM	Vice President of Programs & Exhibits
9	Feb 21, 2011 6:40 AM	Science Interpreter
10	Feb 20, 2011 2:55 PM	Museum Retail Coordinator
11	Feb 19, 2011 6:23 PM	Associate Executive Director
12	Feb 17, 2011 9:31 AM	Senior Science Educator
13	Feb 17, 2011 8:39 AM	To clarify, I am Director of Exhibits. Under some schemes that could be defined as an Asstant Director. I am third down in your list however.
14	Feb 17, 2011 7:50 AM	Interim Managing Director
15	Feb 17, 2011 7:46 AM	VP Programs

**2. In your opinion, how important were these factors to young museum professionals on your staff when they chose to work at a your institution? (1 = LEAST important and 5 = MOST important)**

	1	2	3	4	5	Rating Average	Response Count
The museum's mission aligns with my personal values	0.0% (0)	4.3% (4)	17.4% (16)	<b>45.7%</b> <b>(42)</b>	32.6% (30)	4.07	92
Job description	1.1% (1)	1.1% (1)	20.7% (19)	<b>52.2%</b> <b>(48)</b>	25.0% (23)	3.99	92
Competitive compensation	5.4% (5)	22.8% (21)	<b>38.0%</b> <b>(35)</b>	21.7% (20)	12.0% (11)	3.12	92
Employee benefits and perks	4.3% (4)	22.8% (21)	<b>34.8%</b> <b>(32)</b>	26.1% (24)	12.0% (11)	3.18	92
Work/life balance: flex-time, telecommuting, etc.	1.1% (1)	14.1% (13)	26.1% (24)	<b>34.8%</b> <b>(32)</b>	23.9% (22)	3.66	92
Professional development opportunities	0.0% (0)	17.4% (16)	<b>32.6%</b> <b>(30)</b>	<b>32.6%</b> <b>(30)</b>	17.4% (16)	3.50	92
Opportunities for advancement	1.1% (1)	14.1% (13)	<b>33.7%</b> <b>(31)</b>	<b>33.7%</b> <b>(31)</b>	17.4% (16)	3.52	92
Enjoyable work environment	0.0% (0)	1.1% (1)	9.8% (9)	37.0% (34)	<b>52.2%</b> <b>(48)</b>	4.40	92
The socially responsible practices of the organization	3.3% (3)	7.6% (7)	26.1% (24)	<b>43.5%</b> <b>(40)</b>	19.6% (18)	3.68	92
Lack of other positions in this locale	16.3% (15)	16.3% (15)	<b>35.9%</b> <b>(33)</b>	20.7% (19)	10.9% (10)	2.93	92
Other (please specify)							5
							<a href="#">view</a>
<b>answered question</b>							<b>92</b>
<b>skipped question</b>							<b>0</b>

Question 2: Optional "Other" Responses

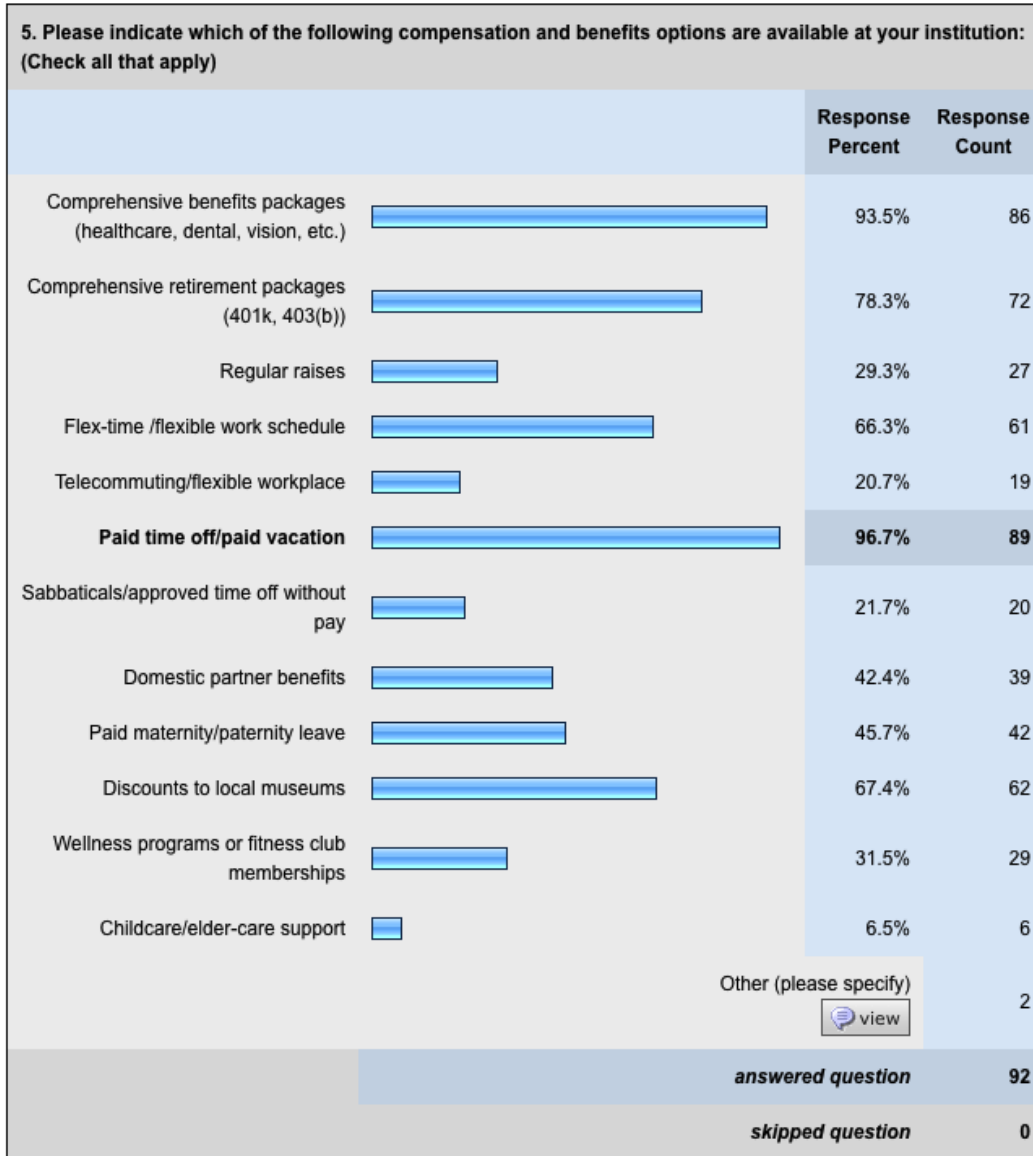
In your opinion, how important were these factors to young museum professionals on your staff when they chose to work at a your institution? (1 = LEAST important and 5 = MOST important)		
#	Response Date	Other (please specify)
1	Mar 7, 2011 12:37 PM	trendy new museum
2	Mar 7, 2011 7:30 AM	Unique and creative environment
3	Feb 21, 2011 8:14 AM	To be part of the state system
4	Feb 20, 2011 8:59 PM	Opportunity to "own" their work (i.e. responsibility and autonomy)
5	Feb 20, 2011 11:43 AM	The institution's reputation for excellence in the field.



### Question 3: Optional "Other" Responses






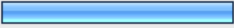

<b>In your opinion, what are the top one or two factors keeping young museum professionals on your staff wanting to work (engaged) in a science museum/in their positions? (Please select ONE or TWO)</b>		
<b>#</b>	<b>Response Date</b>	<b>Other (please specify)</b>
1	Feb 21, 2011 8:14 AM	the economy, jobs are scarce everywhere
2	Feb 20, 2011 11:43 AM	intellectual stimulation
3	Feb 16, 2011 6:53 AM	Our region in general has difficulty retaining younger talent

