

Article

VR in the Workplace: Perceptions and Reactions to Organizations Using VR in High Versus Low Stakes Contexts

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Abstract

Virtual reality (VR) is becoming an increasingly popular tool across a range of domains, from education and healthcare to entertainment and workforce development. Organizations are now beginning to adopt VR for personnel management purposes, including training, evaluation, and decision-making. However, little is known about how such uses influence public perceptions of the organizations themselves. To address this gap, we conducted a three-study investigation examining how individuals perceive organizations that implement VR for various workplace applications. Across the studies, participants were presented with scenarios involving fictitious companies using VR in either low-stakes (e.g., team meeting) or high-stakes (e.g., job interview) contexts. Our findings suggest that people generally view VR technology and the organizations who use the technology positively. However, the context of use significantly shapes perceptions, where organizations that used VR in high-stakes applications were evaluated more negatively than those using it in low-stakes settings. This pattern suggests that while VR carries a general technological appeal, its application in high-stakes contexts may lead to skepticism or concern. We discuss the implications of these findings for organizations considering the integration of VR into personnel practices, highlighting the importance of context and transparency in shaping stakeholder perceptions.



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Keywords: virtual reality; perceived organizational support; perceived organizational attraction; reactions; high stakes contexts; low stakes contexts; workplace scenarios; video vignettes; text-based vignettes

1. Introduction

Modern improvements have made virtual reality (VR) more accessible which has in turn expanded the interest and growth of VR in the workplace [1]. Considering the unique capabilities of VR technology (e.g., presence, embodiment) [2], organizations have considered new applications for VR that were not possible with previous generations of this technology [3]. Interest in using VR technology to support personnel management (e.g., training, assessment, interviews) [4,5] has increased in recent years [6]. As companies consider adopting VR, they face uncertainty about its long-term value and sustainability. While using VR could benefit a company's image or brand [7], little is known about how companies are perceived when they use VR-based systems for personnel management. Using a three-study design, this manuscript explores individual reactions and perceptions of companies using VR in different scenarios to better understand the impact of these uses in the workplace.

The importance of our study comes from individuals being likely to engage with the study and relate the findings of our study to their current or prospective professional roles. This study has the potential to resonate with a broad range of participants, particularly those who may encounter high-stakes scenarios similar to the ones described here. This study adds to the existing literature precisely because it addresses such high-stakes contexts.

1.1. VR in the Workplace

VR differentiates itself from other technologies through the combined characteristics of presence, embodiment, and sometimes interactivity, which together provide an immersive virtual environment [8,9]. Presence refers to the subjective experience of truly “being there” in a virtual environment [10–13]. Embodiment or body ownership is having control over a virtual avatar or object, believing the avatar or object is truly their body [14]. Interactivity, which is sometimes experienced in VR, is an element of presence and the interaction the user has to change the environment and make decisions that impact the experience [10]. Some experiences in VR are passive, like a VR video, where the user directly receives the experience, but other experiences in VR are interactive, where the decisions and actions of the user change what happens in the VR experience [15]. Together, these three factors intersect to create a virtual environment that is unique to VR technology, excluding related technology such as augmented reality that similarly uses a head-mounted device [16].

VR is increasingly utilized across industries (e.g., military, medical, manufacturing), demonstrating its adaptability across different contexts [17]. For example, in the automotive industry, BMW utilizes VR to improve information accessibility during different phases of product conceptualization [18]. In the telecommunications industry, Motorola uses VR-based training to improve job knowledge and job performance [19]. Despite the increasing applications of VR in the workplace, little research has been carried out to understand how organizations are perceived when they use VR in various contexts of personnel management. While prior research suggests VR use elicits positive attitudes and improves emotional well-being among different populations [20–22], organizational perception of VR in workplace contexts remains underexplored. Specifically, we seek to understand how an organization will be perceived when they are using a VR-based program in a low-stakes context (e.g., team meeting) versus a high-stakes context (e.g., job interview).

1.2. High Stakes Versus Low Stakes Contexts

In organizational psychology, high-stakes contexts refer to situations where outcomes have a potential impact on an individual’s job, promotion, or compensation, whereas low-stakes contexts involve minimal risk, such as participating in a team meeting or optional training [23]. Distinguishing between high- and low-stakes contexts is important because high-stakes decisions are subject to legal scrutiny and have potential ramifications for employees (e.g., discrimination, perceived justice) and organizations (e.g., organizational commitment, turnover). VR is generally viewed positively, and when used in low-stakes contexts, it may lead to positive perceptions of an organization by signaling innovation or forward-thinking practices [24]. However, in high-stakes contexts, individuals may view the use of VR in the workplace more negatively due to the inherent risks involved [25]. This aligns with research that has shown individuals are more cautious with emerging technologies when they are applied in higher-stakes contexts. We anticipate that participants in our studies will respond more favorably to VR in low-stakes contexts and more negatively to VR used in high-stakes contexts.

Distinguishing between high- and low-stakes contexts is particularly important for understanding the organizational implications of using VR. High-stakes scenarios—such as job interviews and performance reviews—are typically tied to decisions that can affect an

individual's employment status, compensation, or career trajectory. These situations often involve evaluative judgments and can have significant consequences for both employees and employers. Prior research has shown that individuals respond more critically to technology when it is used in high-stakes decisions due to concerns about fairness, transparency, and due process [25,26]. For example, when assessment tools are perceived as lacking necessity or clarity in high-stakes settings, they may elicit skepticism or resistance [27]. Conversely, VR applications in low-stakes contexts—such as team meetings or optional trainings—are generally perceived more positively because they are seen as enhancing rather than determining outcomes. Thus, the stakes associated with each context reflect different uses of technology and alter how that technology is interpreted and judged. We designed our scenarios to reflect this distinction, ensuring that participants would view the organizational use of VR through the lens of consequence and evaluations.

1.3. Organizational Perceptions

Organizational perceptions influence the attitudes and behaviors of individuals both within and outside of an organization. Perceived organizational support is the degree to which employees believe their organization values their contributions and cares about their well-being [28]. Organizational support is related to increased job satisfaction, organizational commitment, and reduced turnover [29]. Perceived organizational attraction is the extent to which an individual views an organization as a desirable place to work. When organizations are perceived as supportive and attractive, individuals are more likely to apply to positions in and to accept offers from that company and remain more engaged once employed by that company [30–32]. As companies increasingly use VR into their workplace practices, understanding its implications on organizational support and attraction is essential when discerning the broader impact of VR technology on organizational perceptions and personnel management [33,34].

Hypothesis 1. *Participants will perceive companies that use VR in low-stakes contexts as significantly higher in (H1a) organizational support and (H1b) organizational attraction when compared to companies that use VR in high-stakes contexts.*

1.4. VR Predisposition

Technological predisposition is an individual's tendency to actively seek out and engage with experiences involving that technology [35]. Technological predisposition is based on concepts of intrinsic motivation and self-efficacy, suggesting people who feel internally motivated towards a particular technology are more likely to pursue experiences related to that technology (e.g., those who are predisposed toward VR will pursue activities related to VR such as reading articles, purchasing equipment, etc.) [31]. According to our knowledge, we are one of the first papers to generalize this concept to VR. To expand the concept of VR predisposition we include multiple aspects related to experiencing VR: VR pursuit (e.g., the individual's inclination to pursue VR-related experiences and generally perceive VR more positively) [36–40], VR intimidation (e.g., feeling overwhelmed or confused by VR) [35]; VR usability (e.g., perceived the effectiveness, efficiency, and satisfaction with VR) [40]; and VR discomfort (e.g., the physical discomfort one experiences when using VR) [41]. Given that a favorable VR predisposition will lead to individuals perceiving VR more positively, we believe that they will be more inclined to view VR positively, even in high-stakes contexts.

Hypothesis 2. *VR predisposition will moderate the relationship between context stakes and organizational support, where higher VR predispositions of (H2a) VR pursuit, (H2b) VR intimidation, (H2c) VR usability, and (H2d) VR sickness, will dampen the negative relationship between context stakes and organizational support.*

Hypothesis 3. *VR predisposition will moderate the relationship between context stakes and organizational attraction, where higher VR predispositions of (H3a) VR pursuit, (H3b) VR intimidation, (H3c) VR usability, and (H3d) VR sickness, will dampen the negative relationship between context stakes and organizational attraction.*

1.5. User Reactions

User reactions to new technologies can influence the adoption, usage, and broader success of technology implementation in organizations. The Technology Acceptance Model (TAM) explains how user reactions, such as perceived usefulness and perceived ease of use, impact attitudes toward technology, which predicts an individual's intention to use and further use of the technology [42,43]. Research grounded in TAM and related models shows how individuals are more likely to adopt technology when they perceive the technology as more fair, beneficial, and aligned with organizational goals [44]. These perceptions can impact whether the individual believes the technology is forward-thinking, if they would be comfortable using the technology, and whether they would endorse the use of the technology in the future [26]. Users are more likely to react positively to companies that use VR in lower-stake contexts, given the lower risks of those contexts.

