Using Learning and Development Opportunities as a Tool to Recruit a More Diverse Applicant Pool

by

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Abstract

Large corporations are simultaneously investing millions in recruiting more diverse candidates and in improving their corporate learning and development capabilities. Limited research has been conducted to determine if these opportunities for growth can contribute to the goal of generating a more diverse applicant pool. Drawing from job pursuit intention research, this study surveyed American workers with some form of tertiary education between the ages of 22 and 65 years old (n = 790) to determine how important learning and development opportunities are when determining interest in a hypothetical business analyst role. Results showed that learning and development opportunities do not attract a more diverse applicant pool and are not seen as valuable enough to make up for a significant difference in salary. Salary was the most important factor for driving interest in the role, followed by health benefits and location flexibility, with learning and development ranked the fourth most important. While the hypotheses were not supported, this study has practical applications for human resource managers looking to design attractive benefits packages and create effective recruiting materials. This study was the first of its kind to isolate learning and development as a tool for attraction and it sets a foundation for future investigation of its value to applicants.
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Introduction

Talent acquisition has been forced to be increasingly dynamic due to rapid changes in the knowledge economy and the explosion of remote work. Hiring skilled and adaptable workers is the goal of any HR team, but with millions of job openings present, those teams are facing the challenge of differentiating themselves from the competition (Bersin, 2021; Cook, 2021). In the realm of talent acquisition research, many studies have been conducted on companies signaling their corporate social performance (i.e., the firm’s tendency to act responsibly in dealings with employees, customers, and the community, also referred to as corporate social responsibility) as well as highlighting their commitment to diversity, equity, and inclusion (DEI) efforts (Albinger and Freeman, 2000; Turban and Greening, 1997; Backhaus et al., 2002). Signaling corporate social performance increases interest across a wide range of applicant groups, while emphasizing the presence of DEI in a company’s culture draws increased interest from underrepresented applicants (Guerci et al., 2016; Jones et al., 2014; Highhouse et al., 1999). Potential applicants’ opinions of prospective employers are strongly influenced by recruiting materials and the contents of job descriptions (Ng and Burke, 2005; Williamson et al., 2008), so understanding which elements within those materials attract talent is essential for finding a high-performing, diverse talent pool.

While using DEI factors and corporate social performance to attract talent has been repeatedly studied (Abraham and Burbano, 2021; Catanzaro et al., 2010; Jonsen et al., 2021; Thomas and Wise, 1999; Turban and Greening, 1997), other job characteristics, like learning and development (L+D), recruiter behaviors, and compensation structure have been studied to a lesser degree. Specifically, L+D has only been researched alongside other variables, rather than independently (Thomas and Wise, 1999; Horwitz et al., 2003; Chapman et al., 2005; Williams
and Dreher, 1992). Learning and development is defined as “a systematic process to enhance an employee’s skills, knowledge, and competency, resulting in better performance in a work setting” (van Vulpen, 2020). A 2021 Gallup poll of over 15,000 workers aged 18-24 found that learning opportunities were the third most important perk when assessing employment options (Rockwood, 2022), indicating L+D is especially relevant to the future of the American workforce. While L+D opportunities usually rank lower in priority than characteristics like salary or mission, companies can still look to maximize their return on L+D investments.

Companies have long understood that investing in L+D is an effective way to build human capital (Crook et al., 2011; Riley et al., 2016; Roca-Puig et al., 2019), but there is still limited research about how those initiatives may influence the job pursuit intentions (JPIs) of potential applicants. If L+D can be shown to attract a more talented and diverse applicant pool, then companies will be able to produce more effective job postings – thereby creating a larger, more diverse talent pool (Ng and Burke, 2005). Additionally, this solution would leverage existing investments into L+D to improve talent attraction and DEI efforts at relatively no cost.

Learning opportunities can be as broad as a companywide, culture-focused onboarding or as specific as a coding course for female employees from underrepresented groups (Morgan, 2019; Estrada, 2020). There is still a large gap in researching the overlap between L+D and DEI, but researchers recognize the potential benefits from giving employees opportunities to grow in an inclusive and equitable way (Stewart and Harte, 2010; Glastra and Meerman, 2012; Hedayati Mehdiabadi and Li, 2016). While the benefits of integrating DEI considerations into L+D programming hasn’t been the focus of formal academic research, corporate L+D practitioners are taking a strong interest in the potential synergies. Publications like MIT Sloan Management Review, Harvard Business Publishing, ChiefLearningOfficer.com, and the Society of Human
Resource Management have all been featuring content from real-world practitioners integrating DEI best practices into their companies’ L+D opportunities (Schmeidl, 2021; Owens, 2020; Cohen, 2021; Guevara, 2021; Gurchiek, 2021; Gialleli, 2022). Recent articles with titles like “5 ways to integrate DEI into L&D,” “Driving DEIB with inclusive learning content starts behind the scenes,” and “Building the Link Between Learning and Inclusion” show how this connection is relevant and growing stronger very quickly (Lam, 2021; Segers, 2021; Schmeidl, 2021). One article described the benefits of more inclusive L+D, writing “learning content can help organizations develop the knowledge and tools to build a better workplace for everyone, from uplifting voices within systemically silenced groups to leveling the playing field for job opportunities” (Segers, 2021). Another article noted that emerging professionals in Generation Z, “the most racially and ethnically diverse generation,” want to “work for organizations that offer development opportunities, provide clear communication around advancement, and foster a sense of belonging” (Gurchiek, 2021). The first step of this newly holistic employee journey is responding to (or ignoring) a job posting, so it is imperative for practitioners and academics alike to understand if the value of L+D opportunities is recognized by all types of job applicants.

Much of the practitioner-authored research still focuses on building more inclusive L+D opportunities to adapt to an increasingly diverse workforce, but there is still limited writing about using L+D to attract talent. Surveys have shown that growth opportunities are very important to prospective workers (Rockwood, 2022), and that employers are looking to make hiring more inclusive of underrepresented minorities (Maurer, 2021), so this experiment can be beneficial to both employees and employers. Looking to fill the gap created by both academics and practitioners, this study looks to analyze one portion of the human capital pipeline through the lens of diversity. Given the recent industry focus on both L+D opportunities and building a more
diverse workforce, I am hypothesizing that job postings that emphasize L+D opportunities can lead to more diverse applicant pools.

This study will also vary listed salary levels and listed L+D opportunities on job descriptions to assess the value potential applicants may assign to the opportunities. Frequently, talent acquisition surveys will ask workers to rank a list of factors, including benefits, salary, and learning opportunities (Rockwood, 2022). Employees often understate the value they put on salary in stated preference surveys (Rynes et al., 2004), so this experiment will isolate salary vs. learning opportunities to avoid the problems that often arise when self-ranking job preferences without the context of a posting. I hypothesize that a low salary posting that emphasizes a high quality L+D experience will generate more interest than a high salary posting with no mention of L+D. This knowledge will serve as a useful tool for understanding how applicants perceive the value of training and its potential for increased return on investment (ROI).

In addition to potentially improving the talent pipeline for firms, this experiment could potentially show added value created by L+D experiences. Companies have been spending millions on their learning materials, frequently adding a designated campus for employees to come learn in a communal environment. In some cases, these investments have been massive undertakings, with Deloitte spending $300 million on just the construction of its Westlake, TX campus (Deloitte, n.d.), and KPMG spending $450 million on its campus near Orlando, Florida (Gomez, 2019). These investments already create value by upskilling employees and building connections across regions, but if they can also be shown to help attract a higher quality talent pool, then learning leaders have another piece of evidence to justify the investment. Conversely, if L+D opportunities are not a significant driver for applicants, then corporate leaders will be
signaled to prioritize their HR budget in other areas, such as helping current employees with internal mobility, or testing different recruiting strategies.

While firms are continually committing to bringing in a more diverse group of hires, it is unclear if L+D is a factor that can push those goals forward. This study attempts to discover L+D’s place in the talent acquisition process by putting a perceived value on the experience and establishing if learning and development experiences can draw a more diverse group of applicants to a role.

**Literature Review**

**Human Capital Theory**

Human capital is defined as “the knowledge, skills and abilities of the people employed in an organization” (Armstrong, 2017). As economies shift from industrialized to knowledge-based, workers’ value is increasingly derived from non-physical human capital to the point where it can be argued that human capital is a company’s “only appreciable asset” (Ulrich, 1998). Human Capital Theory (HCT) was formalized in a journal article by Gary Becker (1962) and its tenets form the foundation of more current learning and development research. The theory states that individuals receiving additional education or training to increase their knowledge and skills should in turn have greater potential to earn a higher wage (Becker, 1962). The theory of investing in individual growth to see resulting increases in productivity can be easily connected to improved firm performance as well: “[HCT] regards people as assets and stresses that investment by organizations in people will generate worthwhile returns” (Armstrong, 2017).

There is some criticism of HCT delivered through the lens of signaling, which suggests some education may lead to increased wages with no increase in productivity (Tan, 2014),
ultimately hurting the firm. While Becker also sees some criticism for “economizing” (Tan, 2014) education and personal growth, the framework he created surrounding costs and benefits of training has persisted. Whether or not it’s moral to think of something like personal growth within an “economized” framework, companies and workers alike make ROI calculations before investing in a training opportunity to ensure it is an efficient use of resources.