4. Please indicate how strongly you agree with the statements below pertaining to your institution: (1 = LEAST agree and 5 = MOST agree)							
	1	2	3	4	5	Rating Average	Response Count
Young museum professionals want management (decision makers) to be receptive to exploring new ideas/innovations presented by them.	1.1% (1)	2.2% (2)	3.3% (3)	31.5% (29)	<b>62.0%</b> <b>(57)</b>	4.51	92
Management (decision makers) is receptive to exploring new ideas/innovations presented by young museum professionals.	2.2% (2)	12.0% (11)	23.9% (22)	<b>40.2%</b> <b>(37)</b>	21.7% (20)	3.67	92
Young museum professionals want to take initiative and "run with projects."	3.3% (3)	4.3% (4)	26.1% (24)	<b>42.4%</b> <b>(39)</b>	23.9% (22)	3.79	92
Managers trust and let young museum professionals take initiative and "run with projects."	5.4% (5)	12.0% (11)	<b>42.4%</b> <b>(39)</b>	28.3% (26)	12.0% (11)	3.29	92
Young museum professionals enjoy/prefer working in teams on projects.	1.1% (1)	4.3% (4)	20.7% (19)	<b>56.5%</b> <b>(52)</b>	17.4% (16)	3.85	92
Young museum professionals are provided opportunities to work in teams on projects.	2.2% (2)	7.6% (7)	20.7% (19)	<b>42.4%</b> <b>(39)</b>	27.2% (25)	3.85	92
Young museum professionals want to participate in the decision-making process.	2.2% (2)	0.0% (0)	8.7% (8)	<b>50.0%</b> <b>(46)</b>	39.1% (36)	4.24	92
Managers work to include young museum professionals in the decision-making process.	5.4% (5)	15.2% (14)	27.2% (25)	<b>42.4%</b> <b>(39)</b>	9.8% (9)	3.36	92
Young museum professionals would like to feel recognized and rewarded for their accomplishments at work.	0.0% (0)	3.3% (3)	6.5% (6)	33.7% (31)	<b>56.5%</b> <b>(52)</b>	4.43	92
Managers recognize and reward young museum professionals for their accomplishments at work.	2.2% (2)	12.0% (11)	33.7% (31)	<b>39.1%</b> <b>(36)</b>	13.0% (12)	3.49	92
	<b>answered question</b>						<b>92</b>
	<b>skipped question</b>						<b>0</b>




**Question 5: Optional “Other” Responses**

<b>Please indicate which of the following compensation and benefits options are available at your institution: (Check all that apply)</b>		
#	Response Date	Other (please specify)
1	Mar 9, 2011 5:11 PM	these benefits are offered to salaried staff only; many of our young staff are hourly and do not receive the majority of these benefits
2	Mar 7, 2011 11:37 AM	regular raises have been less regular during the economic downturn

6. What kind of technology is provided to young museum professionals in the workplace? (Check all that apply)			Response Percent	Response Count
Personal laptops			29.5%	26
<b>Access to social networking sites/social media</b>			<b>65.9%</b>	<b>58</b>
Instant messaging			27.3%	24
Wikis			20.5%	18
Blogs			38.6%	34
Intranet			54.5%	48
None of the above			9.1%	8
			<b>answered question</b>	<b>88</b>
			<b>skipped question</b>	<b>4</b>

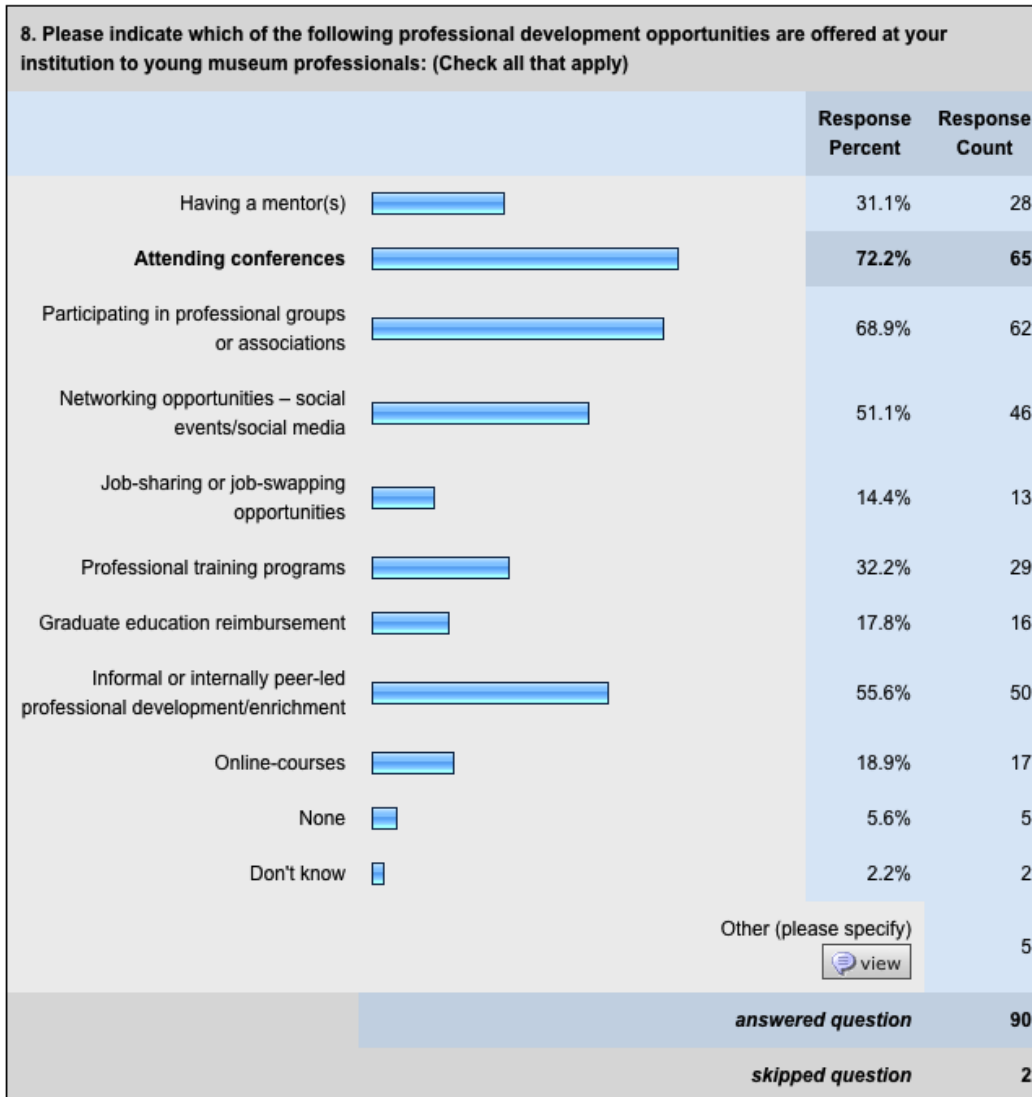
**7. In your opinion, please indicate the importance of the following professional development opportunities for young museum professionals: (1 = NOT important and 5 = VERY important)**

	1	2	3	4	5	Rating Average	Response Count
Having a mentor(s)	0.0% (0)	3.3% (3)	17.8% (16)	33.3% (30)	<b>45.6%</b> <b>(41)</b>	4.21	90
Attending conferences	0.0% (0)	6.7% (6)	27.8% (25)	<b>41.1%</b> <b>(37)</b>	24.4% (22)	3.83	90
Participating in professional groups or associations	3.3% (3)	6.7% (6)	26.7% (24)	<b>48.9%</b> <b>(44)</b>	14.4% (13)	3.64	90
Networking opportunities – social events/social media	1.1% (1)	10.0% (9)	21.1% (19)	<b>50.0%</b> <b>(45)</b>	17.8% (16)	3.73	90
Job-sharing or job-swapping opportunities	8.9% (8)	25.6% (23)	<b>43.3%</b> <b>(39)</b>	17.8% (16)	4.4% (4)	2.83	90
Professional training programs	2.2% (2)	4.5% (4)	21.3% (19)	<b>58.4%</b> <b>(52)</b>	13.5% (12)	3.76	89
Graduate education reimbursement	7.8% (7)	14.4% (13)	26.7% (24)	<b>31.1%</b> <b>(28)</b>	20.0% (18)	3.41	90
Informal or internally peer-led professional development/enrichment	3.4% (3)	6.7% (6)	15.7% (14)	<b>51.7%</b> <b>(46)</b>	22.5% (20)	3.83	89
Online courses	12.5% (11)	<b>29.5%</b> <b>(26)</b>	<b>29.5%</b> <b>(26)</b>	22.7% (20)	5.7% (5)	2.80	88
Other (please specify)							6
						 view	
						<b>answered question</b>	<b>90</b>
						<b>skipped question</b>	<b>2</b>