Hypothesis 4. *Participants will perceive companies that use VR in low-stakes contexts as significantly more (H4a) favorable, (H4b) fair, (H4c) individually beneficial, (H4d) organizationally beneficial, (H4e) willing to be involved, (H4f) forward thinking, and (H4g) headed in a positive direction when compared to companies that use VR in high-stakes contexts.*

The primary objective of this paper is to examine how organizations are perceived when using virtual reality (VR) technologies in high- versus low-stakes workplace contexts. Specifically, we investigate how such uses affect perceptions of organizational support, organizational attraction, and user reactions, and how individual predispositions toward VR may moderate these effects. To explore these questions, we conducted a series of three empirical studies. In Section 2.1, Study 1 utilized text-based vignettes to introduce VR use across varying context stakes. In Section 2.2, Study 2 built on these findings with video-based scenarios to improve ecological validity and capture richer user reactions. In Section 2.3, Study 3 refined the methodology by standardizing company characteristics and isolating high- and low-stakes scenarios to more precisely assess context effects. Together, these studies offer a multi-method investigation into the nuanced ways in which VR applications shape perceptions of organizations and highlight the importance of technological context in personnel management.

2. Materials and Methods

2.1. Study 1 Methods

2.1.1. Study 1 Participants and Procedures

For Study 1, we collected data from students attending a university in the Western United States using a research pool software. Participants earned course credit in exchange for completing the study. Students had to be at least 18 years old to participate. Participants regardless of prior VR use, were included.

After reviewing the study's description in the research pool software, participants clicked a link directing them to a Qualtrics survey. Participants agreed to the consent form, answered the VR predisposition scales described below, then read the three text-based scenarios about an organization using VR in the workplace, described below. Each scenario was followed by the organizational perception measures, described below. Lastly, participants read a debrief statement about the purpose of the study and were dismissed. The survey took participants less than one hour to complete.

2.1.2. Text-Based Scenarios

Participants were presented with three text-based scenarios. Each presented a color photo of a workplace setting including a caption describing the scenario which follows previous methodological approaches in research [45,46]. The low-stakes scenario depicted a company using VR for a team meeting. The medium-stakes scenario showed a company using VR for workplace training. The high-stakes scenario described VR being used for a job interview. The text-based scenarios are shown in Supplemental Table S1.

2.1.3. Study 1 Measures

Participants provided demographic information including gender, age, ethnicity, and the number of times they have used VR. The full survey used in Study 1 with the consent form, survey items, rating scales, and debrief statement is provided in Supplemental Table S2.

VR Predisposition was explored using four measures. First, VR pursuit measures an individual's propensity to pursue VR experiences and includes VR-specific measures of intentional use, self-efficacy, enjoyment, and flow [34]. We adapted the 19-item Video Game Pursuit scale replacing the words *game* with *VR* and *play* with *use*. Our current data demonstrated good internal consistency, $\alpha = 0.92$ for the scale. Second, VR intimidation measures the sense of being unfamiliar with, confused by, or overwhelmed by using VR [34]. We adapted the 6-item Intimidation with Games scale, replacing the words *game* with *VR* and *play* with *use*. The current data demonstrated good reliability for this scale, $\alpha = 0.84$. Third, VR usability measures the perception of VR as generally effective, efficient, and satisfactory [39]. The 10-item System Usability Scale [47,48] was used in this study, demonstrating good reliability, $\alpha = 0.75$. VR discomfort measures a physical discomfort similar to motion sickness when using VR [40]. The 9-item VR Sickness Questionnaire [49] was used for this study, demonstrating good reliability, $\alpha = 0.90$.

Organizational perceptions were explored using two measures. First, perceived organizational support is the extent to which an employee feels appreciated and supported by their organization [28]. The 8-item Survey of Perceived Organizational Support [28,50] was used in the current study and demonstrated good reliability, $\alpha = 0.95$. Second, perceived organizational attraction is the appeal an organization has to potential employees [46]. The attractiveness and intention to pursue subscales based on the 15-item Organization Attraction Scale [31,51] were used and demonstrated a good measure of reliability $\alpha = 0.97$. The prestige subscale was not used in the present study.

2.1.4. Insufficient Effort Responding

In the survey, we included insufficient effort responding (IER) questions to identify careless responding. We followed research guidelines on writing the items [52] and removed participants who answered more than 50% of the IER questions incorrectly.

2.2. Study 2 Methods

2.2.1. Study 2 Participants and Procedures

For Study 2, we collected data using the same methodology and procedures that were used in Study 1. Rather than using text-based scenarios, we used video-based scenarios, described below. After each scenario, participants still answered the organizational perception measures, but in Study 2, participants also answered user reaction questions, described below.

2.2.2. Study 2 Video-Based Scenarios

Participants were randomly presented with six video-based scenarios ranging from 45 to 58 seconds in length. Each video consisted of a sequence of color images depicting a workplace setting and included an audio transcript of the VR application in the organization. The two low-stakes scenarios depicted a company using VR as a breakroom amenity and for a team meeting. The two medium-stakes scenarios showed a company using VR for new hire orientation and a workplace training. The two high-stakes scenarios described VR being used for a job interview and a performance appraisal. The video scenarios used in Study 2 are available online at <https://doi.org/10.6084/m9.figshare.29104799.v1> (accessed on 31 May 2025) [53].

2.2.3. Study 2 Measures

In Study 2, we used the same measures that were used in the survey for Study 1. However, we included several user reaction single-item measures that were written for the purpose of this study. Prior research supports the use of single-item measures to capture unidimensional reactions [54]. The additional survey items and rating scales for Study 2 are provided in Supplemental Table S3.

2.3. Study 3 Methods

2.3.1. Study 3 Participants and Procedures

For Study 3, we collected data using the same methodology and procedures that were used in Studies 1 and 2. However, we modified the video-based scenarios, described below.

2.3.2. Study 3 Video-Based Scenarios

For Study 3, participants watched two video scenarios, a video for Company A and a video for Company B. The order of the company video was counterbalanced, with some participants watching the Company A video first and others watching the Company B video first. Participants were randomly assigned to watch either a low-stakes video or a high-stakes video for each company. For Study 3 the medium-stakes condition was removed to isolate differences between low- and high-stakes scenarios. Due to the randomization, some participants watched both a high- and low-stakes videos, but other participants watched either two high-stakes videos or two low-stakes videos. The videos ranged from 46 to 60 seconds in length. Each video presented a series of color images depicting a workplace setting with audio playback describing how the organization applied VR to a work practice. The low-stakes scenario for Company A depicted VR as a breakroom amenity, and the high-stakes scenario depicted VR being used for a job interview. The low-stakes scenario for Company B showed VR being used for a team meeting, while the high-stakes scenario showed VR being used for a performance appraisal. The video scenarios used in Study 3 are available at <https://doi.org/10.6084/m9.figshare.29104799.v1> (accessed on 31 May 2025) [53].

2.3.3. Study 3 Measures

In Study 3, the same measures from the Study 2 survey were used.

3. Results

For all three studies, data cleaning was completed in Microsoft Excel (Version 2504), and data analysis was completed in RStudio (2024.12.1+563). When participants reported no prior VR experience, their VR discomfort and VR usability scores were removed given, they had no point of reference for answering the questions. A technical error led to missing responses from some scales in Study 1, explaining the different sample sizes reported in the tables.

3.1. Study 1 Results

3.1.1. Study 1 Sample

We collected data from 380 students at San Francisco State University. 9 were excluded for incomplete responses and 8 for insufficient effort, leaving a final sample of 363 participants. A summary of demographics for the final sample in Study 1 is provided in Supplemental Table S4. Study 1 correlations show that the organizational support measure of support and attraction and positively and significantly correlated, and the VR predisposition measures are generally significantly correlated with one another. VR pursuit was also significantly correlated with both organizational perception measures, such that participants with higher levels of VR pursuit reported significantly higher support and attraction to organizations that used VR in the workplace, regardless of the scenario stakes. A summary of variable correlations is provided in Table 1.

Table 1. Means, standard deviations, reliabilities, and correlations for Study 1 variables.