Before discussing different forms of learning and development, it is important to note that a large portion of Becker’s original discussion of HCT revolved around “general” versus “specific” human capital (1962). He argues companies are much more incentivized to invest in firm-specific human capital so that workers can only see improved wages at the firm, as opposed to becoming more attractive to the entire competing market. More recent literature continues this line of thought, highlighting the value of investing in firm-specific knowledge over general skills, with a majority of research positing that firm-specific human capital is superior for creating competitive advantage due to its inimitability (Kryscynski et al, 2021). There is some push back on that assessment though, with researchers claiming that there is still positive economic value in companies investing in their employees’ general skills as well (Galunic and Anderson, 2000; Riley et al., 2016). While this study will not be experimenting with the two options, the dichotomy remains a point of debate in L+D literature. It would be worth looking into any potential differences in talent attraction caused by offering one or the other.

**On the Job Training**

Becker (1962) devotes a portion of his paper discussing the ROI of “on the job training,” discussing that companies are sacrificing the short-term production of workers who could be actively working instead of receiving training. He argues that this opportunity cost must be included with the direct cost of providing training to understand the true return on a human
capital investment. He also notes that on the job training is usually administered by the firm itself, “rather than an institution that specializes in teaching,” insinuating that there are even further costs of a commercial firm developing the ability to educate their employees (Becker, 1962). More recently, many firms have invested in building an effective infrastructure for learning within their companies. From early adopters like GE and General Motors to innovators like Bank of America and IBM, large companies have taken a wide range of approaches to educating their own employees (General Electric, 2021; IBM, 2022; Kettering University, 2019; Morgan, 2019). These practices, which blur the lines of general and specific skills, are tightly tied to the business priorities of the firms, giving them a very integrated and intentional learning and development program. This intentionality creates a more pervasive learning culture where employees are consistently participating in learning experiences with a clear purpose, as opposed to an unstable, haphazard learning portfolio (Ben-Hur et al., 2015). Despite Becker’s recognized apprehensions, on the job training has become common practice in the corporate world, however it is now usually referred to as Learning and Development.

Learning and Development

The academic discourse surrounding employees’ individual growth is defined by “human capital,” but within more corporate environments the parlance shifts to “learning and development” (L+D). Armstrong (2017) defines L+D as, “the process of ensuring that the organization has the knowledgeable, skilled and engaged workforce it needs and that individual employees have the opportunity to develop their abilities and maximize their potential.” He also gives definitions explaining the specific differences between Learning, Development, Training, and Education (Appendix 1), but for the purposes of this research, where the specific form of
L+D is not being manipulated, the terms will be interchangeable. L+D can take many different forms, “[encompassing] such areas as individual development, mentoring and coaching, identifying skills to support business strategy, networking and, ... identifying and preparing future managers and leaders” (Stredwick, 2013). There are varied means to deliver programming where these skills can be developed: corporate educational campuses, rotational programs, external certifications or degrees, and online simulations are just some of the major options (Bleich, 2017; Stredwick, 2013; Appendix 2). The open-ended nature of what L+D entails and how it can be delivered creates a need for firms to have a cohesive, strategy-driven L+D plan. The potential complexity of these plans is highlighted well by this diagram from Armstrong.

**Figure 1: Diagram of the components of learning and development (Armstrong, 2017)**

![Diagram of the components of learning and development](image)

**Strategic Learning and Development**

In preparation for this literature review, I set up interviews with corporate learning and development leaders from leading firms including Bank of America, General Electric, JetBlue,
and IBM. While primarily focused on their corporate universities, their knowledge of applying L+D to create positive business outcomes is integrated throughout the literature review and helped guide the development of my research questions. The adoption of strategic learning and development is unique to every firm, allowing for customization and alignment for their individual workforces and industries. Strategic learning and development is an approach to offering training opportunities that align human capital growth with the organization’s current and future goals (Armstrong, 2017). For example, strategic learning and development can look like GE focusing on leadership development at Crotonville or Bank of America focusing on improving customer service at The Academy (General Electric, 2021; Morgan, 2019).

Crotonville is GE’s corporate university whose physical campus is located north of New York, New York and is the brand for additional GE L+D experiences around the world (General Electric, 2021). The Academy, Bank of America’s corporate university, has adopted a more flexible hybrid online presence which was accelerated by the COVID-19 pandemic. The Academy’s recent investment in online tools, such as Virtual Reality-enabled lessons, has eased this transition away from requiring in-person learning (DeBastiani, 2021; Wynn, 2022).

Learning and Development ROI

A large portion of learning and development research focuses on return on investment (ROI). It is fairly rare for companies to execute a randomized control trial on their employees to scientifically assess the effectiveness of an L+D intervention, either assessing costs or individual productivity changes between conditions, so there are frequently company-wide assessments calculated using overall returns or changes in productivity from individuals who all received the same intervention (Riley et al., 2016; Kolo et al., 2013; Parshakov and Shakina, 2018). Assessments are also made with the intention of reducing employee turnover or improving
individual performance (Huselid, 1995; Morin and Renaud, 2009). There is a wide range of results found by these assessments, especially because it is difficult to directly quantify the positive value generated from these investments, especially for the company’s overall performance. Interestingly, through conversations with multiple corporate learning leaders across industries, there is an acknowledgement that while L+D investments are not direct revenue generators, they are also not cost centers – there is belief in the long-term profit generation from more talented employees (Fuller, 2021; Barger 2021; Debastiani, 2021). This analysis is focused on internal ROI from L+D, but it is important to note that companies can sell their programming or technology to other firms and create revenue from those sales (General Electric, 2021; IBM, 2022). For example, one learning leader I interviewed explained how their firm doesn’t conduct full ROI assessments of their learning campus (aside from improving operational efficiency) since they believe its presence is so important to the core values and strategy of the firm (Desmoreaux, 2021). Another leader mentioned that while it would be impossible to quantify the profit and loss of their learning experience platform in a silo, they noted that the employees who accumulate the most training hours and badges have significantly better performance within the organization (Fuller, 2021). These attitudes are reflective of an interest in curating a learning organization, or an organization that “continually improves by rapidly creating and refining the capabilities required for future successes” (Wick and Leon, 1995). This broader cultural shift within a company is another benefit of a comprehensive L+D plan.

**Learning and Development Outcomes**

There is no hard and fast rule about the overall success of corporate L+D programs, especially since there are so many options, but in general, research has found that firms investing in their workers has overall positive effects. These include increased productivity, reduced
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Corporation in Learning and Development

Irrespective of ROI calculations or academic research finding some L+D investments to be non-effective, companies globally have decided that they are very interested in investing in

L+D opportunities also have a fairly limited presence in the literature surrounding talent acquisition. Some studies have used training as one of many factors in a bundle when determining an applicant’s attraction to a firm (Thomas and Wise, 1999; Williams and Dreher, 1992; Horwitz, 2003), but it is rarely the focal point of the research. Talent acquisition research has done a much more thorough job assessing diversity and inclusion in their field.

turnover, or increased worker happiness (Birdi et al., 2008; Huselid, 1995; White and Bryson, 2013). One longitudinal analysis found that investing in human capital drives profitability through increased worker productivity, creating a virtuous cycle of using those profits to reinvest in more human capital resources (Roca-Puig et al, 2019). This overall interest in employee growth is pushed further by the rapid rise of the knowledge economy – employers are increasingly seeking ways to provide continuous learning options to their employees, whether it’s internal badges or outsourced certificates managed through a learning experience platform (Fuller, 2021). The increased flexibility provided by e-learning has necessitated the use of multi-layered learning platforms, frequently using AI to help employees take more control over their learning in many situations (Bersin, 2022; Appendix 3). In one case, technology has not only given employees more flexibility, but it has also led to increased effectiveness of learning interventions. Bank of America has begun use of virtual reality (VR) technology to improve employees’ empathy and communication skills with clients and co-workers, with 97% of employees in the pilot seeing improved effectiveness after the training (Wynn, 2022). The practice is now in the process of becoming available to all Bank of America team members.
their learning and development capabilities. Companies are reporting large increases in their L+D investments, and potential employees are matching that enthusiasm with demonstrated interest in those growth opportunities. A Boston Consulting Group study found that 95% of global respondents from over 120 companies said building a learning strategy was crucial to the future of the company, but only 15% had invested enough to call it a high priority (BCG Henderson, 2020). One survey of almost 300 US companies found that about half are increasing their L+D spending in 2022 in an effort to retain their workers and to bring more e-learning options to their newly-remote workforces (Westfall, 2022). A survey by Training magazine of over 240 companies found increases in spending on blended learning and the production of internal content (Freifeld, 2021), showing a proactive approach from companies to bring more learning options to their employees. On the other hand, if employers are not investing in learning opportunities for their employees, it could create frustrations: “While 80% of employed U.S. adults consider an employer’s professional development and training offerings an important consideration when accepting a new job, just 39% say their current employer is helping them improve their current skills or gain new skills to do their job better” (American Staffing Association, 2022). Companies have also been making commitments worth hundreds of millions of dollars toward their employees’ learning, whether it’s Deloitte and KPMG’s large new campuses, or large retailers like Amazon, Walmart, and Target providing debt-free degree opportunities to their workers (Amazon Staff, 2021; Walmart, 2021; Target, 2021). Since these investments are in full force, it is important to quantify the potential effectiveness of those programs in attracting new workers.
Talent Acquisition

When seeking a new position, applicants are hoping to impress the hiring firm, but it’s also imperative for companies to provide enough incentives for offered applicants to choose the firm in return. With millions of job openings spurred by “the Great Resignation” (Cook, 2021) and remote work exponentially increasing workers’ options, it is critical for employers to adapt to the needs of an evolving workforce. This phenomenon, represented by workers changing jobs at an increased rate and millions of open job positions (Kimbrough, 2022), could also be called the “Great Migration” (Bersin, 2021), or the “Great Reshuffle” (Kimbrough, 2022). With knowledge of an open and evolving job market, workers across industries are empowered to search for more enticing opportunities, whether through salary, benefits, or remote work.