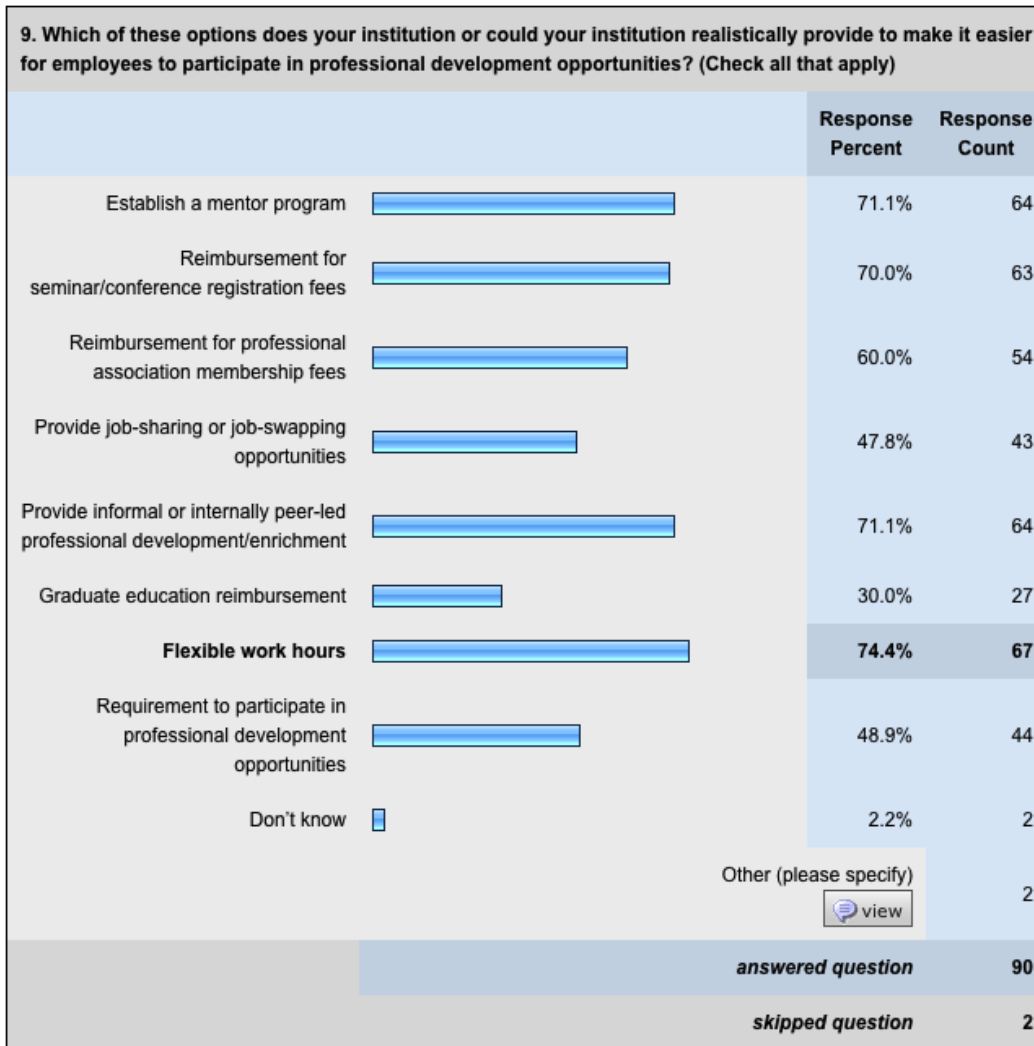
Question 7: Optional "Other" Responses

In your opinion, please indicate the importance of the following professional development opportunities for young museum professionals: (1 = NOT important and 5 = VERY important)		
#	Response Date	Other (please specify)
1	Mar 7, 2011 12:39 PM	being on teams with experienced staff (group mentor)
2	Mar 7, 2011 8:48 AM	performance evaluation that helps you grow
3	Mar 5, 2011 10:08 PM	access to software tools and technology for personal projects
4	Feb 21, 2011 1:17 PM	would likely have higher importance behind graduate education reimbursement (I don't know of any museums around here who do...)
5	Feb 19, 2011 6:23 PM	networking visits to other science museums
6	Feb 17, 2011 1:10 PM	participate in broader professional collaboratives (NISENET, ExNet,...)



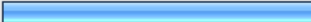

Question 8: Optional “Other” Responses


<b>Please indicate which of the following professional development opportunities are offered at your institution to young museum professionals: (Check all that apply)</b>		
#	Response Date	Other (please specify)
1	Mar 9, 2011 5:15 PM	some mentoring, networking, professional training and conference opportunities are provided but they are very limited
2	Mar 7, 2011 11:10 AM	In some areas, including my own, I think the staff person's supervisor often serves as a mentor, but it's not a formally established program.
3	Mar 7, 2011 7:34 AM	Support to visit other institutions
4	Feb 19, 2011 6:23 PM	networking visits to other science museums
5	Feb 17, 2011 1:10 PM	There are occasional opportunities for some of these, but very sporadic (when free)



Question 9: Optional "Other" Responses

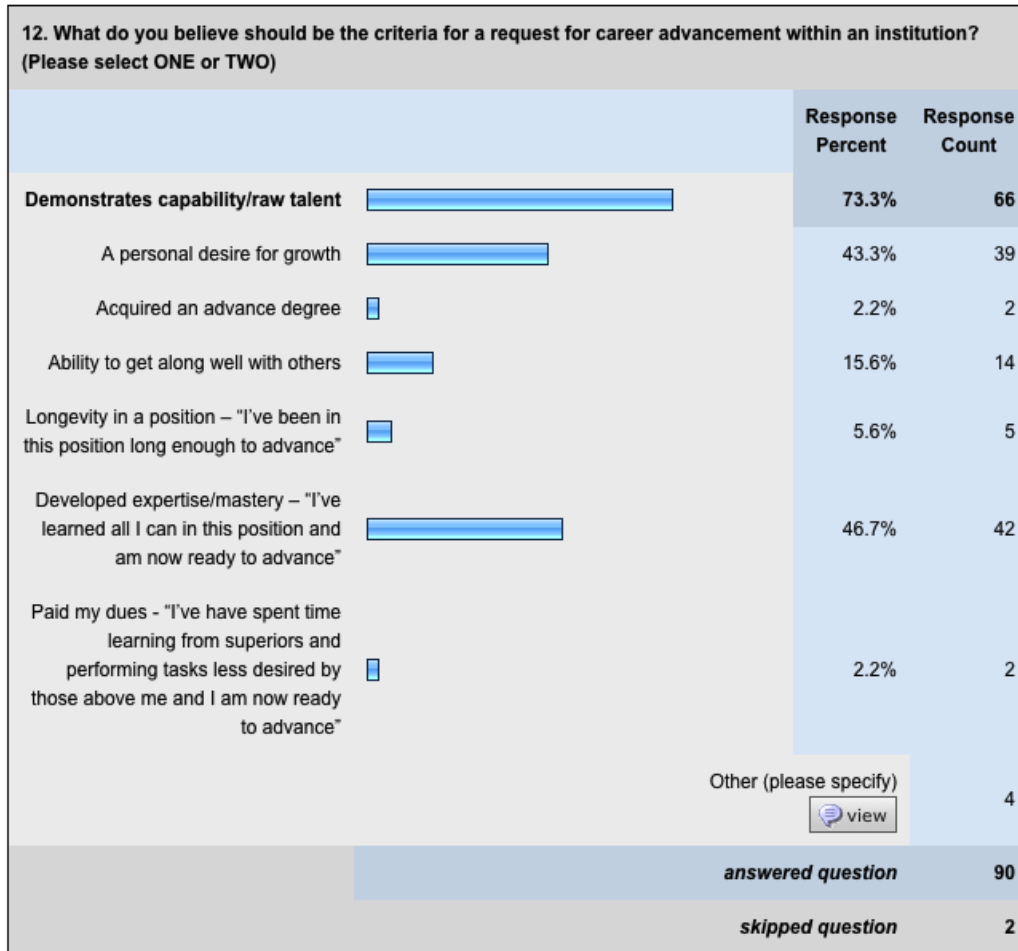
<b>Which of these options does your institution or could your institution realistically provide to make it easier for employees to participate in professional development opportunities? (Check all that apply)</b>		
#	Response Date	Other (please specify)
1	Feb 17, 2011 1:10 PM	It all comes down to available \$
2	Feb 17, 2011 7:47 AM	better role models

10. Do you feel there are inherent obstacles to the career advancement of young museum professionals in the science museum profession at your institution?			Response Percent	Response Count
Yes			73.3%	66
No			26.7%	24
<b>answered question</b>				<b>90</b>
<b>skipped question</b>				<b>2</b>

11. If you answered yes, how would you rate these potential obstacles to their career advancement in the science museum profession at your institution? (1 = NOT an obstacle and 5 = VERY MUCH an obstacle)							
	1	2	3	4	5	Rating Average	Response Count
They are viewed as too young or too inexperienced	25.0% (17)	<b>29.4%</b> <b>(20)</b>	<b>29.4%</b> <b>(20)</b>	8.8% (6)	7.4% (5)	2.44	68
Individuals from outside the institution are more likely to be selected for positions than internal candidates	22.1% (15)	22.1% (15)	<b>25.0%</b> <b>(17)</b>	14.7% (10)	16.2% (11)	2.81	68
Insufficient on-the-job training	19.1% (13)	25.0% (17)	<b>29.4%</b> <b>(20)</b>	19.1% (13)	7.4% (5)	2.71	68
A lack of clear advancement paths	2.9% (2)	11.6% (8)	21.7% (15)	23.2% (16)	<b>40.6%</b> <b>(28)</b>	3.87	69
Inadequate/limited open positions	1.4% (1)	0.0% (0)	10.1% (7)	23.2% (16)	<b>65.2%</b> <b>(45)</b>	4.51	69
Insufficient formal/traditional education (graduate school)	27.3% (18)	<b>34.8%</b> <b>(23)</b>	19.7% (13)	9.1% (6)	9.1% (6)	2.38	66
Other (please specify)							1
							