Variable	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Age	363	22.7	4.72	--							
2. Gender	363	--	--	0.05	--						
3. Organizational Support	176	2.79	0.54	−0.02	−0.13	0.95					
4. Organizational Attraction	176	2.95	0.75	0.05	0.01	0.78 ***	0.97				
5. VR Pursuit	363	2.62	0.62	0.10	0.09	0.34 ***	0.46 ***	0.92			
6. VR Intimidation	363	2.83	0.78	−0.14	−0.15	−0.08	−0.11	−0.27 ***	0.84		
7. VR Usability	260	3.17	0.52	0.16	0.13	0.16	0.23	0.58 ***	−0.68 ***	0.75	
8. VR Discomfort	260	2.05	0.86	0.07	−0.03	−0.08	<0.01	−0.01	0.19	−0.24 **	0.90

Note. ** $p < 0.01$, *** $p < 0.001$. Cronbach's alphas are shown in bold across the diagonal. Gender coded as 0 = Female, 1 = Male.

3.1.2. Study 1 Hypothesis Testing

Hypothesis 1 stated that participants will perceive companies that use VR in low-stakes contexts as significantly higher in H1a organizational support and H1b organizational attraction than companies that use VR in high-stakes contexts. We found partial support for Hypothesis 1 with results supporting H1a but not H1b. First, normality and sphericity were observed via residual Q-Q plotting and Mauchly's test, followed by Greenhouse-Geisser corrections when needed. Univariate repeated measure ANOVAs showed a significant main effect for H1a organizational support, $F(2, 350) = 3.52$, $p = 0.03$, $\eta^2 = 0.003$. Post hoc comparisons showed a significant difference between the low-stakes ($M = 2.83$, $SD = 0.57$) and medium-stakes ($M = 2.76$, $SD = 0.60$) contexts for organizational support, $p = 0.02$, $d = 0.20$. There was no significant effect for H1b organizational attraction. All results for the Hypothesis 1 analyses for Study 1 are provided in Supplemental Table S5.

Hypothesis 2 proposed that the measures of VR predisposition would moderate the relationship between the context stakes and organizational support. First, normality

and homoscedasticity were verified with Q-Q plots, residual vs. fitted plots, Cook's Distance, and leverage statistics. Linear mixed-effects regression models were used to test Hypothesis 2, which was not supported by the findings. However, there was a main effect between VR pursuit and organizational support $b = 0.32$, $t(249) = 4.61$, $p < 0.001$ with higher VR pursuit being associated with higher organizational support, explaining a small amount of variance in the model ($\eta^2 = 0.019$, $f = 0.14$) with less-than-ideal power, $1 - \beta = 0.74$. All results for the Study 1 Hypothesis 2 analyses are provided in Supplemental Table S6.

Hypotheses 3 proposed that the measures of VR predisposition would moderate the relationship between the context stakes and organizational attraction. The same analyses were used from the previous hypothesis, and findings demonstrated Hypothesis 3 was not supported. However, there were two main effects, the first being VR pursuit on organizational attraction, the second being VR usability on organization attraction. For VR pursuit, $b = 0.60$, $t(244) = 6.63$, $p < 0.001$, with higher VR pursuit being associated with higher organizational attraction, explaining a small amount of variance in the model ($\eta^2 = 0.014$, $f = 0.12$) with below standard power, $1 - \beta = 0.59$. For VR usability, $b = 0.35$, $t(160) = 2.54$, $p = 0.012$, with higher VR usability being associated with higher organizational attraction, explaining a small amount of variance in the model ($\eta^2 = 0.020$, $f = 0.14$) with below standard power, $1 - \beta = 0.62$. All results for the Study 1 Hypothesis 3 analyses are provided in Supplemental Table S7.

Hypothesis 4 was not tested in Study 1 since user reactions were not collected in until Study 2.

3.2. Study 2 Results

3.2.1. Study 2 Sample

Data was collected from 439 students at San Francisco State University. 97 were excluded for incomplete responses, 52 for duplicate responses, and 10 for insufficient effort, leaving a final sample of 280 participants. The typical participant had used VR on average 10.94 times prior to the study ($SD = 49.3$, $Range = 0$ to 600 times). A summary of demographics for the final sample in Study 2 is provided in Supplemental Table S8. A summary of variable correlations is provided in Table 2. Study 2 correlations generally showed that related measures were significantly correlated; the two organizational perception measures were significantly correlated, the measures of VR predisposition were significantly correlated except for VR discomfort, and all six user reaction measures were significantly correlated. Additionally, the VR predisposition measures, except for VR intimidation and VR discomfort, were significantly correlated with most user reaction measures.

Table 2. Means, standard deviations, reliabilities, and correlations for Study 2 variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	22.3	3.78	--													
2. Gender	--	--	0.08	--												
3. Organizational Support	2.91	0.44	−0.04	−0.14	0.96											
4. Organizational Attraction	3.15	0.62	−0.01	−0.12	0.81 ***	0.97										
5. VR Pursuit	2.57	0.58	−0.03	0.23 **	0.23 **	0.31 ***	0.89									
6. VR Intimidation	2.82	0.85	−0.07	−0.22 *	0.03	0.03	−0.43 ***	0.87								
7. VR Usability	3.07	0.56	−0.02	0.16	0.20	0.25 **	0.61 ***	−0.71 ***	0.77							
8. VR Discomfort	2.08	0.90	−0.07	0.07	−0.02	<0.01	0.03	0.08	−0.07	0.90						
9. Favorable	3.12	0.72	−0.02	−0.08	0.71 ***	0.88 ***	0.30 ***	−0.03	0.30 ***	−0.03	--					
10. Fair	3.30	0.62	<0.01	−0.07	0.71 ***	0.78 ***	0.18	−0.01	0.21	−0.05	0.78 ***	--				
11. Individual Benefits	3.41	0.67	0.01	−0.11	0.74 ***	0.86 ***	0.25 **	<0.01	0.26 **	−0.03	0.87 ***	0.79 ***	--			
12. Organizational Benefits	3.57	0.67	0.01	−0.15	0.65 ***	0.79 ***	0.20 *	<0.01	0.22 *	−0.04	0.80 ***	0.75 ***	0.85 ***	--		
13. Future Involvement	3.07	0.74	−0.04	−0.10	0.69 ***	0.87 ***	0.35 ***	−0.06	0.28 **	−0.01	0.87 ***	0.69 ***	0.79 ***	0.71 ***	--	
14. Forward Thinking	3.66	0.67	0.06	−0.09	0.63 ***	0.75 ***	0.18	0.03	0.20	−0.04	0.73 ***	0.72 ***	0.79 ***	0.80 ***	0.67 ***	--
15. Positive Direction	3.45	0.70	0.02	−0.18	0.70 ***	0.85 ***	0.20 *	0.02	0.24 *	−0.05	0.85 ***	0.80 ***	0.89 ***	0.87 ***	0.77 ***	0.80 ***

Note. $n = 280$. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cronbach's alphas are shown in bold across the diagonal. Gender coded as 0 = Female, 1 = Male.

3.2.2. Study 2 Hypothesis Testing

We tested Hypothesis 1 using a repeated measures ANOVA, testing for normality and sphericity using Q-Q plotting and Mauchly's test. For Study 2, Hypothesis 1 was supported with a significant effect of stake level on organizational support, $F(2, 558) = 17.06$, $p < 0.001$,

$\eta^2 = 0.02$. Post hoc comparisons revealed significant differences between the low-stakes ($M = 3.00$, $SD = 0.49$) and high-stakes ($M = 2.84$, $SD = 0.54$) scenarios, $p < 0.001$, $d = 0.32$, as well as, low-stakes and medium-stakes ($M = 2.88$, $SD = 0.55$) scenarios, $p < 0.001$, $d = 0.26$. Additionally, there was a significant effect from stake level on organizational attraction, $F(2, 558) = 28.80$, $p < 0.001$, $\eta^2 = 0.03$. Post hoc comparisons revealed significant differences between the low-stakes ($M = 3.32$, $SD = 0.68$) and high-stakes ($M = 3.06$, $SD = 0.73$) scenarios, $p < 0.001$, $d = 0.39$, as well as, low-stakes and medium-stakes ($M = 3.07$, $SD = 0.76$) scenarios, $p < 0.001$, $d = 0.38$. All results for the Hypothesis 1 analyses for Study 2 are provided in Supplemental Table S9.