Organizational Attractiveness vs. Job Pursuit Intention

Those employee needs and interests have been assessed in a few primary ways in the literature. Studies are frequently conducted using preference surveys given to a population of potential applicants, usually with hypothetical companies (Highhouse, et al. 2003). Some research surrounding organizational reputation has been conducted using a real corporation but did not involve an application process. This frequent use of hypothetical scenarios has contributed to a natural dichotomy in this field of study. Highhouse et al. (2003) established that this research is split between “organizational attractiveness, intentions toward the company, and organizational prestige,” with the first two categories forming the bulk of contribution. While research on attractiveness is helpful to determine factors which are generally appealing to applicants, framing surveys with questions focused on intentions toward the company can create more specific knowledge about what gets applicants to act. Organizational attractiveness, while beneficial for understanding general attitudes, misses the opportunity to force specificity because
many companies can be attractive to an individual applicant. Active pursuit requires more resources and constrains the applicant to a more feasible set of destinations, providing more relevant information to researchers and practitioners (Barber, 1998). While the survey questions in the current study are focused on job pursuit intentions, the literature review will include studies that assess organizational attractiveness and job pursuit because they both elaborate on how different variables influence attracting underrepresented talent.

**Gender in Talent Acquisition**

A commonly studied factor within talent acquisition literature is the difference in preferences of male and female applicants. At a high level, job postings that contain less competitive wage structures, more inclusive attitudes, and more gender-neutral language are important for creating a gender-balanced applicant pool (Abraham and Burbano, 2021; Flory et al., 2015; Gaucher et al., 2011; Samek, 2019). If the opposite of those factors are present, it can deter female applicants, even if they are appropriately qualified and interested in the role. Catanzaro et al. (2010) found that postings indicating a supportive corporate culture attracts more candidates, both male and female, than a competitive one, indicating companies can make a shift to a more supportive culture communicated in the application if looking to expand their applicant pool. Abraham and Burbano (2021) also found that women exhibited more interest when exposed to job postings showing a female leadership team. There have not been studies about women’s attitudes toward learning and development opportunities specifically, so the current study will conduct an analysis to see if there are differences in male versus female preferences for learning opportunities.
**Race in Talent Acquisition**

Similar to how seeing more female leaders makes a company more attractive to female applicants, companies demonstrating inclusiveness to underrepresented populations increases their attractiveness as well (Jonsen et al., 2021). Multiple studies have found that positive mentions of ethnic diversity within postings have a significant positive effect on prospective applicants’ view of the firm (Thomas and Wise, 1999; Williamson et al., 2008). In addition to written materials, studies have been conducted using photos of employees as the manipulated stimuli. As the percentage of Black employees pictured rose, Black applicants were found to be more attracted to the firm while having no effect on white applicants (Perkins et al., 2000). Avery and McKay (2006) found this conclusion for other minority populations as well. Showing Black employees in positions of leadership has also shown to lead to a significant improvement in organizational attractiveness for Black applicants, while having no effect on white applicants (Avery, 2003). They additionally found that recruiting at higher education institutions that predominantly serve women or minorities led to improvements in organizational attractiveness. Avery et al. (2004) also found that Black and Hispanic applicants have increased organizational attraction when the organizational representative they communicate with is their same ethnicity. White applicants had no significant effects regardless of the representative’s ethnicity. The ethnicity of the organizational representative can also serve as an attractor for The Williamson study (2008) also found that identity-conscious policies are more attractive to underrepresented populations, but the explanation given for the presence of the policy can moderate how applicants feel; business-case justifications for diversity were less threatening to white and Asian respondents, while ideological justifications appealed most to Black applicants. These findings
are important for introducing practices to attract a diverse talent pool, and they will be used to inform the creation of the stimulus used within this study.

**Commitment to Diversity Recruiting**

American companies are also investing heavily in diversity, equity, and inclusion efforts. A survey from JUST Capital reported that 94% of respondents’ companies have made a commitment to improving DEI practices in the last year (Tonti et al., 2021). Another survey of over 1500 companies found that 78% are increasing their emphasis on DEI in order to recruit and retain workers in a competitive labor market (Willis Towers Watson, 2022). Similarly, three iterations of a McKinsey diversity and inclusion report have found that companies with greater gender and ethnic diversity outperform their peers (Dixon-Fyle, 2020). Companies are demonstrating their interest in building diverse and inclusive organizations by investing in DEI initiatives across all levels, entry-level to board members, both to provide an equitable workplace for underrepresented groups and to increase their financial performance.

**Talent Acquisition Summary**

In 2013, 24 CEOs of major multinational companies spoke to *Harvard Business Review* and explained how diversity, equity, and inclusion needed to be more heavily emphasized within the corporate world, both for business performance and moral imperative (Groysberg and Connolly, 2013). The study also included key practices for pushing organizations to embrace diversity on the way to improved performance, three of which were “measure diversity and inclusion, recruit and promote from diverse pools of candidates, and provide leadership education” (Groysberg and Connolly, 2013). These leaders, who were known for advocating for diversity within their companies, saw the integral connection between bringing a diverse
workforce to the company and then investing resources to develop those employees into leadership roles. They also noted the importance of quantifying efforts to track progress (or lack thereof). Almost a decade later, companies are still grappling with the same issues, looking to diversify their applicant pools and create more diverse leadership pipelines. For instance, Bank of America changed the title of their Chief Diversity and Inclusion Officer to “Chief D&I and Talent Acquisition Officer” in 2019 (Colletta, 2022). They have seen positive trends in retention and diversity in leadership due to their “One HR” strategy, which collectively integrates “learning, leadership development, diversity and inclusion, [and] talent acquisition” to “not only hire the best talent, but also retain talent and develop talent” (Colletta, 2022). This comprehensive strategy recognizes the interwoven elements of attraction, retention, and development, specifically for underrepresented populations. The dual trends of investing in L+D and DEI generally appear to be in parallel silos: two structures with no overlap despite similar goals of attracting and retaining top talent and improving the performance of the firm. With such similar end goals, there is potential for a mutually beneficial synthesis within firms.

**Hypothesis Development**

Academic research has not kept pace with the rapidly changing diverse talent attraction and L+D strategies of large corporations, so the current study sought to fill the existing gap by isolating L+D as a potentially underutilized tool of attraction. Underrepresented populations have not been considered when specifically isolating learning and development opportunities, so the current study will contribute to the evidence-base for building a cohesive recruiting strategy to attract diverse applicant pools. While focused on increasing diversity in corporations, the study will also serve as a way to determine attractiveness of L+D opportunities overall. The intention
for this study is to contribute very practical knowledge for talent acquisition and learning professionals to both reveal any synergies as well as give insight to the priorities of workers in an unusual labor market. This knowledge can influence recruiting materials, L+D budgets, and overall human resource strategy for a firm. This knowledge will come from two primary hypotheses, focusing on diversity and salary structure:

**Hypothesis 1**: Emphasizing L+D opportunities in job postings will lead to more diverse applicant pools.

**Hypothesis 2**: Emphasizing L+D opportunities in job postings will affect the level of salary applicants are willing to accept.

Hypothesis 1 focuses on adding diversity to the firm and Hypothesis 2 focuses on how to potentially increase ROI from L+D investments. Both will give insight into the priorities of potential employees, offering useful information whether or not the hypotheses are supported.

**Methodology**

**Job Posting Conditions**

Respondents were shown one of four job postings for a “Business Analyst” for a hypothetical enterprise IT company. The four conditions were: High Salary/High L+D, High Salary/Low L+D, Low Salary/High L+D, and Low Salary/Low L+D (Appendices 4a-d). Job postings were identical in each of the four conditions except for the salary range and the L+D information provided. The high salary range was $80,000-$90,000 and the low salary range was $65,000-$75,000. In the High L+D conditions only, an additional paragraph about L+D opportunities and an additional bullet in the benefits section were included.
At Armel Systems, our professional learning plan focuses on helping people at every level of their career to do their best work every day. From entry-level employees to senior leaders, we believe there's always room to learn, build your network, and broaden your skillset. We offer opportunities to help sharpen skills in addition to hands-on experience in the global, fast-changing business world. Resources include one-on-one coaching, designated training facilities for immersive programs, and access to self-paced, skill-building resources. We are excited to work with our professionals to further develop their skills to encourage learning throughout their careers.