<b>answered question</b>							<b>69</b>
<b>skipped question</b>							<b>23</b>

Question 11: Optional “Other” Responses

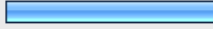


If you answered yes, how would you rate these potential obstacles to their career advancement in the science museum profession at your institution? (1 = NOT an obstacle and 5 = VERY MUCH an obstacle)		
#	Response Date	Other (please specify)
1	Mar 6, 2011 8:01 AM	Institution is too small




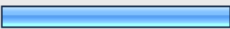


Question 12: Optional "Other" Responses

<b>What do you believe should be the criteria for a request for career advancement within an institution? (Please select ONE or TWO)</b>		
#	Response Date	Other (please specify)
1	Mar 8, 2011 1:39 PM	Institutional need for a position in which the candidate is qualified at the time they are qualified
2	Mar 7, 2011 7:37 AM	Also must demonstrate desire to grow
3	Mar 5, 2011 10:11 PM	demonstrates taking initiative and leadership
4	Feb 17, 2011 1:23 PM	I am reading this as what do THEY think is criteria, as opposed to true criteria.

**13. How likely do you feel it is that young museum professionals will need to take a position outside of their current institution in order advance in their career?**

	Response Percent	Response Count
Very likely 	49.4%	44
Likely 	41.6%	37
Not likely 	9.0%	8
Definitely Not	0.0%	0
<b>answered question</b>		<b>89</b>
<b>skipped question</b>		<b>3</b>

**14. Does your institution actively engage in succession planning?**

	Response Percent	Response Count
Yes 	24.7%	22
No 	55.1%	49
Don't know 	20.2%	18
Please describe succession planning at your institution: 		14
<b>answered question</b>		<b>89</b>
<b>skipped question</b>		<b>3</b>







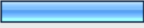






Question 14: Optional "Other" Responses

Does your institution actively engage in succession planning?		
#	Response Date	Please describe succession planning at your institution:
1	Mar 9, 2011 5:21 PM	there is some, but when faced with the choice of 'yes' or 'no', it is more absent than present
2	Mar 8, 2011 9:12 PM	Just completed plan for executive staff.
3	Mar 7, 2011 3:42 PM	We have been in a hiring freeze for 2.5 years and addressing vacancies from retirement. Most staff lack the skill level now to advance and have no \$\$ to help
4	Mar 7, 2011 9:03 AM	Do to the small workforce required, it has been unnecessary to have a succession plan. Many young professionals see us as a stepping stone in their careers.
5	Mar 7, 2011 8:33 AM	Promising candidates have been funded for leadership developing seminars. However, staff is small and opportunities are limited.
6	Mar 6, 2011 12:32 PM	Identify young talent, and provide opportunities for mentoring, conference attendance, visit program officers, 'audit' the grant -writing process and higher level management meetings.
7	Feb 22, 2011 10:06 AM	As far as I can tell it doesn't exist until someone leaves and there is a scramble to fill their spot.
8	Feb 21, 2011 1:19 PM	We have a career ladder program, but the current "top rungs" of the ladder are at the entry-level full-time professional level. I would love to see the ladder extend up higher, and I believe we are building it, but it takes time (and not many seasoned professionals are leaving:) That requires that they need to take positions outside.
9	Feb 21, 2011 8:25 AM	Much depends on the Director and or the state's budget, if we cannot give basic raises, we cannot advance. Not many want horizontal "advancement".
10	Feb 20, 2011 11:49 AM	We constantly talk about the need to do this, but don't actually have a plan. We wait until a senior person declares an intent to leave and then do last minute succession training.
11	Feb 19, 2011 6:27 PM	Our museum has been open for only 8 years and is just now beginning to think about the importance of succession planning as the founding staff ages.
12	Feb 17, 2011 8:29 AM	Formal plan developed with a consultant for the CEO and VP positions, outlining opportunities and gaps for directors and managers

Question 14: Optional "Other" Responses

13	Feb 16, 2011 9:50 AM	We have ongoing depth of coverage requirements of all managers and temporary acting-in positions available so young professional can get a taste of the higher positions.
14	Feb 16, 2011 7:03 AM	We have an line of succession for temporary scenarios in which the Executive Director is not able to perform their duties (absence, emergency, etc)




**15. If you are a department director, please specify which area(s) you oversee. Please select all that apply.**






	Response Percent	Response Count
Collections 	11.4%	9
Development/Membership 	17.7%	14
<b>Education</b> 	<b>35.4%</b>	<b>28</b>
Exhibitions 	29.1%	23
Marketing/Public Relations 	17.7%	14
Online Engagement/Social Media 	11.4%	9
Public Programs/Outreach 	34.2%	27
Visitor Services 	20.3%	16
Volunteer Services 	11.4%	9
Website/IT/New Media 	16.5%	13
General - All of the Above 	8.9%	7
Not Applicable 	6.3%	5
Other (please specify)  view		11
<b>answered question</b>		<b>79</b>
<b>skipped question</b>		<b>13</b>


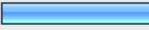



Question 15: Optional "Other" Responses

If you are a department director, please specify which area(s) you oversee. Please select all that apply.		
#	Response Date	Other (please specify)
1	Mar 9, 2011 12:19 PM	Graphics, Building Services/Facilities Operations
2	Mar 7, 2011 11:44 AM	research and development
3	Mar 7, 2011 11:13 AM	Research & Evaluation
4	Mar 3, 2011 9:39 AM	Planetarium
5	Feb 22, 2011 10:07 AM	We include security in our visitor services department
6	Feb 21, 2011 1:19 PM	Talent Management & Professional Development
7	Feb 20, 2011 3:13 PM	Retail
8	Feb 17, 2011 3:16 PM	Special Projects
9	Feb 17, 2011 2:05 PM	facility operations
10	Feb 17, 2011 10:59 AM	Planetarium
11	Feb 17, 2011 8:18 AM	Exhibits physical repairs and maintenance

16. How long have you been in your current position?		
	Response Percent	Response Count
less than a year 	5.6%	5
<b>1-5 years</b> 	<b>44.4%</b>	<b>40</b>
5-10 years 	22.2%	20
10-15 years 	15.6%	14
15+ years 	12.2%	11
<b>answered question</b>		<b>90</b>
<b>skipped question</b>		<b>2</b>

17. Between which years where you born?		
	Response Percent	Response Count
born before 1945 	1.1%	1
<b>born between 1945 and 1964</b> 	<b>48.9%</b>	<b>44</b>
born between 1965 and 1979 	38.9%	35
born after 1979 	8.9%	8
Decline to answer 	2.2%	2
<b>answered question</b>		<b>90</b>
<b>skipped question</b>		<b>2</b>



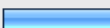


18. Which gender do you identify with?		
	Response Percent	Response Count
<b>Female</b> 	<b>62.2%</b>	<b>56</b>
Male 	35.6%	32
Transgender/inter-sex	0.0%	0
I prefer not to answer 	2.2%	2
<b>answered question</b>		<b>90</b>
<b>skipped question</b>		<b>2</b>

19. How do you describe your ethnicity?		
	Response Percent	Response Count
African American/Black	4.4%	4
Asian	2.2%	2
Native Hawaiian/Pacific Islander	0.0%	0
Hispanic/Latino	2.2%	2
Native American/Alaska Native	1.1%	1
Multiracial	1.1%	1
<b>White/Caucasian</b>	<b>84.4%</b>	<b>76</b>
I prefer not to answer	4.4%	4
Other (please specify)		0
<b>answered question</b>		<b>90</b>
<b>skipped question</b>		<b>2</b>

20. How do you classify the institution you work for?		
	Response Percent	Response Count
Science center	80.9%	72
Natural history museum	19.1%	17
Other (please specify)		10
<b>answered question</b>		<b>89</b>
<b>skipped question</b>		<b>3</b>