Hypothesis 2 was tested using a linear regression modeling with normality and homoscedasticity verified using Q-Q plots, residual vs. fitted plots, Cook's Distance, and leverage statistics. Hypothesis 2 was not supported, with results showing the measures for VR predisposition did not moderate the relationship between the stakes of the scenarios and organizational support. However, the results did show there were main effects on organizational support from VR pursuit and VR usability measures. All results for Study 2 Hypothesis 2 are provided in Supplemental Table S10.

Hypothesis 3 was also tested using linear regression models with normality and homoscedasticity verified. Findings did not support the hypothesis, and showed that VR predisposition measures did not moderate the relationship between stakes and organizational attraction. The model for VR pursuit on organizational attraction was significant, $F(5, 834) = 17.85$, $p < 0.001$, $R^2 = 0.10$, as well as the model for VR usability on organizational attraction, $F(5, 699) = 10.98$, $p < 0.001$, $R^2 = 0.07$. The findings demonstrated main effects of VR pursuit on organizational attraction ($b = 0.256$, $p < 0.001$, $\eta^2 = 0.03$, $f = 0.17$) and VR usability on organizational attraction ($b = 0.345$, $p < 0.001$, $\eta^2 = 0.03$, $f = 0.17$). All results for Study 2 Hypothesis 3 are provided in Supplemental Table S11.

Hypothesis 4 stated that user reactions would be overall positive but significantly more positive in lower-stakes scenarios. With few exceptions the average scores across stakes level were generally positive (i.e., above 3, which indicated a neutral response on a 1 to 5 scale). Study 2 descriptives for the user reactions are provided in Supplemental Table S12. A repeated measures MANOVA was used to test Hypothesis 4 for each scenario and we found a significant main effect of scenario contexts on reactions, $F(30, 250) = 2.77$, $p < 0.001$. Follow-up testing was performed using repeated measure ANOVAs. User reactions were significantly more positive in the low-stakes scenarios compared to the high-stakes scenarios for the favorable, $F(4.84, 1349.9) = 16.46$, $p < 0.001$, $\eta^2 = 0.056$, and fairness reactions, $F(4.84, 1349.4) = 14.21$, $p < 0.001$, $\eta^2 = 0.048$. Figure 1 provides a visual of all user reaction mean scores compared by stakes level. Although the scenarios are labeled 1st scenario and 2nd scenario, the order was counterbalanced.

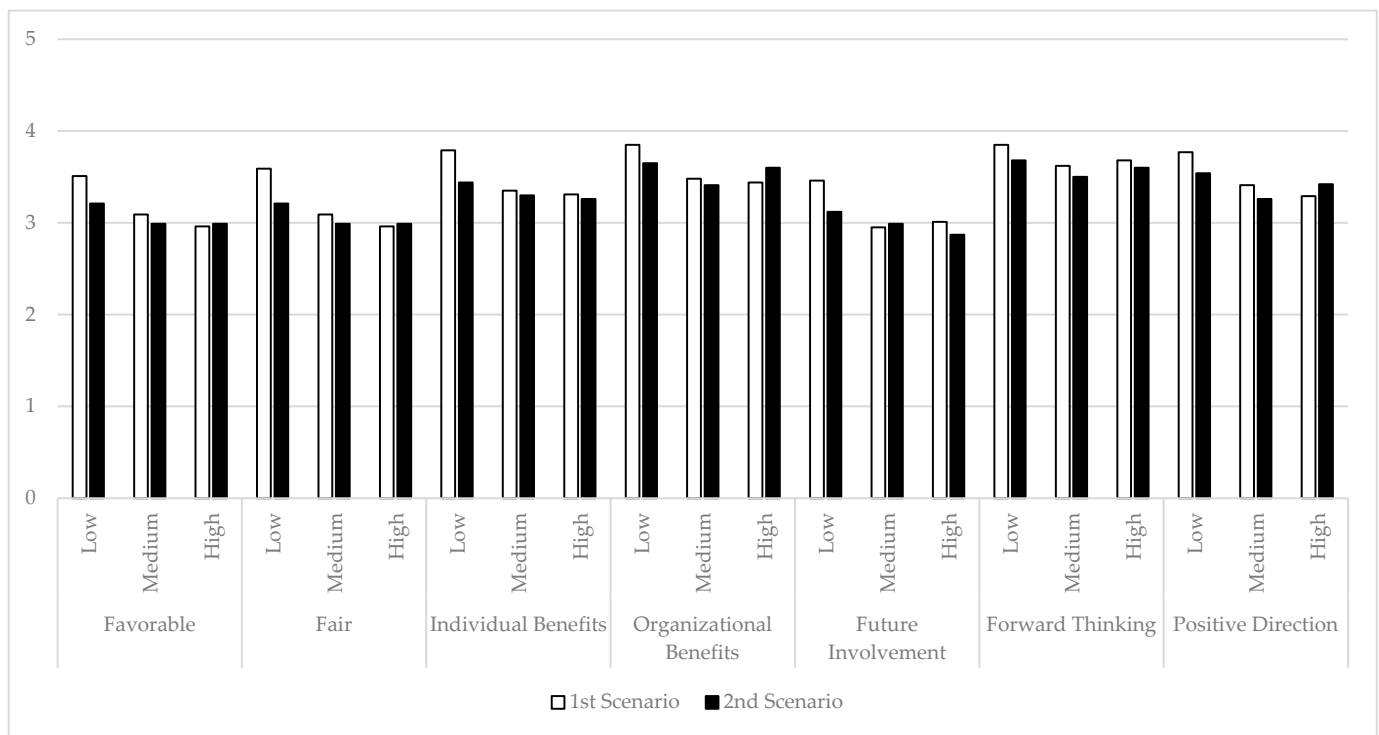


Figure 1. User reactions in Study 2 consistently show more favorable reactions to the use of VR in lower-stakes scenarios and less favorable reactions to the use of VR in higher-stakes scenarios. Descriptives and *t*-test comparisons are provided in Supplemental Table S12.

3.3. Study 3 Results

3.3.1. Study 3 Sample

An initial sample of 458 students at San Francisco State University was collected. 155 were excluded for incomplete responses or insufficient effort, leaving a final sample of 303 participants. The typical participant had used VR on average 8.29 times prior to the study ($SD = 21.61$, $Range = 0$ to 200 times). A summary of demographics for the final sample in Study 3 is provided in Supplemental Table S13.

This study used two different Companies for the scenarios and all participants were randomly assigned to either a low-stakes or high-stakes scenario for each Company. Initial *t*-test comparisons showed that there were significant differences between perceptions and reactions to Company A versus Company B, comparisons are shown in Figure 2. Because of this, the results will be split by Company A and Company B. A summary of variable correlations is provided in Tables 3 and 4.

Table 3. Means, standard deviations, reliabilities, and correlations for Study 3 variables for the Company A scenarios.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	23.0	6.23	--														
2. Gender	--	--	<0.01	--													
3. Stakes	--	--	0.04	−0.12	--												
4. Organizational Support	2.87	0.54	0.01	0.02	−0.01	0.83											
5. Organizational Attraction	3.06	0.72	0.11	0.03	−0.05	0.70 ***	0.86										
6. VR Pursuit	2.57	0.62	−0.01	0.23 **	−0.01	0.28 ***	0.38 ***	0.91									
7. VR Intimidation	2.77	0.82	−0.06	−0.24 **	0.05	−0.05	−0.07	−0.39 ***	0.85								
8. VR Usability	3.15	0.53	0.10	0.19	0.05	0.25 **	0.29 ***	0.57 ***	−0.66 ***	0.74							
9. VR Discomfort	2.20	0.98	−0.06	−0.06	<0.01	−0.18	−0.12	−0.09	0.15	−0.22 *	0.91						
10. Favorable	3.05	1.00	0.08	−0.04	−0.03	0.55 ***	0.65 ***	0.36 ***	−0.06	0.26 **	−0.15	--					
11. Fair	3.22	0.86	−0.03	−0.01	−0.05	0.49 ***	0.55 ***	0.24 **	−0.10	0.22 *	−0.11	0.66 ***	--				
12. Individual Benefits	3.40	0.93	0.04	−0.07	−0.03	0.50 ***	0.59 ***	0.31 ***	−0.08	0.22 *	−0.06	0.73 ***	0.59 ***	--			
13. Organizational Benefits	3.55	0.96	0.06	<0.01	−0.09	0.41 ***	0.50 ***	0.24 **	−0.06	0.17	−0.05	0.60 ***	0.51 ***	0.58 ***	--		
14. Future Involvement	2.96	0.98	0.01	0.03	−0.06	0.49 ***	0.60 ***	0.39 ***	−0.12	0.59 ***	−0.06	0.68 ***	0.59 ***	0.62 ***	0.49 ***	--	
15. Forward Thinking	3.75	0.80	0.17	−0.03	−0.04	0.33 ***	0.44 ***	0.14	−0.05	0.11	−0.13	0.50 ***	0.46 ***	0.53 ***	0.60 ***	0.43 ***	--
16. Positive Direction	3.46	0.90	0.05	<0.01	−0.03	0.53 ***	0.65 ***	0.29 ***	−0.03	0.20	−0.10	0.73 ***	0.63 ***	0.73 ***	0.70 ***	0.62 ***	0.62 ***

Note. $n = 303$, $n_{lowstakes} = 145$, $n_{highstakes} = 158$. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cronbach's alphas are shown in bold across the diagonal. Gender coded as 0 = Female, 1 = Male.