There were many considerations when creating the base job posting, including finding a gender-balanced position, listing a realistic salary, using gender-neutral verbiage throughout the posting, using gender-neutral compensation schemes, and using language inclusive to underrepresented populations. Since the primary variable being analyzed was interest in L+D across different demographic groups, it was essential to make sure no identity groups were implicitly deterred from the role.

The business analyst role was chosen because it is widely applicable across industries, and the primary form of L+D discussed by the posting is usually utilized by employees in professional roles. Respondents were told to assume they were qualified for the role regardless of their current employment. Business analyst positions are also occupied fairly equally by both men and women, providing a more balanced sample and avoiding gendered stereotypes of the role (US BLS, 2022; Abraham and Burbano, 2021). Salary ranges were determined using a grouping of similar roles provided by the Bureau of Labor Statistics, with the Low Salary condition falling below the median of the roles, while the High Salary condition exceeded the median and right-skewed mean (Appendix 5). The learning and development paragraph was created by synthesizing multiple firms’ materials, referencing different L+D methods and portraying an organizational commitment to the practice. The goal was to be specific enough to convey tangible value, but not too specific where the study would be analyzing one specific type of L+D program. Salary was introduced as a variable to assess the relative value respondents
place on L+D opportunities. The ability to hold L+D constant in 2 conditions allows for examination of the impact salary makes for different types of applicants.

Competition-based wages were not included due their tendency to deter female applicants (Flory et al., 2015; Samek, 2019). Specifically, ambiguity surrounding the ability to negotiate has been found to discourage this demographic (Leibbrant and List, 2015), so a range was provided to indicate that negotiations are available. Additionally, the posting was also checked for gendered language throughout because job postings using masculine-coded words deter female applicants, whereas neutral language has no effect on the applicant pool (Gaucher et al., 2011; Gender Decoder). Lastly, the posting was kept neutral (as opposed to feminine-leaning) since another study has shown that a heavily feminine/supportive posting does significantly influence organizational preference toward female applicants (Catanzaro et al., 2010).

All four conditions also included a short paragraph about the company’s commitment to diversity and inclusion, as well as an Equal Opportunity Employer disclaimer at the end. The inclusion paragraph showed that applicants’ differences would add value to the business, not just improve diversity on a surface level. This tie to creating direct economic value is an important factor for attracting female and underrepresented applicants, while it does not have a significant negative effect on white applicants (Avery and McKay, 2006; Avery et al., 2013). There is some evidence that including an identity-conscious statement of inclusion in a posting creates a stronger attraction for underrepresented groups, but it may deter some white applicants (Williamson et al., 2008). Most of the design choices of the job posting were meant to avoid deterring any applicants, but in the interest of not deterring non-white applicants, I decided to include the inclusion statement across all four conditions. Since it was held constant, any effects, positive or negative, would not differ when the other variables were manipulated.
Survey Design

The University of Michigan Health Sciences and Behavioral Sciences Institutional Review Board (IRB) approved this research design with an exemption from further review because the study involves a benign behavioral intervention with the collection of information from adult subjects through written responses. I had no means of ascertaining respondents’ identities, satisfying the criteria to remain exempt. No amendments were submitted.

Qualtrics was used as the software for creating the survey and receiving the responses to the survey questions. To ensure that respondents thoroughly read their randomly assigned posting, the ‘Next’ button would not appear for at least 60 seconds on the page with the posting. There was also a free response question where respondents were prompted to share their first reaction to the posting. This was a required question to be able to advance. On the next page, their job posting was shown again (to avoid clicking back and forth) with the 2 main survey questions underneath. These controls were to ensure respondents thoroughly read the posting.

Respondents were found from a research website, Prolific, that compensates users for participating in studies. Using a $1000 grant from the Ross School of Business, a sample was created using various filters to target the intended demographics. Respondents were paid $0.64 for completing the survey, prorating to $9.60 per hour for a survey that was anticipated to be 4 minutes long. Prorated wages over $9.50 per hour were rated as “Good” by Prolific, indicating it would be sufficient to draw a sufficient number of respondents. If respondents did not finish the survey, they did not receive payment and did not count toward the sample.

The primary interest of the current study is to determine job pursuit intentions for various applicant groups based on varying L+D opportunities and salary. In the interest of generating actionable results for HR practitioners, this study was inspired by job pursuit intention research
to assess individuals’ specific intentions rather than organizational attraction, following research from Aiman-Smith et al. (2001), Barber (1998), and Highhouse et al. (2003). Organizational attraction and job pursuit intentions are still interrelated (Highhouse et al., 2003), and it was useful to include in the literature review to provide a more thorough view of talent acquisition.

For all conditions, participants were asked to respond to a set of job pursuit intention statements adapted from Aiman-Smith et al. (2001). Their study focused specifically on current undergraduates and incorporated in-person elements of recruiting, but in order to match the sample demographics and recent shift toward remote work, certain statements were edited or excluded from this study. Similar studies frequently use university students (Avery et al., 2013; Catanzaro et al., 2010; Samek, 2019; Williamson et al., 2008) but this sample is purposely inclusive of workers, both employed and seeking a job, to accurately reflect the dynamic nature of the current professional labor market.

After reading the randomized job posting, participants were asked to rank four statements that conveyed differing levels of job pursuit interest on a Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). The statements were “I would request more information about this position,” “I would actively apply to this position,” “If this company invited me for a job interview, I would partake,” and “I would exert a great deal of effort to work for this company” (Appendix 6). The four statements were not randomized to ensure that respondents were asked to respond to the most broad statements first. All respondents, regardless of condition, were also shown five elements of the job posting and were asked to rate each element’s importance to their attraction to the job on another 7-point Likert scale (“extremely unimportant” to “extremely important”; Appendix 7). The five elements, randomized for each respondent to avoid order bias, were “Salary,” “Health and Family Benefits,” “Location Flexibility,” “Learning and
Development Opportunities,” and “Company Commitment to DEI.” Following Thomas and Wise (1999), this measure of valence enables analyses comparing the importance of the individual components for different groups of applicants and enables the creation of a ranking between the components to show their relative importance.

Sample

Included in the sample were individuals living in the U.S. with at least some form of tertiary education who were no older than 65 years of age. The platform was used to include an even distribution of participants by gender and a 60/40 split for respondents below and above 35 years of age, respectively. There were no restrictions on income, job seeking status, sexual orientation, or ethnicity.

Creating a survey with Qualtrics and then distributing it through Prolific creates two datasets at the conclusion of the survey: one with the answers to the Qualtrics survey questions and one with the demographic data of each respondent that is stored within their Prolific profile. Both datasets include respondents’ unique Prolific ID, which can be used to merge the datasets. Despite having an initial sample size of 800 respondents, when merging the two datasets containing respondents’ demographic information with their survey responses, ten Prolific IDs were in one dataset but not the other. Four IDs were present in the demographic data but not the survey data, and six were present in the survey data but not the demographic data. This led to ten total excluded entries. The reason for this discrepancy is still unclear. One future solution is to ask demographic questions in the Qualtrics survey, therefore not needing a merging process, but in an attempt to maximize the fixed grant amount, I chose to rely on the Prolific data. The sample size is 790 instead of 800 due to that misalignment. Prolific gathers a vast array of data,
including household income, ethnicity, language spoken, highest educational attainment, gender, job seeking status, and more possible categories that were not relevant to this study.

Table 1: Demographic breakdowns of sample

<table>
<thead>
<tr>
<th>Gender</th>
<th>n (if total is not equal to 790, “data expired” on Prolific)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>395</td>
</tr>
<tr>
<td>Female</td>
<td>395</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>607</td>
</tr>
<tr>
<td>Non-white</td>
<td>183</td>
</tr>
<tr>
<td>Income</td>
<td></td>
</tr>
<tr>
<td>Above $80,000</td>
<td>348</td>
</tr>
<tr>
<td>Below $80,000</td>
<td>437</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>22 - 35 years</td>
<td>494</td>
</tr>
<tr>
<td>35-65 years</td>
<td>296</td>
</tr>
<tr>
<td>Highest level of education</td>
<td></td>
</tr>
<tr>
<td>Undergraduate or community college</td>
<td>592</td>
</tr>
<tr>
<td>Graduate or doctorate</td>
<td>198</td>
</tr>
</tbody>
</table>

Analysis

Using the mutate function in R, simplified versions of certain demographic characteristics were created to facilitate more efficient t-tests and ensure sufficient sample sizes for means of smaller groups. Due to limited sample size, ethnicity was simplified to “white” and “non-white,” education level to “Undergrad/Community college” and “Graduate degree or higher,” average income was broken down into above and below $80,000, and age was broken down into above and below 35 years old. Using the randomization function within Qualtrics, the 4 job posting conditions were balanced across all major demographic groupings that were created, enabling bivariate and multivariate analyses that didn’t require weighting (Appendix 8).
Preliminary analyses were run using paired sample t-tests, and then multivariate analyses were conducted using ANOVA tests. Tukey Honestly Significant Difference (HSD) tests were then used to determine which relationships were responsible for the significance (or lack thereof) of the ANOVA’s p-value. To keep results streamlined and practical, many analyses were conducted using only the Intention to Apply behavior from the four JPIs. This behavior most directly responds to the hypothesis, and there was limited additional contribution to the subject to come based on results for the other behaviors.