Question 20: Optional “Other” Responses

How do you classify the institution you work for?		
#	Response Date	Other (please specify)
1	Mar 7, 2011 8:35 AM	History and Science museum
2	Mar 7, 2011 7:31 AM	Natural history and science, children’s, and local history
3	Mar 5, 2011 5:35 PM	Children’s Museum
4	Feb 21, 2011 11:44 AM	Science & History
5	Feb 18, 2011 7:30 AM	Combination natural history museum, zoo, aquarium and botanical garden
6	Feb 17, 2011 1:26 PM	We are most definitely both + historical museum
7	Feb 17, 2011 11:00 AM	Science center and natural history and local history
8	Feb 17, 2011 9:16 AM	We are trying to incorporate both science center and natural history museum.
9	Feb 17, 2011 6:44 AM	History/special
10	Feb 16, 2011 1:40 PM	Science and art center

21. Select the approximate operating expenses of your institution for the most current fiscal year.		
	Response Percent	Response Count
<\$1 million 	6.7%	6
\$1-\$2.5 million 	23.6%	21
\$2.5-\$6.5 million 	25.8%	23
>\$6.5 million 	36.0%	32
Don't know 	7.9%	7
<b>answered question</b>		<b>89</b>
<b>skipped question</b>		<b>3</b>


**22. Select approximately how many combined full-time and part-time employees are employed by your institution.**

	Response Percent	Response Count
<15	6.8%	6
15-40	19.3%	17
40-100	34.1%	30
>100	<b>38.6%</b>	<b>34</b>
Don't know	1.1%	1
<b>answered question</b>		<b>88</b>
<b>skipped question</b>		<b>4</b>

**23. Is the institution you work for unionized?**


	Response Percent	Response Count
Yes	18.0%	16
No	<b>82.0%</b>	<b>73</b>
Don't know	0.0%	0
<b>answered question</b>		<b>89</b>
<b>skipped question</b>		<b>3</b>

24. For the purpose of data analysis and verification please enter the name of your institution here. Other data in the survey will not be linked to this information.

	Response Count
 view	89
<b>answered question</b>	<b>89</b>
<b>skipped question</b>	<b>3</b>

- |  |  |
|--|--|
| 1. A.C. Gilbert's Discovery Village        | 22. Exploratorium                                  |
| 2. Adventure Science Center                | 23. Fleischmann Planetarium and Science Center     |
| 3. California Academy of Sciences          | 24. Fort Discovery                                 |
| 4. Cape Fear Museum of History and Science | 25. Great Lakes Science Center                     |
| 5. Chabot Space and Science Center         | 26. Lawrence Hall of Science                       |
| 6. Cincinnati Museum Center                | 27. Liberty Science Center                         |
| 7. Clark Planetarium                       | 28. Louisville Science Center                      |
| 8. Clay Center for the Arts and Sciences   | 29. maryland science center                        |
| 9. Cleveland Museum of Natural History     | 30. Miami Science Museum                           |
| 10. COSI                                   | 31. Mid-America Science Museum                     |
| 11. Dakota Science Center                  | 32. Morehead Planetarium and Science Center        |
| 12. Decline                                | 33. Museum of Discovery                            |
| 13. Delaware Academy of Science, Inc.      | 34. Museum of Life + Science, Durham, NC           |
| 14. Delaware Museum of Natural History     | 35. Museum of Science & History                    |
| 15. Discovery Center                       | 36. Museum of Science & Industry                   |
| 16. Discovery Center of Springfield        | 37. Museum of Science and Industry, Chicago        |
| 17. Discovery Place                        | 38. National Museum of Nuclear Science & History   |
| 18. Discovery World                        | 39. National Watch & Clock Musuem                  |
| 19. Don Harrington Discovery Center        | 40. NC Museum of Natural Sciences                  |
| 20. ECHO Lake Aquarium & Science Center    | 41. New Mexico Museum of Natural History & Science |
| 21. Explora                                |  |

42. New York State Museum
43. OMSI
44. Orlando Science Center
45. Pacific Science Center
46. PRI
47. RMSC
48. Rochester Museum & Science Center
49. Saint Louis Science Center
50. Schenectady Museum & Planetarium
51. SCI
52. Science Education Center
53. Science Museum of Virginia
54. Sci-Port: Louisiana's Science Center
55. Sci-Quest, Hands-on Science Center
56. St. Louis Science Center
57. The Franklin Institute
58. The Health Adventure
59. The Museum of Discovery
60. Turtle Bay Exploration Park
61. Utah Museum of Natural History
62. Virginia Living Museum
63. Virginia Museum of Natural History
64. Virginia Air and Space Center
65. WonderLab Museum of Science, Health and Technology

25. How would you define career advancement?	
	<b>Response Count</b>
 view	54
<i>answered question</i>	54
<i>skipped question</i>	38

Question 25: Optional “Other” Responses

How would you define career advancement?		
#	Response Date	Response Text
1	Mar 9, 2011 5:25 PM	assuming successive increases in responsibility and in complexity of tasks and increasing pay
2	Mar 9, 2011 12:22 PM	Skills and knowledge growth typically aligned with new position/title
3	Mar 8, 2011 9:12 PM	Gaining new experiences or depth of existing experiences in your chosen field.
4	Mar 8, 2011 1:41 PM	Tiered trajectory through three organizations and three states.
5	Mar 7, 2011 1:13 PM	receiving more responsibility, decision-making opportunities, new challenges, higher salary



## Question 25: Optional "Other" Responses


6	Mar 7, 2011 12:46 PM	I have advanced my career at this museum
7	Mar 7, 2011 12:03 PM	Opportunity to increase level of complexity, responsibility, and authority with respect to people, projects, or both. Involves moving to a higher pay grade.
8	Mar 7, 2011 11:17 AM	Moving to a position that has increased responsibilities and a higher level of authority that allows you to build on your existing skill set.
9	Mar 7, 2011 10:58 AM	Having a path to work towards for a position, that is in sight.
10	Mar 7, 2011 9:11 AM	A steady forward and upward advancement measured in responsibility. How much are you ultimately answerable for?
11	Mar 7, 2011 8:52 AM	The ability to take on higher levels of responsibility and autonomy.
12	Mar 7, 2011 8:49 AM	I started as President...good
13	Mar 7, 2011 8:40 AM	Gaining skill, responsibility, and compensation within your chosen career path based on worthiness.
14	Mar 7, 2011 8:34 AM	Ability to learn and grow
15	Mar 7, 2011 8:23 AM	limited and currently stagnant
16	Mar 7, 2011 7:41 AM	Continuing growth, challenge and added responsibility
17	Mar 7, 2011 7:20 AM	The ability to grow both professionally and personally while creating a recognized body of work that contributes to the field.
18	Mar 6, 2011 2:34 PM	The ability/opportunity to take on greater challenges within an organization and being recognized for accomplishments that result. Sometimes there is a position available and sometimes it is an additional responsibility within your current position.
19	Mar 6, 2011 1:30 PM	The ability to grow and develop new positions & responsibilities as the market needs change.
20	Mar 6, 2011 12:36 PM	job changes that include an increase in responsibilities and opportunities
21	Mar 6, 2011 12:23 PM	Been to the Mountain been to the Valley
22	Mar 6, 2011 8:05 AM	Moving to more responsibility & compensation
23	Mar 5, 2011 10:15 PM	higher salary; higher classification in the HR system
24	Mar 3, 2011 9:42 AM	Maximizing utilization of talents and skills, increased responsibility, increased wages

## Question 25: Optional "Other" Responses

25	Feb 27, 2011 8:29 PM	limited in our state
26	Feb 24, 2011 2:02 PM	more responsibility, higher position in structure
27	Feb 22, 2011 3:08 PM	To advance to a position that allows you to grow your skills and not make you do things that you don't want to do because it is the only way to advance
28	Feb 22, 2011 9:40 AM	increased responsibility, taking on more higher level tasks, being a team player, expressing interest in cross-training or other positions
29	Feb 21, 2011 1:22 PM	Having the processes and encouragement to be able to devise a growth strategy - being able to create a roadmap of where one wants one's career to go.
30	Feb 21, 2011 8:38 AM	I have been given great opportunities for education and advancement.
31	Feb 21, 2011 8:29 AM	Working in a certain area for several years, gaining experience, moving to another position to gain broader experience with desirable pay
32	Feb 21, 2011 6:57 AM	Obtaining positions with more responsibility and greater pay.
33	Feb 20, 2011 9:25 PM	Opportunity to progress to higher levels of responsibility and position(s)
34	Feb 20, 2011 3:16 PM	Accuiring more responsibilities in a department.
35	Feb 20, 2011 1:17 PM	Continually gaining increased responsibility, raises and advanced title
36	Feb 20, 2011 11:57 AM	Based on skill, talent, drive, and ability to get along with others. Also tenacity in important, both to advocate internally for a new position and as a way the candidate approaches work.
37	Feb 18, 2011 4:19 PM	Additional responsibilities and capabilities
38	Feb 18, 2011 2:10 PM	More responsibility and salary; higher title
39	Feb 18, 2011 7:31 AM	Filling a position that requires more experience and responsibility that the current position, ideally with an increase in slalry but not necessarily
40	Feb 17, 2011 3:30 PM	Everything you do from the begining of you career to the end of you career, no matter the career.