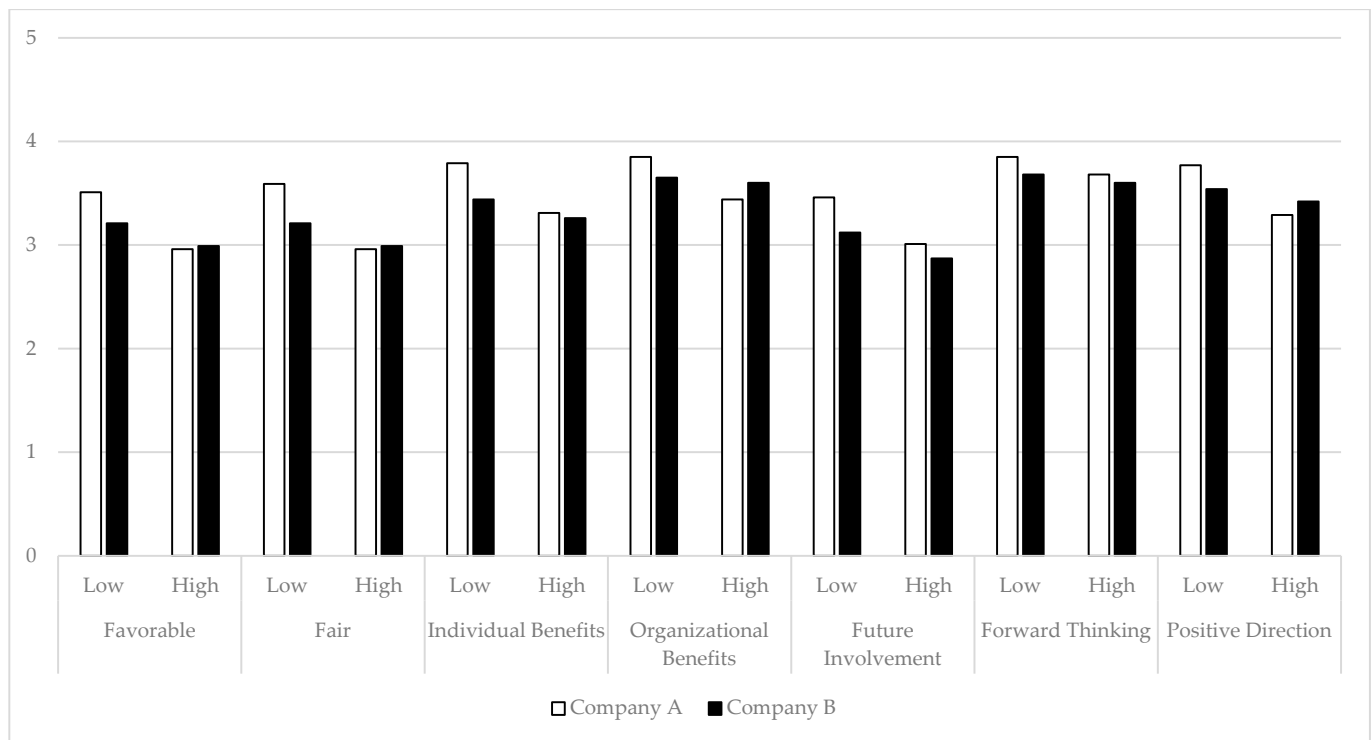


Figure 2. User reactions in Study 3 consistently show more favorable reactions to the use of VR in lower-stakes scenarios and less favorable reactions to the use of VR in higher-stakes scenarios. Values are provided in Supplemental Table S14.

Table 4. Means, standard deviations, reliabilities, and correlations for Study 3 variables for the Company B scenarios.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	23.0	6.23	--														
2. Gender	--	--	<0.01	--													
3. Stakes	--	--	−0.02	−0.04	--												
4. Organizational Support	2.94	0.61	−0.04	−0.08	−0.14	0.86											
5. Organizational Attraction	3.17	0.80	0.03	−0.02	−0.12	0.76 ***	0.89										
6. VR Pursuit	2.57	0.62	−0.01	0.23 **	−0.03	0.27 ***	0.33 ***	0.91									
7. VR Intimidation	2.77	0.82	−0.06	−0.24 **	0.08	−0.05	−0.05	−0.39 ***	0.85								
8. VR Usability	3.15	0.53	0.10	0.19	−0.01	0.21	0.27 **	0.57 ***	−0.66 ***	0.74							
9. VR Discomfort	2.20	0.98	−0.06	−0.06	0.08	−0.12	−0.17	−0.09	0.15	−0.22 *	0.91						
10. Favorable	3.21	0.99	0.08	−0.04	−0.07	0.52 ***	0.68 ***	0.36 ***	−0.06	0.26 **	−0.15	--					
11. Fair	3.35	0.84	−0.03	−0.01	−0.08	0.49 ***	0.59 ***	0.24 **	−0.10	0.22 *	−0.11	0.66 ***	--				
12. Individual Benefits	3.57	0.91	0.04	−0.07	−0.04	0.49 ***	0.62 ***	0.31 ***	−0.08	0.22 *	−0.06	0.73 ***	0.59 ***	--			
13. Organizational Benefits	3.65	0.95	0.06	<0.01	0.02	0.44 ***	0.52 ***	0.24 **	−0.06	0.17	−0.05	0.60 ***	0.51 ***	0.58 ***	--		
14. Future Involvement	3.13	0.97	0.01	0.03	−0.08	0.53 ***	0.63 ***	0.39 ***	−0.12	0.29 ***	−0.06	0.68 ***	0.59 ***	0.62 ***	0.49 ***	--	
15. Forward Thinking	3.70	0.85	0.17	−0.03	−0.02	0.45 ***	0.50 ***	0.14	−0.05	0.11	−0.13	0.50 ***	0.46 ***	0.53 ***	0.60 ***	0.43 ***	--
16. Positive Direction	3.59	0.96	0.05	<0.01	−0.03	0.53 ***	0.66 ***	0.29 ***	−0.03	0.20	−0.10	0.73 ***	0.63 ***	0.73 ***	0.70 ***	0.62 ***	0.62 ***

Note. $n_{total} = 303$, $n_{low} = 151$, $n_{high} = 152$. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cronbach's alphas are shown in bold across the diagonal. Gender coded as 0 = Female, 1 = Male.

3.3.2. Study 3 Hypothesis Testing

Hypothesis 1 investigated for differences between low- and high-stakes contexts in H1a organizational support and H1b organizational attraction of companies that use VR. Our results partially supported this hypothesis; results were significant for company B but not company A. Normality and homogeneity were confirmed via Q-Q plotting and Levene's test, and independent sample t -tests were performed. For company B, results reflected a significant difference between low- ($M = 3.02$, $SD = 0.60$) and high-stakes ($M = 2.85$, $SD = 0.61$) in organizational support, $t(301) = 2.46$, $p = 0.014$, 95% CI [0.03, 0.31], $d = 0.28$. As well as a significant difference between low- ($M = 3.27$, $SD = 0.81$) and high-stakes ($M = 3.07$, $SD = 0.78$) in organizational attraction, $t(301) = 2.19$, $p = 0.030$, 95% CI [0.02, 0.38], $d = 0.25$. All results for Study 3, hypotheses 1 analyses can be found in Supplemental Table S15.