**Results**

The goal of this study is to ascertain the effectiveness of L+D opportunities in attracting a diverse talent pool, but it is important to start with assessing L+D as an attractor overall. On average, respondents took 224 seconds, or just under 4 minutes, to complete the survey, indicating the survey compensation was fair and respondents spent the expected amount of time reviewing the posting. Anecdotally, a random sample of responses (n=300) to the “First Reaction” question generated a vast majority of positive sentiment, mostly focused on the benefits of the position. Salary was generally regarded positively, but if there was negative sentiment, it was usually in response to a low salary condition. Inclusion and location flexibility were also highly appreciated factors. Some negative comments focused on the length of the posting and lack of specificity about some further expectations for the role. After searching the full 790 responses for “learning,” “development,” and “training,” just 6 responses singled out the professional development opportunities. Interestingly, the two responses that went more in-depth were interested in making sure that the L+D options were actually useful to the role because they had experienced underwhelming learning materials in the past.
Job Pursuit Intentions

The mean values for all four job pursuit intentions (JPIs) fell into a similar descending order for each condition: Accepting an Interview, Applying to the Job, Exerting Effort to Pursue, and then Requesting More Information.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Request Info</th>
<th>Apply</th>
<th>Accept Interview</th>
<th>Exert Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSHLD</td>
<td>5.408</td>
<td>5.857</td>
<td>6.173</td>
<td>5.582</td>
</tr>
<tr>
<td>HSLLD</td>
<td>5.621</td>
<td>5.840</td>
<td>6.316</td>
<td>5.738</td>
</tr>
<tr>
<td>LSHLD</td>
<td>5.225</td>
<td>5.450</td>
<td>5.985</td>
<td>5.410</td>
</tr>
<tr>
<td>LSLLD</td>
<td>5.298</td>
<td>5.500</td>
<td>5.979</td>
<td>5.287</td>
</tr>
</tbody>
</table>

To analyze job pursuit intentions, I compared mean values using paired t-tests. High Salary conditions received significantly more interest than Low Salary conditions for all JPI behaviors (Appendix 9). These paired t-tests were supported by an ANOVA test that determined a significant difference between the Intention to Apply across the four conditions. For the overall sample, a Tukey HSD test confirmed that the difference stemmed from the High and Low Salary manipulation, not the L+D manipulation (Appendix 10). Seeing that this variable would influence how the High and Low Learning and Development conditions would be ranked, I created two tables to see if L+D generated more interest across behaviors within a salary range. While this was not a specific hypothesis of this paper, it is an important finding for general attitudes across a range of potential applicants. Within the high salary conditions across the whole sample, varying L+D led to no significant differences. The same results were found within low salary conditions, with no significant difference between any of the four JPIs when L+D was varied.
The final analysis done among all four JPIs addressed *Hypothesis 2: Emphasizing L+D opportunities in job postings will affect the level of salary applicants are willing to accept.* The results of t-tests for all four JPIs across the entire sample reveal that the high salary/low L+D condition was ranked significantly higher than the low salary/high L+D condition for all behaviors. *For the overall sample, this shows that the difference in salary between these conditions was more valuable to the respondents than the increased L+D opportunities, showing that Hypothesis 2 was not supported within this specific setting.* It was also not supported for any of the target demographics when using t-tests to determine significant differences for the Interest in Application score (Appendix 11).
To address Hypothesis 1: Emphasizing L+D opportunities in job postings will lead to more diverse applicant pools, t-tests were performed between the simplified demographic categories mentioned in Methodology. Results of these analyses showed that none of the targeted demographics exhibited any significant difference in Interest to Apply between HS-HLD and HS-LLD. The results are insignificant when comparing LS-HLD and LS-LLD as well (Appendix 12), showing that Hypothesis 1 was not supported in the data.

Table 4: Intent to Apply for target demographics High L+D vs. Low L+D, High Salary constant

<table>
<thead>
<tr>
<th>Apply</th>
<th>Overall</th>
<th>Women</th>
<th>Non-white</th>
<th>Undergrad/CC+</th>
<th>Lower Income</th>
<th>Age &lt;35</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSHLD</td>
<td>5.857</td>
<td>5.884</td>
<td>6.000</td>
<td>5.943</td>
<td>5.906</td>
<td>6.015</td>
</tr>
<tr>
<td>HSLLD</td>
<td>5.840</td>
<td>5.947</td>
<td>6.040</td>
<td>5.854</td>
<td>5.856</td>
<td>5.875</td>
</tr>
<tr>
<td>p-value</td>
<td>0.903</td>
<td>0.737</td>
<td>0.893</td>
<td>0.563</td>
<td>0.739</td>
<td>0.379</td>
</tr>
</tbody>
</table>

Job Components

There are more significant results from comparing their means relative to each other. An ANOVA test confirmed there were no significant differences in interest in L+D between the job posting conditions, indicating that any differences would stem from demographic differences (Appendix 13). This finding allowed for analysis using the full sample for overall rankings. In descending order, the sample ranked Salary, Health Benefits, Location Flexibility, L+D Opportunities, then Company Commitment to DEI as the most important components of a job.

Figure 3: Full sample means of Job Components in descending order
This trend held consistent across the demographic pairings as well, maintaining the same order for all groups (Appendix 14). Between the demographic pairings, none had significant differences in ranking of L+D opportunities. There were two demographics where the p-value was below .18, however, suggesting that those two demographics may be more attracted to roles with more L+D. Respondents with an income under $80,000 and respondents without any graduate education ranked L+D opportunities higher than their counterparts. While not significant differences, these are very close and are more suggestive than other relationships analyzed (Appendix 14). ANOVA results also show that suggestive portion of their alpha stem from the demographic characteristic, not from exposure to the high L+D condition (Appendix 15, Appendix 16). This indicates that the demographic condition is more responsible for the interest in the opportunity than the L+D manipulation.

**Discussion**

The primary actionable takeaway from this study, shown both through the JPI questions and the job component questions, is that salary is the most important factor when determining the attractiveness of a job posting. The high salary conditions had higher scores for all JPIs and was ranked the most important factor regardless of the salary condition shown. Staying with generalizable takeaways, more L+D did not improve JPIs or importance relative to other job factors. This finding was somewhat surprising given that when salary was held constant the only difference in the posting was an added benefit. This shows that while L+D is still an important function for improving a firm’s performance, it is not currently the strongest draw when recruiting new employees.
To directly answer Hypothesis 1, the data did not show that increased L+D opportunities generated more interest from underrepresented groups, even when keeping the salary condition constant. This lack of stated interest indicates that using L+D as a core part of recruiting materials will not be a significant differentiator for firms. As discussed in the literature review, other recruiting practices like showing a diverse leadership team and using non-gender biased language have repeatedly been shown to better contribute to JPIs of underrepresented groups. DEI practices should still be integrated into L+D opportunities to promote equitable growth within the firm, ideally with outcomes being measured to see if these growth opportunities are positively contributing to retaining a diverse team.

L+D has a fairly limited draw for the overall population, seen as more of a perk than an essential characteristic of the job. The ranking of Salary, Health, and Location Flexibility shows that respondents are more likely to prioritize basic needs before anything else, mirroring Maslow’s Hierarchy (Maslow, 1943). The opportunity for extra learning and development appears to fall into the ‘Esteem’ level of the hierarchy, meaning that it is still a contributor to creating overall satisfaction, but is secondary to securing those basic needs. This ranking connects with Hypothesis 2 not being supported by the data, as L+D is valued much lower than other factors. It is important to note that the salary gap between the two salary conditions was fairly significant. For this sample with these conditions, the salary tradeoff was not worth it, but there may be a combination of high-quality L+D with a slightly reduced salary that applicants may find to be a worthy tradeoff.

It is promising that applicants with lower incomes and with no graduate education showed interest, indicating that L+D could be seen as a key tool for career mobility and progression in an evolving workforce. This suggests that marketing L+D opportunities may be
more pertinent in entry-level or associate roles. Since effective L+D leads to increased retention and organizational commitment (Huselid, 1995; White and Bryson, 2013), providing avenues for employees to build skills early on in their career can create long-term impact for employers.

The finding that respondents who had a lower income were more interested in L+D opportunities indicates workers in a more tenuous financial position may be attracted to building skills while getting paid, as opposed to taking on debt for a new degree or certificate. Given that wealth and debt are frequently correlated with race in the United States (Addo et al., 2016), there could be indirect ties between job components and race that weren’t captured by this study.