Question 25: Optional "Other" Responses

41	Feb 17, 2011 2:07 PM	Moving to management/leadership positions
42	Feb 17, 2011 1:32 PM	Increasing leadership responsibilities
43	Feb 17, 2011 11:10 AM	More responsibility, better compensation
44	Feb 17, 2011 11:07 AM	More money, more influence on major decisions, wider reputation
45	Feb 17, 2011 10:30 AM	I am where I will be in 10 years
46	Feb 17, 2011 9:29 AM	Being able to advance in pay and title when opportunity and work warrants
47	Feb 17, 2011 9:17 AM	When you are ready for new challenges, and your current position is more of a learning step for a newer placement.
48	Feb 17, 2011 9:13 AM	In my career i had to switch institutions in order to advance. Musuems are glacial.
49	Feb 17, 2011 8:33 AM	being able to continually learn and grow and take on more reonsibility - typically leading to a higher position
50	Feb 17, 2011 8:24 AM	Achieve the position you aspire to.
51	Feb 17, 2011 7:43 AM	Increase in responsibility and compensation
52	Feb 17, 2011 7:36 AM	Taking on more responsibility and authority (frequently additional supervision of staff) that usually comes with increased compensation. However in this economy I have had several staff "advance" without compensation.
53	Feb 16, 2011 11:48 AM	Moving to a higher or different position in the organization.
54	Feb 16, 2011 9:52 AM	Increased salary and responsibility

26. What do you feel is the most important contributions of Millennials to science museums?		Response Count
 view		51
<b>answered question</b>		<b>51</b>
<b>skipped question</b>		<b>41</b>

Question 26: Optional “Other” Responses


What do you feel is the most important contributions of Millennials to science museums?		
#	Response Date	Response Text
1	Mar 9, 2011 5:25 PM	energizing them, bringing the new approaches to learning into this domain
2	Mar 9, 2011 12:22 PM	Enthusiasm for learning & trying new methods
3	Mar 8, 2011 9:12 PM	Dedication.
4	Mar 8, 2011 1:41 PM	Passion, desire to enact social change, and unwillingness to accept the status quo per se.
5	Mar 7, 2011 1:13 PM	new openness to questions, perspectives, diversity of approaches
6	Mar 7, 2011 12:46 PM	Young museum professionals are important, we need to find ways to attract them, hire them and retain them
7	Mar 7, 2011 12:03 PM	Hard working, facility with team-work, interest in working with supervisors to match their work to specific direction and strategic goals of the institution, and energy/passion for the mission and quality deliverables.
8	Mar 7, 2011 9:11 AM	They are, naturally, the gate keepers. As the old guard dwindles, it is up to them to advance the work. They must make the new discoveries or nurture the next generation.
9	Mar 7, 2011 8:52 AM	Passion for making the world a better place.
10	Mar 7, 2011 8:49 AM	working for the common good
11	Mar 7, 2011 8:40 AM	They are more savvy about the applications and possibilities of technology.
12	Mar 7, 2011 8:34 AM	new fresh ideas and enegyry
13	Mar 7, 2011 8:23 AM	energy, enthusiasm, creativity and digital literacty
14	Mar 7, 2011 7:41 AM	Connection to youth audiences growing up in digital age
15	Mar 7, 2011 7:20 AM	A relevance and understanding of a current audience and desired experience
16	Mar 6, 2011 2:34 PM	Their fresh outlook helps keep museums current and using new technology to further our mission.
17	Mar 6, 2011 1:30 PM	They don't accept things because "we've always done it that way"; a comfort and expectation with technology integration; their "personal passion" motivation.
18	Mar 6, 2011 12:36 PM	insight in to social media, modern communications, passion for social and environmental responsibility

## Question 26: Optional "Other" Responses

19	Mar 6, 2011 12:23 PM	blind obedience
20	Mar 6, 2011 8:05 AM	Energy. Ideas. Passion. Science Competency.
21	Mar 5, 2011 10:15 PM	persistence and willingness to work with younger visitors
22	Mar 3, 2011 9:42 AM	Youth, energy, new ideas, closer to the age of many visitors
23	Feb 27, 2011 8:29 PM	moving outreach education to online environment
24	Feb 24, 2011 2:02 PM	flexibility and technology integration
25	Feb 22, 2011 3:08 PM	Their grasp and use of technology
26	Feb 22, 2011 9:40 AM	new innovative ideas and perspective
27	Feb 21, 2011 1:22 PM	Energy and a connection to audience, diversity of workforce.
28	Feb 21, 2011 8:38 AM	Knowledge of what is currently desired in communication, education and entertainment.
29	Feb 21, 2011 8:29 AM	Not letting the institutional memory fade with advancement
30	Feb 21, 2011 6:57 AM	Itroduction of more interactive themes and pieces to exhibits.
31	Feb 20, 2011 9:25 PM	Another perspective. Age diversity is healthy and leads to better collective thinking.
32	Feb 20, 2011 1:17 PM	innovation, engergy, technology
33	Feb 20, 2011 11:57 AM	New modern perspectives, innovative thinking, and energy.
34	Feb 19, 2011 6:37 PM	creativity, dedication to sustainable business practices, social networking skills
35	Feb 18, 2011 2:10 PM	Passion and new ways of thinking
36	Feb 17, 2011 3:30 PM	Fresh ideas, a new outlook, energy and desire to make a difference.
37	Feb 17, 2011 2:07 PM	New ideas. Creativity.
38	Feb 17, 2011 1:42 PM	New ideas adn a different way of thinking.
39	Feb 17, 2011 1:32 PM	New modes of external communication. New ideas
40	Feb 17, 2011 11:10 AM	Desire to do good/focus on mission

Question 26: Optional "Other" Responses

41	Feb 17, 2011 11:07 AM	Fresh viewpoint about what's good and what's not worth saving - ignorance of past, thus not bound by dead traditions
42	Feb 17, 2011 9:59 AM	Insight into that generation's values and interests.
43	Feb 17, 2011 9:29 AM	New ways of thinking, new ideas
44	Feb 17, 2011 9:13 AM	New media and new social interaction forms are ubiquitous
45	Feb 17, 2011 8:33 AM	new ideas and energy
46	Feb 17, 2011 8:24 AM	Adept at computers & Web 2.0, wireless communications
47	Feb 17, 2011 7:43 AM	Energy and connection with visitors
48	Feb 17, 2011 7:36 AM	new energy and ideas
49	Feb 16, 2011 11:48 AM	passion, new ideas,
50	Feb 16, 2011 10:15 AM	Energy and enthusiasm
51	Feb 16, 2011 9:52 AM	Their knowledge and comfort with new technology


27. Is there anything else you would like to share?		Response Count
 view		14
<b>answered question</b>		<b>14</b>
<b>skipped question</b>		<b>78</b>

Question 27: Optional "Other" Responses

Is there anything else you would like to share?		
#	Response Date	Response Text
1	Mar 9, 2011 12:22 PM	Museum field could benefit from a cross institution mentor program/method to network outside of conferences
2	Mar 7, 2011 12:46 PM	I am unsatisfied with the leadership here (above me) as there is a feeling that young professionals are "too young" and not valued. It is a shame
3	Mar 7, 2011 12:03 PM	Millennials can be more time-consuming to manage because they prefer frequent check-ins, review of details, and they can be a little reluctant to trust their gut and move forward without dotting every "i" and crossing every "t" with the full approval of the supervisor and other team members.

Question 27: Optional "Other" Responses

4	Mar 7, 2011 9:11 AM	The most important thing I've learned from this upcoming generation, is the power of social media. Observing history unfolding in real time.
5	Mar 7, 2011 8:40 AM	The question identifying type of museum did not allow for the choice of "other".
6	Mar 7, 2011 7:20 AM	Crearting opportunities for Millenials is dificult in the current and future economy with anaging population that continues to seek relevant work. How can this competitive conflict be addressed within the field as these
7	Mar 6, 2011 12:23 PM	no
8	Mar 6, 2011 8:05 AM	We have just gone through rough budget cuts
9	Feb 22, 2011 9:40 AM	I seriously feel we can expect more and more out of the younger generations. I'm impressed with their confidence and abilities.
10	Feb 20, 2011 11:57 AM	Sometimes I do think that young museum professionals think they are ready for a new position when they actually need more experience. I've seen yound professionals believe they are ready for management positions that they simply do not have the chops for yet. Some management positions simply require actual years of on-the-job work. Knowledge that comes from a degree program is not enough. Having said that, I do think that museums need to do more to provide the mentorships, scaffolding, and direction to young professionals so that they CAN acquire the skills and experiences needed. Keeping a young professional in the same position for years and years on end without guidance is not the answer.
11	Feb 17, 2011 11:07 AM	Young people are hired because they are seen as cheap and willing to take any job. Long-term development is seen as a cost that contributes nothing to current quarter's revenue.
12	Feb 17, 2011 9:29 AM	this is a great idea!
13	Feb 17, 2011 8:33 AM	salary is often a factor in trying to keep Millenials. Museum salaries are often lower than comparable salaries in related fields
14	Feb 17, 2011 8:24 AM	Pondering these questions and my answers caused me to take perspectives on my organization.