Hypothesis 2 proposed that differences in organizational support among stakes levels will be moderated by VR predisposition. Prior to testing linear regression models, normality and variance were verified via Q-Q plots, residual vs. fitted plots, Cook's Distance, and leverage statistics. Outcomes did not support Hypothesis 2; VR predisposition had no

moderation effect. Although there were significant main effects from VR pursuit on organizational support for both company A ($b = 0.161, p = 0.032, \eta^2 = 0.08, f^2 = 0.09$), and company B ($b = 0.270, p < 0.001, \eta^2 = 0.07, f^2 = 0.08$). Additionally, VR usability had a main effect on organizational support for company A ($b = 0.161, p = 0.032, \eta^2 = 0.07, f^2 = 0.08$), and company B ($b = 0.161, p = 0.032, \eta^2 = 0.04, f^2 = 0.04$). Lastly, VR discomfort had a main effect on organizational support for company B ($b = -0.105, p = 0.039, \eta^2 = 0.01, f^2 = 0.01$). All results for Study 3, Hypotheses 2 are provided in Supplemental Table S16.

Hypothesis 3 proposed that measures of VR predisposition will moderate organizational attraction. The same analyses were used from our previous hypothesis, and results demonstrated that Hypothesis 3 was not supported. However, VR pursuit had a significant main effect on organizational attraction for both company A ($b = 0.389, p < 0.001$), and company B ($b = 0.402, p < 0.001$). Additionally, VR usability had a significant main effect on organizational attraction for company A ($b = 0.382, p < 0.001$), and company B ($b = 0.366, p = 0.002$). Lastly, VR discomfort had a significant main effect on organizational attraction for company B ($b = -0.191, p = 0.005$). All results for Study 3, hypotheses 3 are provided in Supplemental Table S17. Hypothesis 4 stated that user reactions would be significantly more positive in lower-stakes scenarios. Initial test results did not support H4. A repeated measures MANOVA was used to test H4 for each company, and neither model was significant. However, company B's model approached significance, and exploratory RM ANOVAs were conducted. Follow-up testing revealed stakes levels having a significant effect on participants perceived favorableness, $F(1, 301) = 4.25, p = 0.040, \eta^2 = 0.010$ and their future involvement, $F(1, 301) = 4.41, p = 0.037, \eta^2 = 0.010$.

4. Discussion

Our research aimed to investigate how incorporating VR technology into work tasks may influence individuals' perceptions of an organization. Preliminary comparisons of scenarios before testing showed few significant differences. In Study 1, organizational support in low-stakes scenarios was rated significantly different than medium ratings. This can be interpreted as most participants not perceiving any significant differences in scenarios. In Study 2, organizational support scores between the different stake-level scenarios revealed that both low- and high-stake scenarios were perceived as significantly different. Only the attractiveness of low-stakes scenarios in Study 2 was viewed as significantly different. In Study 3, Company B's stake level scenarios were seen as significantly different in both organizational support and attractiveness.

Across the three studies, participants' perceptions of support and attraction varied between scenarios. The most common trend among the preliminary data observations is that low-stakes scenarios utilizing VR, such as team meetings and breakroom access, are perceived as having significantly higher organizational support and attractiveness compared to higher-stakes contexts, such as job interviews or performance evaluations. This finding aligns with related research on VR training and recruitment, which shows that immersive low-stakes scenarios enhance employee engagement, satisfaction, and retention [55]. Notably, the breakroom context received significantly higher ratings in terms of support and attractiveness compared to all other scenarios across the studies. Most likely due to the close resemblance to leisure time. No formal method of risk assessment was used to determine the stake level of a scenario. However, common principles of risk assessment were loosely followed; comparing the severity of a consequence with the likelihood of an event's occurrence.

Although no moderation effects were found among the data for Hypotheses 2 and 3, testing revealed that there were direct effects on organizational support and attractiveness among some VR predisposition measures. VR pursuit and VR usability had a significant

direct effect on organizational support and attraction scores across almost all studies, which aligns with related findings that VR predisposition influences engagement and motivation directly [56]. Hypotheses 2 and 3 findings imply that although VR predisposition appears not to moderate support and attraction scores across different level contexts, there are still components among VR predisposition that affect the outcome variables; organizational support and attractiveness. This can be interpreted to mean that an individual's likelihood to pursue VR experiences (higher VR pursuit scores), their perceived usability of VR technology, and, in some instances, their discomfort levels with VR technology have a direct effect on their organizational support and attraction perceptions. Although moderation was not observed, this does not rule out the possibility of a mediation effect. Further iterations of similar research are encouraged to explore mediation models.

Individual reaction scores gathered among the different contexts for Hypothesis 4 in Study 2 showed that lower-stakes contexts, when compared to high-stakes, were rated significantly more favorably across all reactions. Although in Study 3, overall model significance was only approached ($p = 0.071$) when comparing reactions of the stake level scenarios for each company. This may be explained due to the change in experimental design between Studies 2 and 3. Specifically, we removed medium stakes to simplify the distinction between low- and high-stakes scenarios, and we reduced the number of companies used in Study 3 from the six used in Study 2 to two. The data gathered from Study 3 post hoc tests reveal that for Company A, organizational benefit was the only significantly different reaction score. For Company B, favor and future involvement were significantly different, with individual benefit approaching significance.

Our findings align with related research suggesting that real social contexts, among other low-stakes contexts, elicit a more positive reaction than performance-based or other VR scenarios [57]. Additionally, our findings align with related research showing reduced perceived trust and satisfaction as cognitive load increases in higher-stakes scenarios [58]. However, it is important to note that opinions in the literature are mixed. Researchers [59] have found that participants felt greater organizational attraction, enjoyment, and engagement in high-stakes real settings versus low-stakes simulated settings. Future research should consider the contrasting opinions within the literature when assessing stake levels in research, as different context settings can elicit varying reactions. As mentioned previously, the context of using VR in a breakroom was significantly different than most other scenarios, including the other low-stakes scenario, team meetings. Therefore, future iterations of similar research should carefully examine which contexts are assigned to which stake-level, if distinct contexts are to be used for different companies.

5. Conclusions

This study aimed to understand how different uses of VR may influence the perception of organizations across contexts. We hypothesized that organizations using VR in lower stakes contexts would be perceived more favorably compared to high stakes. Study 1 text scenarios and Study 2 video scenarios showed no significant differences in favor. Upon review of Study 2, we found the use of different companies for each scenario to be a limitation. After standardizing to two companies to address the limitation and removing medium stakes in Study 3, the findings supported favorability for VR in lower stake contexts.

The moderation hypotheses across the studies were not supported by the data. A possible explanation may stem from participants' prior experience with VR or whether the scenarios lack a sense of reality. Participants' preexisting attitudes and experience with VR brings the potential for bias towards VR technology, which may influence reactions and organizational perceptions. Prior experience was assumed to be positive and equal among the samples, although this may not be true. We advise future researchers to obtain a more

in-depth understanding of preexisting attitudes towards VR to account for biases more accurately. Additionally, future research should incorporate behavioral VR simulations to allow participants to experience how they would react to these workplace scenarios more accurately. Behavioral VR simulations may help mitigate preexisting biases stemming from previous VR use or participants' field of work.

Participants' work experience was not tracked during the studies; this oversight is a limitation of the research, especially when conducting workplace research. The sample consisted primarily of university students who may lack the work experience to fully understand the different stakes we described, making it challenging for them to imagine themselves in workplace scenarios accurately. For example, they might not consider a job interview as a high-stakes scenario when compared to a team meeting. Future researchers are encouraged to record participants' work experiences as well as samples from various industries to increase the generalizability of their findings. The projected career interests of our samples are displayed in Supplementary Table S18.

The experimental design used for our research has two distinct limitations. The first being that all three studies shared a similar logical structure of presenting a written or visual medium followed by asking the same repeated measures. Conducting research this way may lead participants to experience response fatigue, which can contribute to inaccurate responses. The second limitation is having participants rely on their imagination may have influenced how they perceived the scenarios. Allowing participants to immerse themselves in an actual VR environment could have elicited stronger and more accurate responses. Future research should consider incorporating more behavioral response designs, such as having participants experience practical VR operations. Using a VR setting versus text and videos would add realism and immersion, enhancing ecological validity and providing a more realistic insight into participant reactions.

The theoretical approach to our proposed moderating effect aligned with the Technology Acceptance Model that one's own attitude towards the technology would have an impact on the relationship. Exploring different outcomes beyond organizational support and attractiveness, such as organizational commitment or job performance, may be more appropriate to determine if the VR predisposition subfactors have an indirect effect. However, upon reviewing the research, we found reason to suspect that a mediation approach with different outcome variables and contexts may be more effective. We encourage future research to explore mediation models by using multiple time points in the study design, because the Technology Acceptance Model delineates that one's attitude towards a technology may impact their experience using the technology.