Additionally, the measure of respondents’ income did not reflect any potential student debt, which could be another factor that could impact job pursuit. However, increased financial pressure may lead to an even stronger interest in salary. These findings underscore the importance of giving workers internal mobility, or the ability to move vertically or horizontally within an organization, empowering them to make their own path at their firm. One survey of workers found that L+D had a much stronger draw if the skill learned would tie into a better position or increased salary (Young, 2022). Being able to tie L+D experiences to tangible internal mobility options could be something to consider for recruiters if they are looking to communicate the value of their firm’s L+D investments.

**Limitations and Future Research**

Ideally, a job pursuit intention study would accumulate data via a revealed preference intervention where respondents are applying to an actual job, or at least believe that they are. This revealed action of applying shows a much more convincing intention than a stated preference. While a large sample survey does provide useful insight into job seekers, an ideal
study would follow a model similar to Gee (2019) or Abraham and Burbano (2021), who were able to use active job applicants on real career websites as respondents within manipulated conditions. Using a platform like Prolific does allow for very detailed demographic selection, but a survey cannot truly replicate the process of applying to a non-hypothetical position. Additionally, in the interest of creating a large sample, some demographic qualifications were kept somewhat loose, including household income and current industry of respondents. If replicated, more tactful use of filters could lead to a higher representation of non-white respondents as well as more respondents with experience in business roles.

Gee’s (2019) random trial with 2.3 million applicants shows how the target population reveals their preferences as opposed to just stating them. This construction serves as a useful model for further research into the attractiveness of Learning and Development, in addition to other job posting characteristics, including benefits, compensation, or the logistical process of applying. Gee’s study also covered postings of many different types of jobs, which would allow for an investigation of how applicants value L+D depending on the type of role they are considering. For instance, would a job with technical responsibilities in coding draw more interest than one with more managerial responsibilities? This would likely require manipulating what forms of L+D are being offered on the posting as well.

Other studies have created their own jobs to assess applicants’ preferences, giving researchers the ability to isolate single variables without any potential confounding factors from postings created by outside companies. These studies have assessed preferences toward compensation schemes and the effect of a potential salary negotiation, while comparing male versus female applicants (Flory et al., 2015; Leibbrandt and List, 2015; Samek, 2019). Creating their own jobs has also led to hiring of certain applicants at the end of the study, allowing for
future study surrounding who job offers are extended to, and who ends up accepting the offer. For example, if many people from underrepresented backgrounds apply, but none are offered the role, or those who are offered don’t accept, there would need to be further studies to understand why. These two steps are also vitally important in the conversation for building a more diverse workforce – attracting applicants is only the first step of the talent acquisition pipeline.

Undergraduate and graduate students were also not the primary focus of the study, so this exact study can be replicated on those populations to see how Learning and Development is valued by people currently in a learning environment. A study from LinkedIn also found that as Gen Z students are graduating college and entering the workforce, their second-highest rated priority when looking for companies is “more opportunities to learn or practice new skills” (Anders, 2022), showing that the newest additions to the workforce may have a unique set of priorities that companies will need to cater to.

One consideration that this study did not incorporate was the current economic climate. At the time of writing, the COVID-19 pandemic is still active globally, and various factors are contributing to the highest inflation the United States has seen in decades. This survey is therefore a snapshot of attitudes in this current economic climate, which may not necessarily be generalizable to all economic conditions, like periods of recession for example. Research comparing L+D investment during times of high growth and times of recession has been conducted, but it focused on the corporate perspective (Roca-Puig, et al., 2019). Applicants’ perspectives haven’t been analyzed in the same way, so performing this analysis may give more insight into how employees’ priorities change depending on the current economic picture.

This research was initially inspired by assessing the experiences of employees from underrepresented backgrounds in their companies’ L+D programs. While outside access was
limited when inquired about, understanding the potential for different employees to have very different experiences within the same program is very important for companies. Especially as more is invested in recruiting and retaining a diverse workforce, companies could be inadvertently harming themselves if a mandatory training feels exclusionary to a certain group. This responsibility would fall to companies’ internal learning teams, and Bank of America is an example of a firm that has taken steps to specifically analyze, then publicly report, information about the experiences of different identity groups within their firm (Winters, 2021; Bank of America, 2022).

Finally, firms that offer L+D opportunities each have a unique slate of options, so there is also value in researching if certain types of L+D are more attractive than others. This level of granularity would be useful for a firm with a wide range of offerings looking to streamline their practice, or for firms looking to start a new L+D practice efficiently.

Conclusion

This study, despite limitations, contributed to the area of talent acquisition research by assessing the relative attraction and value of learning and development opportunities for applicants across a range of potential applicants. Of the characteristics presented, findings showed that salary is overwhelmingly the most important factor when determining job pursuit interest, a result consistent across demographic groups. Learning and development was not seen as a primary driver of interest, but this study was one of the first to isolate this factor in talent acquisition research. Future research should build on this study’s efforts to articulate the relative value of learning and development to a diverse range of applicants by featuring a larger, more targeted sample and use real applications to create revealed preference data.
Appendices

Appendix 1:
Explanation of the components of L+D (Armstrong, 2017)

- **Learning** – the process by which a person acquires and develops knowledge, skills, capabilities, behaviours and attitudes. It involves the modification of behaviour through experience as well as more formal methods of helping people to learn within or outside the workplace.

- **Development** – the growth or realization of a person’s ability and potential through the provision of learning and educational experiences.

- **Training** – the systematic application of formal processes to impart knowledge and help people to acquire the skills necessary for them to perform their jobs satisfactorily.

- **Education** – the development of the knowledge, values and understanding required in all aspects of life rather than the knowledge and skills relating to particular areas of activity.

Appendix 2:
List of ways to deliver learning and development programs (Bleich, 2017)
Appendix 3:
Chart showing the layers of integrated corporate learning platforms (Bersin, 2022)

Appendix 4a:
High Salary, High L+D condition
Appendix 4b:
High Salary, Low L+D condition

Business Analyst (Full-Time)
Details
- Remote, or any Armel office nationwide
- 10,000+ employees
- IT Services
- $85,000 - $90,000

Job Description
- Implement programs to improve operational efficiency, consistency, and compliance to further the organization’s financial and tactical business objectives.
- Serve as a liaison with other divisions such as Finance, Contracts, HR, Legal, Shared Services, Accounts Payable, Purchasing, and Risk Management in an effort to ensure accurate and timely transaction processing.
- Analyze data to measure key performance indicators actual results versus business objectives.
- Provide updates to management regarding budget to actual, informing them of deviations and opportunities. Provide management with early warning signs and compliance issues surrounding key financial and management reporting.
- Ability to collect, organize, and display data in spreadsheet format. Follow through skills necessary to get information from internal and third parties and have deadlines/commissions confused.
- Job duties are varied and complex utilizing responsible judgment. Attention to detail is critical.
- Strong written and verbal communication skills to interact with management and possible clients desired.

About Us
Company Overview
Armel provides products and services that address enterprise information technology (IT) environments. Our products and services include application and infrastructure offerings that are delivered worldwide through a variety of flexible and interoperable IT deployment models. We offer choice and flexibility to our customers and facilitate the product, service and deployment combinations best suit our customers’ needs. Using Armel technologies, our customers build, deploy, run, manage and support their internal and external products, services and business operations.

Inclusion
Innovation starts with inclusion at Armel. We are committed to creating a workplace where all kinds of people can be themselves and do their best work. It’s when everyone’s voice is heard and valued, that we are inspired to go beyond what has been done before. That’s why we need people with diverse backgrounds, beliefs, and abilities to help us create the future, and are proud to be an affirmative action equal opportunity employer.

Business Analyst (Full-Time)
Benefits
- Comprehensive health coverage: medical, dental, and vision
- Flexible time off
- 401k with a match to help you save for the future
- Thrive Flex Program that allows you to contribute towards your health, financial learning interests
- Well being programs to support mental and physical health.
- 13 Week paid Parental leave
- Diversity and Inclusion programs that promote employee resource groups such as Women in Technology, Pride and Go Green to name a few.

Equal Opportunity Statement
Armel Systems is committed to creating a diverse environment and is proud to be an Equal Employment Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, sexual orientation, gender identity, disability, and protected veteran status, age, or any other characteristic protected by law. Armel Systems will consider for employment qualified applicants with arrest and conviction records pursuant to applicable law.
Appendix 4c:
Low Salary, High L+D condition

Business Analyst (Full-Time)

Details
- Remote or any Arnel office nationwide
- 38,000 employees
- IT Services
- $15,000 - $75,000

Job Description
- Implement programs to improve operational efficiency, consistency, and compliance to further the organization’s financial and tactical business objectives.
- Serve as liaison with other divisions such as Finance, Contracts, HR, Legal, Shared Services, Accounts Receivable, Purchasing, and Risk Management in an effort to ensure accurate and timely financial reporting.
- Analyze data to measure key performance indicators actual results versus business objectives.
- Provide updates to management regarding budget to actual, informing them of deviations and opportunities. Provide management with economic impact and compliance issues surrounding key business decisions and/or deals.
- Ability to collect, organize, and display data in spreadsheet format. Follow through skills necessary to get information from internal and third parties and have data error/exceptions corrected.
- Job duties are varied and complex utilizing responsible judgment. Attention to detail is critical.
- Strong written and verbal communication skills to interact with management and possible clients desired.