<b>28. If you would like to receive information about the results of the young museum professional survey research please leave your email address below.</b>	
	<b>Response Count</b>
 view	42
<b>answered question</b>	<b>42</b>
<b>skipped question</b>	<b>50</b>

## Appendix C: Electronic Survey Email Invitation

**From:** abarnett@exploratorium.edu

**Subject:** Survey Request: Career Pathways of Young Science Center/Museum Professionals

**Date:** February 15, 2011 (initial email), March 5, 2011 (reminder email)

Hello,

**Survey request:** Understanding the career pathways and obstacles of young science center/museum professionals in *Association of Science-Technology Centers* member institutions.

### **Managing Young Science Center/Museum Professionals Survey**

**To be completed by:** Executive Directors, Deputy Directors, Directors, Assistant Directors, and/or HR staff

**Duration:** 5-10 minutes

<https://www.surveymonkey.com/s/ManagementYoungMuseumProfessionals>

### ***Please Forward:***

#### **Career Survey: Young Science Center/Museum Professionals**

**To be completed by:** Part or full-time staff members born in 1980 or after

**Duration:** 10 minutes

<https://www.surveymonkey.com/s/CareerSurveyYoungMuseumProfessionals>

Some project that by 2020 50% of the workforce will be Millennials (individuals born around 1980 - 2000). However, a recent survey by the Young Nonprofit Professionals Network found that 45% of their most skilled and experienced survey respondents currently plan to leave the nonprofit sector. What can science centers/museums do today to make a career in the field viable and desirable to young museum professionals?

These surveys explore the expectations and experiences of current young museum professionals of the Millennial generation in U.S. *Association of Science-Technology Centers (ASTC)* member science centers and natural history museums from the perspective of those young professionals, as well as from those managing them. As part of my museum studies thesis research, I will use the data provided to understand how science centers/museums can best attract, engage, and retain this important segment of the workforce.

I am asking that at least one or more senior managers (Executive Director, Vice President, Director, or human resources person) involved in the workforce strategy of your institution take the [\*\*Managing Young Science Center/Museum Professionals Survey\*\*](https://www.surveymonkey.com/s/ManagementYoungMuseumProfessionals) and that this email is forwarded to any paid staff members born in 1980 or after to take the [\*\*Career Survey: Young Science Center/Museum Professionals\*\*](https://www.surveymonkey.com/s/CareerSurveyYoungMuseumProfessionals).



This survey data will also be used to support ASTC's equity and diversity initiative efforts to promote a diverse workforce in science centers and museums. If you are interested in learning about the results of the research, there is an option to leave your email at the end of the survey.

Your assistance is greatly appreciated,  
-Adrienne Barnett  
MA/MBA museum studies graduate student

## **Appendix D: List of Museum Professionals Interviewed for Findings**

- Aleru, Lola, Project Manager Exhibit Environment, Exploratorium, San Francisco, CA, in-person interview February 14, 2011.
- Andrews, Greg, Astronomy Program Leader, Sci-Port: Louisiana's Science Center, Shreveport, LA, phone interview March 8, 2011.
- Bartels, Dennis, Executive Director, Exploratorium, San Francisco, CA, in-person interview February 15, 2011.
- Dannen, Elizabeth, Senior Science Educator, Oregon Museum of Science and Industry, Portland, OR, in-person interview February 25, 2011.
- Fumarolo, Ann, President & CEO, Sci-Port: Louisiana's Science Center, Shreveport, LA, phone interview February 23, 2011, email exchange April 20, 2011.
- Hecox, Tim, Outreach Educator, Oregon Museum of Science and Industry, Portland, OR, in-person interview February 25, 2011.
- Koenig, Chris, Project Manager Institute for Inquiry, Exploratorium, San Francisco, CA, in-person interview February 17, 2011.
- Koik, Sarah, Public Programs Coordinator, Exploratorium, San Francisco, CA, in-person interview February 13, 2011.
- Pattison, Scott, Research & Evaluation Associate, Oregon Museum of Science and Industry, Portland, OR, in-person interview February 25, 2011.
- Stueber, Nancy, President & CEO, Oregon Museum of Science and Industry, Portland, OR, in-person interview February 28, 2011.

## **Additional Museum Professionals Interviewed**

- Buchbinder, Diana, Director of Organizational Development, Exploratorium, San Francisco, CA, in-person interview November 30, 2010, email exchange April 20, 2011.
- Croak-Falen, Shauna, Human Resources Coordinator, Oregon Museum of Science and Industry, Portland, OR, email exchange February 24, 2011, May 6, 2011.
- Huerta Migus, Laura, Director, Diversity and Equity, Association of Science-Technology Centers, Washington, DC, phone interview December 10, 2010.

Mack, Tim, Oregon Museum of Science and Industry, Vice President of Finance, Human Resources & Volunteer Services Portland, OR, phone interview December 3, 2010.

Richardson, Anne, Associate Director of the Field Trip Explainer Program, Exploratorium, San Francisco, CA, phone interview May 7, 2011.

Robins, Sandra, Educator, Teacher Institute, Exploratorium, San Francisco, CA, in-person interview May 6, 2011.

Ruffo, Christine, Manager, Research, Association of Science-Technology Centers, Washington, DC, phone interview December 10, 2010.

Smith, Alex, Online Engagement, Exploratorium, San Francisco, CA, in-person interview November 11, 2010.

Stepahin, Paul, Exhibit Developer 2, Exploratorium, San Francisco, CA, in-person interview March 28, 2011.

## **Appendix E: Interview Questions for Millennials and Executive Directors**

### **INTERVIEW QUESTIONS: FOR MILLENNIALS/YOUNG MUSEUM PROFESSIONALS**

(Bold questions asked – bulleted questions used only if needed)

#### **Classification & Demographic Information**

- What year were you born?
- Highest level of education?
- What is your primary job function?
- How long have you been working in museums (including internships and volunteering)?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to attract Millennials to positions at your institution?**

- In your opinion, is there anything else it could do or do differently to attract Millennials?
- What do you believe motivates Millennials to work in a science museum? What motivated you?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to keep Millennials engaged and content working at your institution?**

- In your opinion, is there anything else it could do or do differently to engage Millennials?
- Can you describe which compensation and benefits are most important to you?
- What kinds of professional development opportunities would you find most important to you and your career? Are they offered at your institution?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to keep Millennials from leaving the institution for outside opportunities?**

- In your opinion, is there anything else it could do or do differently to retain Millennials?
- In your opinion, do you feel Millennials need to seek positions outside the organization to advance in their careers? If so, why?

#### **Do you feel there are obstacles to your career advancement in the museum profession? If so, can you describe them?**

- How would you describe career advancement?

### **Closing Questions**

- What do you feel is the most important contributions of Millennials to science museums?
- Is there anything else I you would like to tell me about this topic?

### **INTERVIEW QUESTIONS: FOR EXECUTIVE DIRECTORS**

(Bold questions asked – bulleted questions used only if needed )

#### **Classification & Demographic Information**

- If you don't mind me asking, which generation cohort are you classified as?
- How long have you been working in museums (including internships and volunteering)?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to attract Millennials to positions at your institution?**

- In your opinion, is there anything else it could do or do differently to attract Millennials?
- What do you believe motivates Millennials to work in a science museum? What motivated you?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to keep Millennials engaged and content working at your institution?**

- In your opinion, is there anything else it could do or do differently to engage Millennials?
- Can you describe which compensation and benefits are offered at your museum?
- In your opinion, what kinds of professional development opportunities would Millennials benefit from the most? Are they offered at your institution?

#### **What do you believe the Exploratorium/OMSI/Sci-Port is doing well to keep Millennials from leaving the institution for outside opportunities?**

- In your opinion, is there anything else it could do or do differently to retain Millennials?
- In your opinion, do you feel Millennials need to seek positions outside the organization to advance in their careers? If so, why?

**Do you feel there are obstacles to your career advancement in the museum profession? If so, can you describe them?**

- How would you describe career advancement?