Our findings have several practical implications for organizations considering integrating VR into their practices. First, video vignettes are more immersive than text-based methods; therefore, future research should incorporate video or VR simulations to better capture perceptions. Second, people generally view VR positively and would likely perceive organizations as supportive and attractive for incorporating it into their practices. Participants rated VR as favorable ($M = 3.15$, $SD = 0.62$) for organizations. However, predisposition for VR may mitigate how employees and potential employees feel supported by or attracted to an organization. Employers should consider workforce familiarity with VR technology prior to implementing VR for workplace tasks. Accessibility concerns may inhibit the adoption of VR technology unless organizations accurately assess what equitable technology practices must be used to make VR technology accessible to employees. Third, VR is still a relatively new technology and has yet to be fully explored. Understanding how to appropriately use VR in the workplace may still require more research with new scenarios.

We explored how the use of VR influences the perceptions of organizational support and attraction. Findings indicate that individuals generally have more positive reactions to organizations using VR but those reactions are less positive when organizations use VR in higher stakes scenarios with higher potential impact on their job or compensation. As VR technology continues to advance and finds more uses in workplace practices, understanding these perceptions can help guide future implementation.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/virtualworlds4030040/s1>, Table S1: Text-based Scenarios from Study 1; Supplemental Table S2: Consent Form, Survey, and Debrief Statement from Study 1; Supplemental Table S3: Survey Questions added in Study 2; Supplemental Table S4: Summary of Demographic Information for the final sample in Study 1; Supplemental Table S5: Hypothesis 1 results from Study 1; Supplemental Table S6: Hypothesis 2 results from Study 1; Supplemental Table S7: Hypothesis 3 results from Study 1; Supplemental Table S8: Summary of Demographic Information for the final sample in Study 2; Supplemental Table S9: Hypothesis 1 results from Study 2; Supplemental Table S10: Hypothesis 2 results from Study 2; Supplemental Table S11: Hypothesis 3 results from Study 2; Supplemental Table S12: T-test comparisons of User Reactions in Study 2; Supplemental Table S13: Summary of Demographic Information for the final sample in Study 3; Supplemental Table S14: T-test comparisons of User Reactions in Study 3; Supplemental Table S15: Hypothesis 1 results from Study 3; Supplemental Table S16: Hypothesis 2 results from Study 3; Supplemental Table S17: Hypothesis 3 results from Study 3; Supplemental Table S18: Histograms of career industry intentions.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: All data collected for this study is available at <https://doi.org/10.6084/m9.figshare.29176478.v1> (accessed on 31 May 2025) [60].

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Conflicts of Interest: The authors declare no conflicts of interest.

Abbreviations

The following abbreviations are used in this manuscript:

VR	Virtual Reality
TAM	Technology Acceptance Model
IER	Insufficient Effort Responding

References

- Muñoz-Saavedra, L.; Miró-Amarante, L.; Domínguez-Morales, M. Augmented and virtual reality evolution and future tendency. *Appl. Sci.* **2020**, *10*, 322. [CrossRef]
- Sanchez, D.R.; Rueda, A.; Kawasaki, K.; Van Lysebetten, S.; Diaz, D. Reviewing simulation technology: Implications for workplace training. *Multimodal Technol. Interact.* **2023**, *7*, 50. [CrossRef]
- Hubbard, T.D.; Aguinis, H. Conducting phenomenon-driven research using virtual reality and the metaverse. *Acad. Manag. Discov.* **2023**, *9*, 408–415. [CrossRef]
- Chang, A.A.; Kazemi, E.; Esmaili, V.; Davies, M.S. The effectiveness of virtual reality training: A systematic review. *J. Organ. Behav. Manag.* **2024**, *44*, 214–232. [CrossRef]
- Young, J.; Ferreira, J.; Pantidi, N. “I shot the interviewer!”: The effects of in-VR interviews on participant feedback and rapport. In Proceedings of the CHI '24: CHI Conference on Human Factors in Computing Systems, Honolulu, HI, USA, 11–16 May 2024; p. 107. [CrossRef]
- Unni, M.V.; S, R.; Kar, R.; Bh, R.; V, V.; Johnson, J.M. Effect of VR technological development in the age of AI on business human resource management. In Proceedings of the 2023 Second International Conference on Electronics and Renewable Systems (ICEARS), Tuticorin, India, 2–4 March 2023; pp. 999–1004. [CrossRef]
- Bialkova, S.; Ros, E. Enhancing employer branding via high-tech platforms. *Manag. Rev.* **2021**, *32*, 128–145. [CrossRef]
- Petersen, G.B.; Petkakis, G.; Makransky, G. A study of how immersion and interactivity drive VR learning. *Comput. Educ.* **2022**, *179*, 104429. [CrossRef]
- Steuer, J.; Biocca, F.; Levy, M.R. Defining virtual reality: Dimensions determining telepresence. *Commun. Age Virtual Real.* **1995**, *33*, 37–39. [CrossRef]
- Slater, M. Measuring presence: A response to the Witmer and Singer presence questionnaire. *Presence Teleoperators Virtual Environ.* **1999**, *8*, 560–565. [CrossRef]
- Slater, M. A note on presence terminology. *Presence Connect* **2003**, *3*, 1–5.
- Slater, M. Immersion and the illusion of presence in virtual reality. *Br. J. Psychol.* **2018**, *109*, 431–433. [CrossRef]
- Wittenberg, G. Virtual reality in engineering. *Ind. Robot.* **1993**, *20*, 21–22. [CrossRef]
- Guy, M.; Normand, J.M.; Jeunet-Kelway, C.; Moreau, G. The sense of embodiment in virtual reality and its assessment methods. *Front. Virtual Real.* **2023**, *4*, 1141683. [CrossRef]
- Guertin-Lahoud, S.; Coursaris, C.K.; Sénécal, S.; Léger, P.M. User experience evaluation in shared interactive virtual reality. *Cyberpsychol. Behav. Soc. Netw.* **2023**, *26*, 263–272. [CrossRef] [PubMed]
- Gračanin, D. Immersion versus embodiment: Embodied cognition for immersive analytics in mixed reality environments. In *Augmented Cognition: Intelligent Technologies: 12th International Conference, AC 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, 15–20 July 2018, Proceedings, Part I*; Springer: Cham, Switzerland, 2018; pp. 355–368. [CrossRef]
- Afolabi, A.I.; Ige, A.B.; Akinade, A.O.; Adepoju, P.A. Virtual reality and augmented reality: A comprehensive review of transformative potential in various sectors. *Magna Sci. Adv. Res. Rev.* **2023**, *7*, 107–122. Available online: <https://magnascientiapub.com/journals/msarr/content/virtual-reality-and-augmented-reality-comprehensive-review-transformative-potential-various> (accessed on 24 January 2025). [CrossRef]
- De Sa, A.G.; Zachmann, G. Virtual reality as a tool for verification of assembly and maintenance processes. *Comput. Graph.* **1999**, *23*, 389–403. [CrossRef]
- Gunter, W. Training with virtual reality. *Assem. Autom.* **1995**, *15*, 12–14. [CrossRef]
- Liu, Q.; Wang, Y.; Yao, M.Z.; Tang, Q.; Yang, Y. The effects of viewing an uplifting 360-degree video on emotional well-being among elderly adults and college students under immersive virtual reality and smartphone conditions. *Cyberpsychology Behav. Soc. Netw.* **2020**, *23*, 157–164. [CrossRef]
- Liu, Q.; Wang, Y.; Tang, Q.; Liu, Z. Do you feel the same as I do? Differences in virtual reality technology experience and acceptance between elderly adults and college students. *Front. Psychol.* **2020**, *11*, 573673. [CrossRef]
- Pavic, K.; Vergilino-Perez, D.; Gricourt, T.; Chaby, L. Age-related differences in subjective and physiological emotion evoked by immersion in natural and social virtual environments. *Sci. Rep.* **2024**, *14*, 15320. [CrossRef]
- Hermes, M.; Stelling, D. Context matters, but how much? Latent state–trait analysis of cognitive ability assessments. *Int. J. Sel. Assess.* **2016**, *24*, 285–295. [CrossRef]
- Turban, D.B.; Forret, M.L.; Hendrickson, C.L. Applicant attraction to firms: Influences of organization reputation, job and organizational attributes, and recruiter behaviors. *J. Vocat. Behav.* **1998**, *52*, 24–44. [CrossRef]
- Sjöberg, L. Limits of knowledge and the limited importance of trust. *Risk Anal.* **2001**, *21*, 189–198. [CrossRef] [PubMed]
- Van Knippenberg, D.; Van Knippenberg, B.; De Cremer, D.; Hogg, M.A. Leadership, self, and identity: A review and research agenda. *Leadersh. Q.* **2004**, *15*, 825–856. [CrossRef]
- Chapman, D.S.; Uggerslev, K.L.; Carroll, S.A.; Piasentin, K.A.; Jones, D.A. Applicant attraction to organizations and job choice: A meta-analytic review of the correlates of recruiting outcomes. *J. Appl. Psychol.* **2005**, *90*, 928–944. [CrossRef]