About Us

Arnel provides products and services that address enterprise information technology (IT) environments. Our products and services include applications and infrastructure offerings that are delivered worldwide through a variety of flexible and interoperable IT deployment models. We offer choice and flexibility to our customers and facilitate the product, service and deployment combinations that best suit our customers’ needs. Using Arnel technologies, our customers build, deploy, run, manage and support their internal and external products, services and business operations.

Learning and Development

At Arnel Systems, our professional learning plan focuses on helping people at every level of their career do their best work every day. From entry level employees to senior leaders, we believe there’s always room to learn, build your network, and broaden your abilities. We offer opportunities to help sharpen skills in addition to hands-on experience in the global, fast-changing business world. Resources include one-on-one coaching, designated training facilities for intensive programs, and access to self-paced, skill-building resources. We are excited to work with our professionals to further develop their skills to encourage learning throughout their careers.

Business Analyst (Full-Time)

About Us

Inclusion
Innovation starts with inclusion at Arnel. We are committed to creating a workplace where all kinds of people can be themselves and do their best work. It’s when everyone’s voice is heard and valued, that we are inspired to go beyond what’s been done before. That’s why we need people with diverse backgrounds, beliefs, and abilities to help us create the future, and are proud to be an affirmative action equal opportunity employer.

Benefits
- Comprehensive health coverage, medical, dental, and vision
- Flexible work hours
- 401 k & 403 b Plans - to help you save for the future
- Thrive@Arnel Program that allows you to contribute towards your health, financial or learning interests
- Well being program to support mental and physical health
- 12 weeks paid Parental leave
- Diversity and inclusion programs that promote employee resource groups such as Women in Technology, Pride and Go Green to name a few.
- We foster a learning culture with professional development opportunities
- Arnel’s learning culture supports your desire to grow your skills and build the depth and scale of knowledge needed to achieve your career goals.

Apply here

Equal Opportunity Statement

Arnel Systems is committed to creating a diverse environment and is proud to be an equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, disability and protected veteran status, age, or any other characteristic protected by law. Arnel Systems will consider for employment qualified applicants with a criminal history pursuant to applicable law.
Appendix 4d: Low Salary, Low L+D condition

Business Analyst (Full-Time)

Details
- Remote, or any Arnel office nationwide
- 15,000+ employees
- IT Services
- $50,000 - $75,000

Job Description
- Implement programs to improve operational efficiency, consistency, and compliance to further the organization's financial and tactical business objectives.
- Serve as a liaison with other divisions such as Finance, Contracts, HR, Legal, Shared Services, Accounts Receivable, Purchasing, and Risk Management in an effort to ensure accurate and timely transaction processing.
- Analyze data to measure key performance indicators actual results versus business objectives.
- Provide updates to management regarding budget to actual, informing them of deviations and opportunities. Provide management with economic impact and compliance issues surrounding key business decisions and on-deal.
- Ability to collect, organize, and display data in spreadsheet format. Follow through with skills necessary to get information from internal and third parties and have data analysis/analysis concern.
- Job duties are varied and complex utilizing responsible judgment. Attention to detail is critical.
- Strong written and verbal communication skills to interact with management and possible clients desired.

About Us
Company Overview
Arnel provides products and services that address enterprise information technology (IT) environments. Our products and services include applications and infrastructure offerings that are delivered worldwide through a variety of flexible and interoperable IT deployment models. We offer choice and flexibility to our customers and facilitate the product, service and deployment combinations that best suit our customers’ needs. Using Arnel technologies, our customers build, deploy, run, manage and support their internal and external products, services and business operations.

Inclusion
Innovation starts with inclusion at Arnel. We are dedicated to creating a workplace where all kinds of people can be themselves and do their best work. It’s when everyone’s voice is heard and valued, that we are inspired to go beyond what’s been done before. That’s why we need people with diverse backgrounds, beliefs, and abilities to help us create the future, and are proud to be an affirmative action equal opportunity employer.

Appendix 5: Salary information for business analyst roles (US BLS, 2021)

<table>
<thead>
<tr>
<th>OCC_TITLE</th>
<th>A_MEAN</th>
<th>A_PCT10</th>
<th>A_PCT25</th>
<th>A_MEDIAN</th>
<th>A_PCT75</th>
<th>A_PCT90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business and Financial Operations Occupations</td>
<td>80,680</td>
<td>40,310</td>
<td>53,550</td>
<td>72,250</td>
<td>98,390</td>
<td>130,380</td>
</tr>
<tr>
<td>Business Operations Specialists</td>
<td>78,320</td>
<td>39,510</td>
<td>52,800</td>
<td>71,450</td>
<td>97,100</td>
<td>126,620</td>
</tr>
<tr>
<td>Project Management Specialists and Business O</td>
<td>84,290</td>
<td>42,180</td>
<td>56,790</td>
<td>77,420</td>
<td>104,410</td>
<td>135,220</td>
</tr>
<tr>
<td>Financial Specialists</td>
<td>85,510</td>
<td>41,890</td>
<td>55,150</td>
<td>73,840</td>
<td>101,270</td>
<td>140,390</td>
</tr>
<tr>
<td>Budget Analysts</td>
<td>82,690</td>
<td>51,220</td>
<td>62,540</td>
<td>78,970</td>
<td>100,060</td>
<td>121,360</td>
</tr>
<tr>
<td>Credit Analysts</td>
<td>86,170</td>
<td>44,250</td>
<td>56,120</td>
<td>74,970</td>
<td>103,840</td>
<td>146,690</td>
</tr>
</tbody>
</table>

Drew Arnson 39
Appendix 6:
Job pursuit intention questions in the survey

Please rate your agreement with each of these statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Somewhat Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Somewhat Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would request more information about this position.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I would actively apply to this position.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>If this company invited me for a job interview, I would partake.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I would exert a great deal of effort to work for this company.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Appendix 7:
Job component question in the survey

How important was each of these factors in influencing your interest level in the position?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Extremely unimportant</th>
<th>Somewhat unimportant</th>
<th>Slightly unimportant</th>
<th>Neutral</th>
<th>Slightly important</th>
<th>Somewhat important</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Location</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning and Development opportunities</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Health and family benefits</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Commitment to diversity and inclusion</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Appendix 8:
Balance table showing how demographics were roughly evenly split across the 4 conditions

<table>
<thead>
<tr>
<th></th>
<th>HSHLD</th>
<th>HSLLD</th>
<th>LSHLD</th>
<th>LSLLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income &lt;$80,000</td>
<td>0.133</td>
<td>0.155</td>
<td>0.145</td>
<td>0.117</td>
</tr>
<tr>
<td>Graduate Education</td>
<td>0.235</td>
<td>0.238</td>
<td>0.270</td>
<td>0.261</td>
</tr>
<tr>
<td>White</td>
<td>0.776</td>
<td>0.757</td>
<td>0.805</td>
<td>0.734</td>
</tr>
<tr>
<td>Men</td>
<td>0.515</td>
<td>0.447</td>
<td>0.525</td>
<td>0.516</td>
</tr>
<tr>
<td>Age &lt;35</td>
<td>0.668</td>
<td>0.621</td>
<td>0.605</td>
<td>0.606</td>
</tr>
<tr>
<td>n</td>
<td>196</td>
<td>206</td>
<td>200</td>
<td>188</td>
</tr>
</tbody>
</table>

Appendix 9:
Table showing means of JPI behaviors for high salary vs. low salary conditions

<table>
<thead>
<tr>
<th></th>
<th>High Salary</th>
<th>Low Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request Info</td>
<td>3</td>
<td>2.560</td>
</tr>
<tr>
<td>Apply</td>
<td>5.517</td>
<td>5.260</td>
</tr>
<tr>
<td>Accept Interview</td>
<td>6.246</td>
<td>5.982</td>
</tr>
<tr>
<td>Exert Effort</td>
<td>5.662</td>
<td>5.351</td>
</tr>
</tbody>
</table>

*p<.1  **p<.05  ***p<.01

Appendix 10:
Tukey HSD test confirming the significant differences between high and low salary conditions for the Intention to Apply behavior

<table>
<thead>
<tr>
<th>condition</th>
<th>diff</th>
<th>lwr</th>
<th>upr</th>
<th>p adj</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSHLD-HSLLD</td>
<td>-0.01733703</td>
<td>-0.4240571</td>
<td>0.389383062</td>
<td>0.9995270</td>
</tr>
<tr>
<td>LSLLD-HSLLD</td>
<td>-0.40714286</td>
<td>-0.8168267</td>
<td>0.002540959</td>
<td>0.0521427</td>
</tr>
<tr>
<td>LSHLD-HSLLD</td>
<td>-0.35714286</td>
<td>-0.7732478</td>
<td>0.058962111</td>
<td>0.1214466</td>
</tr>
<tr>
<td>LSHLD-HSLLD</td>
<td>-0.38980583</td>
<td>-0.7944364</td>
<td>0.014824714</td>
<td>0.0638032</td>
</tr>
<tr>
<td>LSHLD-HSLLD</td>
<td>-0.33980583</td>
<td>-0.7509364</td>
<td>0.071324796</td>
<td>0.1451458</td>
</tr>
<tr>
<td>LSLLD-LSLLD</td>
<td>0.05000000</td>
<td>-0.3640628</td>
<td>0.464062776</td>
<td>0.9895819</td>
</tr>
</tbody>
</table>
Appendix 11:
Intent to Apply by target demographics High Salary/Low L+D vs. Low Salary/High L+D