**Closing Questions**

- What do you feel is the most important contributions of Millennials to science museums?
- Is there anything else I you would like to tell me about this topic?

## **Appendix F: Online Resources - Employer Tuition Assistance & Mentorship Programs**

### **MENTORSHIP PROGRAMS INFORMATION**

#### **1. Mentoring the Next Generation of Nonprofit Leaders: A Practical Guide for Managers**

Academy for Educational Development - Center for Leadership Development  
<http://cld.aed.org/PDF/MentoringNextGeneration.pdf>

This monograph outlines 12 best practices in nonprofit workplace mentoring. Sections include topics such as the benefits of mentoring relationships, administration of mentoring program, the role of the supervisor, mentoring in large nonprofits, and mentoring in small and mid-size nonprofits.

#### **2. Best Practices Module: Mentoring Programs**

By Joy Davis, British Columbia Museum Association  
<http://www.museumsassn.bc.ca/Images/Best%20Practices%20Modules%202/Mentoring%20Programs%20FINAL.pdf>

This guidebook establishes the benefits of mentoring, outlines approaches to mentoring and provides best practices information for mentorship programs in a museum setting.

#### **3. AAM Mentoring 101**

Association of American Museums  
<http://www.aam-us.org/getinvolved/emp/mentoring101.cfm>

This article provides tips and information for establishing and maintaining a mentor-mentee relationship for museum professionals.

Additional mentoring resources are also listed at the end of the article.

#### **4. AAM Online Mentoring Program**

Association of American Museums  
<http://www.aam-us.org/mentoring.cfm>

A web-assisted program for AAM members designed to match mentors and mentees for professional development.

## **EMPLOYER TUITION ASSISTANCE PROGRAM INFORMATION**

### **1. Employer Tuition Assistance Programs** (June 04, 2008)

By Kathleen Carmichael, Ph.D., FastWeb.

<http://www.fastweb.com/financial-aid/articles/709-employer-tuition-assistance-programs>

This article provides useful tips and information for prospective students interested in seeking out employers who provide tuition assistance, as well as ideas of what to expect from the various kinds of employer reimbursement programs. While the article is aimed at prospective students, employers may find the overview of program stipulations and guidelines useful.

### **2. Tuition Reimbursement**

By Linda Jenkins, GradView

<http://www.gradview.com/articles/careers/tuition.html>

Suited for employers and prospective students, this article explains the IRS regulations and tax benefits of employer tuition assistance programs. The author also provides ideas for tuition reimbursement program guidelines.



## **Appendix G: Product Description - Western Museums Association 2011 Conference Session Proposal**

### **Session Title:**

**Years 1-3-7-10: The Charm and Challenge of Gaining Mastery in the Field**  
Single Session #63

### **(75 word session description for program)**

What does it take to gain museum career mastery? Emerging professionals will offer perspectives on workplace successes and challenges as well as their own strategies for gaining mastery. Panelists will report brief highlights of current research on the obstacles and potential pathways to advancement for Millennials in career-oriented positions. All session participants will identify career issues relative to workplace culture, professional development, and diversity awareness. This panel is suited for emerging professionals, managers, and directors.

### **Additional Commentary per discussions with WMA Program Committee**

Two goals underlie this session: 1) to hear from new voices in the field regarding the factors that impact their professional successes and challenges such as skill acquisition, mentorship, networking, workplace culture; and 2) to present research on Millennials that addresses how this new generation can be better integrated into the museum workforce. We aim to begin the session with participant small group conversations focused on their workplace challenges, followed by panel participants offering their thoughts on integrating into the field along with the research details (moderated discussion). Following the panelists presentations there will be an expanded discussion with the entire audience in order to highlight existing generational issues, and to brainstorm potential pathways for career support.

This session will IDEALLY be slated in the same room right before the session titled: Peer Advocacy & Networks without Borders (session #72). While these two sessions need to remain as separate sessions for the panelists to get support from their respective institutions, this second session logically follows this initial discussion and could help the entire WMA community achieve a more complex understanding of this generation's professional concerns.

**Moderator**

Susan Spero, Ph.D.  
Professor of Museum Studies  
John F. Kennedy University  
Berkeley Campus

**Panelists**

Adrienne Barnett  
Program Manager Teacher Institute  
Exploratorium

Timothy Hecox  
Outreach Educator  
Oregon Museum of Science and Industry (OMSI)

Angela Hudson  
Museum Educator for Youth and Family Programs  
Tacoma Art Museum

## **Appendix H: Product Description - Draft Association of Science-Technology Centers 2012 Conference Session Proposal**

### **1. Session title (10-word maximum). Be descriptive but concise.**

Catch Them if You Can: Retaining Next Generation Museum Professionals

### **2. Session summary (50-word maximum). Note: This paragraph will serve as your entry in the conference program. Please be clear about what your session will cover.**

A museum's innovation and success originates from its staff. Yet recent survey results found that 85% of young science center/museum professionals are considering leaving the field. How can museums retain this emerging talent? National survey results, real-world examples and group discussions provide strategies for retaining next generation museum professionals.

### **3. Session description (125-word maximum). Please describe the session in more detail for the Conference Planning Committee.**

This session opens with a group activity designed to explore and breakdown the (mis)perceptions and stereotypes of young museum professionals (ages 18-34). Making the case for the subject's importance results of a 2011 national study on the obstacles and pathways to career advancement for Millennials in at ASTC member institutions will be presented. Presenters will explore key considerations for attracting, engaging, and retaining young museum professionals: mentoring, staff training and professional development; workplace culture; human resource practices; and diversity awareness. The session's final half will include round table discussions on best-practices involved in each of these key areas. Demonstrating the use of technology, table discussion results will be instantaneously uploaded to a blog or *ASTC CrowdVine*.

**4. Key issues (125-word maximum). What are the key issues addressed by your session, and why are they important?**

As Baby Boomers retire, followed by the smaller Generation X, a “leadership gap” is forming that will inevitably increase the demand for Millennials as leaders. However, research shows this generation is struggling to commit to careers in the science center/museum field and is inclined to seek new employment if their professional and financial needs are not being met. Millennials seeks well-balanced work/life culture, a workplace mission aligned to their values, access to technology, and opportunities for personal engagement. Museums have the opportunity now to adapt to this shift in workforce demographic, otherwise they risk losing talented staff, having access to next generation innovation, making direct connections to the audiences and communities they serve, and maintaining competitive advantage in a challenging market.

**5. Session leader Information–Must be an ASTC member.**

Adrienne Barnett  
Program Manager Teacher Institute  
Exploratorium  
San Francisco, CA

**6. Proposed presenter(s).**

Ann Fumarolo  
Executive Director  
Sci-Port: Louisiana’s Science Center  
Shreveport, LA

Anne Richardson  
Associate Director of the Field Trip Explainer Program  
Exploratorium  
San Francisco, CA

Tim Hecox  
Outreach Educator  
Oregon Museum of Science and Industry  
Portland, OR

7.  Basic session Check if this session will provide a basic understanding of a topic.

8. All room set-ups will be a combination of roundtables and theater (row) seating.

9. Presentation style: Please select one.

- Forum
- Workshop
- Roundtable
- Showcase
- Guest speaker
- Panel
- Pecha Kucha
- Lightning talks
- Speed Geeking
- Poster Session

10. Key words Number (1, 2, 3) up to three key words that best describe your target audience.

Use —1|| for most important.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Accessibility/Diversity/Equity | <input type="checkbox"/> New and Expanding Centers     |
| <input type="checkbox"/> Administration/Finance                    | <input type="checkbox"/> Outreach                      |
| <input checked="" type="checkbox"/> CEO/Director/Trustee           | <input type="checkbox"/> Planetariums                  |
| <input type="checkbox"/> Development/Fund-raising                  | <input type="checkbox"/> Public Relations              |
| <input type="checkbox"/> Education                                 | <input type="checkbox"/> Research and Evaluation       |
| <input type="checkbox"/> Exhibit Development                       | <input type="checkbox"/> Teacher Education             |
| <input type="checkbox"/> Films/Simulators                          | <input type="checkbox"/> Theater/Demonstrations        |
| <input checked="" type="checkbox"/> Human Resources                | <input type="checkbox"/> Visitor/Customer Services     |
| <input type="checkbox"/> Marketing                                 | <input type="checkbox"/> Volunteers                    |
| <input type="checkbox"/> Membership                                | <input type="checkbox"/> Web/Electronic Communications |
| <input type="checkbox"/> Mission/Philosophy                        | <input type="checkbox"/> Youth Programs                |

Special Request/Comments:

If you have questions, please contact [conference@astc.org](mailto:conference@astc.org) or phone at 202/783-7200