28. Eisenberger, R.; Huntington, R.; Hutchison, S.; Sowa, D. Perceived organizational support. *J. Appl. Psychol.* **1986**, *71*, 500–507. [\[CrossRef\]](#)
29. Rhoades, L.; Eisenberger, R. Perceived organizational support: A review of the literature. *J. Appl. Psychol.* **2002**, *87*, 698–714. [\[CrossRef\]](#)
30. Allen, D.G.; Mahto, R.V.; Otondo, R.F. Web-based recruitment: Effects of information, organizational brand, and attitudes toward a web site on applicant attraction. *J. Appl. Psychol.* **2007**, *92*, 1696–1708. [\[CrossRef\]](#)
31. Lievens, F.; Highhouse, S. The relation of instrumental and symbolic attributes to a company's attractiveness as an employer. *Pers. Psychol.* **2003**, *56*, 75–102. [\[CrossRef\]](#)
32. Highhouse, S.; Lievens, F.; Sinar, E.F. Measuring attraction to organizations. *Educ. Psychol. Meas.* **2003**, *63*, 986–1001. [\[CrossRef\]](#)
33. Slater, M.; Sanchez-Vives, M.V. Enhancing our lives with immersive virtual reality. *Front. Robot. AI* **2016**, *3*, 236866. [\[CrossRef\]](#)
34. Nguyen, D.K.; Broekhuizen, T.; Dong, J.Q.; Verhoef, P.C. Digital readiness: Construct development and empirical validation. In Proceedings of the International Conference on Information Systems (ICIS) 2019 Conference, Munich, Germany, 15–18 December 2019.
35. Sanchez, D.R.; Langer, M. Video game pursuit (VGPU) scale development: Designing and validating a scale with implications for game-based learning and assessment. *Simul. Gaming* **2020**, *51*, 55–86. [\[CrossRef\]](#)
36. Slater, M.; Wilbur, S. A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. *Presence Teleoperators Virtual Environ.* **1997**, *6*, 603–616. [\[CrossRef\]](#)
37. Ryan, R.M.; Rigby, C.S.; Przybylski, A. The motivational pull of video games: A self-determination theory approach. *Motiv. Emot.* **2006**, *30*, 344–360. [\[CrossRef\]](#)
38. Przybylski, A.K.; Rigby, C.S.; Ryan, R.M. A motivational model of video game engagement. *Rev. Gen. Psychol.* **2010**, *14*, 154–166. [\[CrossRef\]](#)
39. Sundar, S.S.; Marathe, S.S. Personalization versus customization: The importance of agency, privacy, and power usage. *Hum. Commun. Res.* **2010**, *36*, 298–322. [\[CrossRef\]](#)
40. ISO 9241-11:2018; Ergonomics of Human-System Interaction—Part 11: Usability: Definitions and Concepts. International Organization for Standardization (ISO): Geneva, Switzerland, 2018.
41. Sharkey, T.; McCauley, M. Does a motion base prevent simulator sickness? In Proceedings of the Flight Simulation Technologies Conference, Hilton Head Island, SC, USA, 24–26 August 1992; p. 4133. [\[CrossRef\]](#)
42. Davis, F.D. Technology acceptance model: TAM. In *Information Seeking Behavior and Technology Adoption*; Al-Suqri, M.N., Al-Aufi, A.S., Eds.; Federal University of Paraíba: João Pessoa, Brazil, 1989; Volume 205, pp. 5–219.
43. Venkatesh, V.; Davis, F.D. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Manag. Sci.* **2000**, *46*, 186–204. [\[CrossRef\]](#)
44. Venkatesh, V.; Morris, M.G.; Davis, G.B.; Davis, F.D. User acceptance of information technology: Toward a unified view. *MIS Q.* **2003**, *27*, 425–478. [\[CrossRef\]](#)
45. Schmid, R.; Picka, E.F.; Arabian, H.; Möller, K.; Wagner-Hartl, V. Evaluation of emotional everyday scenarios for the development of a digital health application. *IFAC-Pap.* **2024**, *58*, 205–210. [\[CrossRef\]](#)
46. Wunsch, V.; Picka, E.F.; Schumm, H.; Kopp, J.; Abdulbaki Alshirbaji, T.; Arabian, H.; Möller, K.; Wagner-Hartl, V. Virtual reality-based approach to evaluate emotional everyday scenarios for a digital health application. *Multimodal Technol. Interact.* **2024**, *8*, 113. [\[CrossRef\]](#)
47. Brooke, J. SUS—A quick and dirty usability scale. In *Usability Evaluation in Industry*; CRC Press: London, UK, 1996; pp. 189–194.
48. Bangor, A.; Kortum, P.T.; Miller, J.T. An empirical evaluation of the system usability scale. *Int. J. Hum.-Comput. Interact.* **2008**, *24*, 574–594. [\[CrossRef\]](#)
49. Kim, H.K.; Park, J.; Choi, Y.; Choe, M. Virtual reality sickness questionnaire (VRSQ): Motion sickness measurement index in a virtual reality environment. *Appl. Ergon.* **2018**, *69*, 66–73. [\[CrossRef\]](#) [\[PubMed\]](#)
50. Worley, J.A.; Fuqua, D.R.; Hellman, C.M. The survey of perceived organisational support: Which measure should we use? *SA J. Ind. Psychol.* **2009**, *35*, 1–5. Available online: <https://hdl.handle.net/10520/EJC89181> (accessed on 24 January 2025). [\[CrossRef\]](#)
51. Fishbein, M. Belief, attitude, intention and behavior: An introduction to theory and research. In *Readings in Attitude Theory and Measurement*; Wiley: New York, NY, USA, 1975.
52. Huang, J.L.; Curran, P.G.; Keeney, J.; Poposki, E.M.; DeShon, R.P. Detecting and deterring insufficient effort responding to surveys. *J. Bus. Psychol.* **2012**, *27*, 99–114. [\[CrossRef\]](#)
53. Sanchez, D.R.; Gutierrez, L.; Mapes, K.T.; Martinez, K. 2025—VR Perceptions [Virtual Worlds] Video Vignettes. *Figshare* **2025**. [\[CrossRef\]](#)
54. Fuchs, C.; Diamantopoulos, A. Using single-item measures for construct measurement in management research: Conceptual issues and application guidelines. *Die Betriebswirtschaft* **2009**, *69*, 195–210. Available online: https://temme.wiwi.uni-wuppertal.de/fileadmin/_migrated/content_uploads/fuchs_diamantopoulos_2009.pdf (accessed on 24 January 2025).

55. Fernandez-Espinosa, M.; Clouse, K.; Sellars, D.; Tong, D.; Bsales, M.; Alcindor, S.; Hubbard, T.D.; Villano, M.; Gómez-Zarà, D. Breaking the familiarity bias: Employing virtual reality environments to enhance team formation and inclusion. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '25), Yokohama, Japan, 26 April–1 May 2025; ACM: New York, NY, USA, 2025; pp. 1–16. [\[CrossRef\]](#)
56. Sanchez, D.R.; McVeigh-Schultz, J.; Isbister, K.; Tran, M.; Martinez, K.; Dost, M.; Osborne, A.; Diaz, D.; Farillas, P.; Lang, T.; et al. Virtual reality pursuit: Using individual predispositions towards VR to understand perceptions of a virtualized workplace team experience. *Virtual Worlds* **2024**, *3*, 418–435. [\[CrossRef\]](#)
57. Oh, C.S.; Bailenson, J.N.; Welch, G.F. A systematic review of social presence: Definition, antecedents, and implications. *Front. Robot. AI* **2018**, *5*, 114. [\[CrossRef\]](#)
58. Skulmowski, A. Guidelines for choosing cognitive load measures in perceptually rich environments. *Mind Brain Educ.* **2023**, *17*, 20–28. [\[CrossRef\]](#)
59. Ohlms, M.L.; Melchers, K.G. Do applicant reactions to gamified cognitive ability tests differ between high-versus low-stakes settings? *J. Intell.* **2025**, *13*, 33. [\[CrossRef\]](#)
60. Sanchez, D.; Gutierrez, L.; Mapes, K.T.; Martinez, K. 2025—VR Perceptions [Virtual Worlds] Datasets. *Figshare* **2025**. [\[CrossRef\]](#)

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