<table>
<thead>
<tr>
<th>Apply</th>
<th>Overall</th>
<th>Women</th>
<th>Non-white</th>
<th>Undergrad/CC+</th>
<th>Lower Income</th>
<th>Age &lt;35</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSLLD</td>
<td>5.840</td>
<td>5.947</td>
<td>6.040</td>
<td>5.854</td>
<td>5.856</td>
<td>5.875</td>
</tr>
<tr>
<td>LSHLD</td>
<td>5.450</td>
<td>5.432</td>
<td>5.308</td>
<td>5.549</td>
<td>5.468</td>
<td>5.479</td>
</tr>
<tr>
<td>p-value</td>
<td>0.0138**</td>
<td>0.02764**</td>
<td>0.05054*</td>
<td>0.09266*</td>
<td>0.02534**</td>
<td>0.04588**</td>
</tr>
</tbody>
</table>

Appendix 12:
Intent to Apply for target demographics High L+D vs. Low L+D, Low Salary constant

<table>
<thead>
<tr>
<th>Apply</th>
<th>Overall</th>
<th>Women</th>
<th>Non-white</th>
<th>Undergrad/CC+</th>
<th>Lower Income</th>
<th>Age &lt;35</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSHLD</td>
<td>5.450</td>
<td>5.432</td>
<td>5.308</td>
<td>5.549</td>
<td>5.468</td>
<td>5.479</td>
</tr>
<tr>
<td>LSLLD</td>
<td>5.500</td>
<td>5.462</td>
<td>5.440</td>
<td>5.519</td>
<td>5.548</td>
<td>5.368</td>
</tr>
<tr>
<td>p-value</td>
<td>0.777</td>
<td>0.909</td>
<td>0.747</td>
<td>0.882</td>
<td>0.673</td>
<td>0.635</td>
</tr>
</tbody>
</table>

Appendix 13:
Tukey HSD test comparing importance of L+D Opportunities across job posting conditions

Tukey multiple comparisons of means
95% family-wise confidence level

Fit: aov(formula = ld opps ~ condition, data = df)

$condition                | diff       | lwr          | upr          | p  | adj  |
---------------------------|------------|--------------|--------------|----|------|
HSLLD-HSLLD               | 0.03734892 | -0.3161573   | 0.3908551    | 0.9929628 |
LSHLD-HSLLD               | 0.05438776 | -0.3016944   | 0.4104699    | 0.9793676 |
LSLLD-HSLLD               | -0.08380373| -0.4454669   | 0.2778595    | 0.931102   |
LSHLD-HSLLD               | 0.01703883 | -0.3346512   | 0.3687289    | 0.9993064  |
LSLLD-HSLLD               | -0.12115265| -0.4784923   | 0.2361870    | 0.8189080  |
LSLLD-LSLLD              | -0.13819149| -0.4980797   | 0.2216967    | 0.7560076  |
Appendix 14:
Job component means and t-tests by demographic breakdowns

<table>
<thead>
<tr>
<th></th>
<th>*p&lt;.1</th>
<th>**p&lt;.05</th>
<th>***p&lt;.01</th>
<th>Overall Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Salary</td>
<td>Location</td>
<td>LDOpps</td>
<td>Health</td>
</tr>
<tr>
<td>Low Salary Conditions</td>
<td>6.421</td>
<td>6.175</td>
<td>5.518</td>
<td>6.311</td>
</tr>
<tr>
<td>p-values</td>
<td>0.0005345***</td>
<td>0.284</td>
<td>0.746</td>
<td>0.863</td>
</tr>
<tr>
<td>High L+D Conditions</td>
<td>6.496</td>
<td>6.205</td>
<td>5.558</td>
<td>6.371</td>
</tr>
<tr>
<td>Low L+D Conditions</td>
<td>6.550</td>
<td>6.226</td>
<td>5.510</td>
<td>6.239</td>
</tr>
<tr>
<td>p-values</td>
<td>0.355</td>
<td>0.773</td>
<td>0.624</td>
<td>0.06425*</td>
</tr>
<tr>
<td>Women, All conditions</td>
<td>6.494</td>
<td>6.254</td>
<td>5.527</td>
<td>6.254</td>
</tr>
<tr>
<td>Men, All conditions</td>
<td>6.552</td>
<td>6.178</td>
<td>5.542</td>
<td>6.354</td>
</tr>
<tr>
<td>p-values</td>
<td>0.311</td>
<td>0.305</td>
<td>0.877</td>
<td>0.161</td>
</tr>
<tr>
<td>Grad+</td>
<td>6.480</td>
<td>6.112</td>
<td>5.439</td>
<td>6.328</td>
</tr>
<tr>
<td>Undergrad/CC</td>
<td>6.551</td>
<td>6.260</td>
<td>5.593</td>
<td>6.322</td>
</tr>
<tr>
<td>p-values</td>
<td>0.296</td>
<td>0.103</td>
<td><strong>0.174</strong></td>
<td>0.939</td>
</tr>
<tr>
<td>Older</td>
<td>6.493</td>
<td>6.203</td>
<td>5.524</td>
<td>6.349</td>
</tr>
<tr>
<td>Younger</td>
<td>6.541</td>
<td>6.224</td>
<td>5.540</td>
<td>6.278</td>
</tr>
<tr>
<td>p-values</td>
<td>0.445</td>
<td>0.788</td>
<td><strong>0.866</strong></td>
<td>0.326</td>
</tr>
<tr>
<td>Lower Income</td>
<td>6.513</td>
<td>6.219</td>
<td>5.564</td>
<td>6.317</td>
</tr>
<tr>
<td>p-values</td>
<td>0.314</td>
<td>0.799</td>
<td><strong>0.136</strong></td>
<td>0.425</td>
</tr>
<tr>
<td>White</td>
<td>6.517</td>
<td>6.213</td>
<td>5.514</td>
<td>6.306</td>
</tr>
<tr>
<td>Non-White</td>
<td>6.544</td>
<td>6.224</td>
<td>5.601</td>
<td>6.301</td>
</tr>
<tr>
<td>p-values</td>
<td>0.693</td>
<td>0.899</td>
<td><strong>0.461</strong></td>
<td>0.951</td>
</tr>
</tbody>
</table>
Appendix 15:
Tukey HSD test between High L+D/Low L+D and education level

Tukey multiple comparisons of means
95% family-wise confidence level

Fit: aov(formula = ld_opps ~ cond_ld * ed_level, data = df)

```r
$cond_ld
diff     lwr     upr  p adj
LLD-HLD  -0.02731262 -0.2208371 0.1662119 0.7818128
```

```r
$ed_level
diff     lwr     upr  p adj
Undergrad/CC-Grad+  0.1533607 -0.06756334 0.3742847 0.1733701
```

```r
$`cond_ld:ed_level`
diff     lwr     upr  p adj
LLD:Grad+--HLD:Grad+  0.09979592 -0.3991414 0.5987322 0.9555133
HLD:Undergrad/CC-HLD:Grad+  0.23897527 -0.1693747 0.6473253 0.4338797
LLD:Undergrad/CC-HLD:Grad+  0.16633803 -0.2418242 0.5745003 0.7204268
HLD:Undergrad/CC-LLD:Grad+  0.13917935 -0.2722380 0.5505967 0.8198594
LLD:Undergrad/CC-LLD:Grad+  0.06654211 -0.3446889 0.4777731 0.9756345
LLD:Undergrad/CC-HLD:Undergrad/CC -0.07263724 -0.3674631 0.2221886 0.9209328
```

Appendix 16:
Tukey HSD test between High L+D/Low L+D and income level

Tukey multiple comparisons of means
95% family-wise confidence level

Fit: aov(formula = ld_opps ~ cond ld * income_grp, data = df)

```r
$cond ld
diff     lwr     upr  p adj
LLD-HLD  -0.04792852 -0.2397226 0.1438656 0.6238874
```

```r
$income_grp
diff     lwr     upr  p adj
low income-high income  0.2154375 -0.06262614 0.4935011 0.1286926
```

```r
$`cond ld:income grp`
diff     lwr     upr  p adj
LLD:high income-HLD:high income  -0.397306397 -1.07453929 0.2799201 0.4316878
HLD:low income-HLD:high income  0.014662757 -0.49001172 0.5283372 0.9999576
LLD:low income-HLD:high income  0.022192513 -0.49158687 0.5359719 0.9995079
HLD:low income-LLD:high income  0.411969154 -0.10578478 0.9297231 0.1712671
LLD:low income-LLD:high income  0.419498911 -0.09835911 0.9373569 0.1586897
LLD:low income-HLD:low income  0.007529757 -0.26339946 0.2784590 0.9998686
```
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