Reconceptualizing the applicant experience: New vocabulary for describing applicant reactions

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Truxillo, D. (PI), Jones, M. (co-PI), and Bauer, T. (co-PI). *Eager: Exploring Applicant Privacy Concerns.* National Science Foundation, #1544535.

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Overview

- Review Gilliland's justice-based model of applicant reactions.
- Where the model that have been supported in the research.
- Which selection procedures applicants prefer and which they dislike.
- How explanations can improve reactions.

Overview

- Changes to the selection process over the last 30 years.
- Example of two reactions for the current selection environment:
  - Applicants' ***privacy concerns*** about the selection procedures
  - Applicants' anxiety about new procedures, such as ***anxiety about asynchronous video interviews.***
- Other areas in which research is needed.

Gilliland’s (1993) Model

Justice Rules for Applicant Reactions

(Gilliland, 1993)

Beyond the outcomes applicants get (e.g., pass/fail), they care about the procedures used

Formal Characteristics

1. Job-Relatedness
2. Opportunity to Perform
3. Reconsideration Opportunity
4. Consistency of Administration

Explanation

5. Feedback (including timeliness)
6. Information Known
7. Openness

Interpersonal

8. Treatment
9. Two-way Communication
10. Propriety of Questions

Selection fairness was thought to affect perceptions of the organization and the self as well as other outcomes:

- Perceptions of, and intentions toward, the organization
- Perceptions of the self (e.g., self-efficacy)
- Recommendations of the organization
- Test motivation
- Legal intentions and actions

- Job satisfaction
- Job performance, including OCBs

Additional Findings Related to Gilliland's Model

Gilliland's 10 rules actually seem to factor into 11 facets (Bauer, Truxillo, Sanchez, Craig, Ferrara, & Campion, 2001)

- Job relatedness is really two facets (actual validity and face validity)

These facets cluster into two factors (like the justice factors proposed by Greenberg; Bauer et al., 2001):

- Structure fairness (process itself)
- Social fairness (interpersonal treatment)

Do Applicants' Fairness Perceptions Affect Individual & Organizational Outcomes? (Hausknecht et al. 2004; McCarthy et al., 2017; Truxillo et al. 2004, Truxillo & Bauer, 2011)

Yes

- Organizational attractiveness
- Intentions to pursue legal action
- Test-taking self-efficacy
- Reapplication behavior
- Test validity
- Actual job acceptance
- Test performance

Do Applicants' Fairness Perceptions Affect Individual & Organizational Outcomes? (Continued)

Unknown

Actual legal challenges: Low base rate problem (fairness and legal challenges; Goldman, 2001).

No

- Distal outcomes like job performance, job satisfaction, turnover

Additional Applicant Reactions/Measures

- Test-taking motivation (VIE-based; Sanchez, Truxillo, & Bauer, 2000)
- Expectations about the future (e.g., Derous et al., 2004)
- Applicant attributions (Konradt et al., 2017; Ployhart & Harold, 2004).
- Organizational image (e.g., Lievens & Highhouse, 2003; Slaughter et al., 2004)

Which selection methods do applicants prefer?

(e.g., Steiner & Gilliland, 1996, plus dozens of others across countries); Anderson, 2011; Bauer, McCarthy, Anderson, Truxillo, & Salgado, 2012; Hausknecht et al., 2004; SHRM white paper; SIOP white paper.)

Applicants across a range of countries prefer methods they perceive as:

- job-related
- give opportunity to perform
- give a sense of control

Applicant Reactions: Preferred Methods

(e.g., Steiner & Gilliland, 1996; Anderson et al., 2010; Bauer, McCarthy, Anderson, Truxillo, & Salgado, 2012; Hausknecht et al., 2004; SHRM white paper; SIOP white paper.)

Most Preferred by Applicants	• **Work Samples** • **Interviews**	
Moderately Preferred	• **Resumes** • **Cognitive Tests** • **References**	• **Biodata** • **Personality Tests**
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Based on Truxillo, Bauer, & Erdogan, 2021

Another way to improve reactions: Give applicants explanations

Explanations improved reactions such as:

- Perceived Fairness
- Organizational Perceptions
- Cognitive Ability Test Performance
- Test-Taking Motivation

- Effects *stronger* in field settings
- An inexpensive way to improve reactions

Truxillo et al., 2009

Selection has changed a lot since this research was done

Research is chasing new selection technology in selection, including how applicants perceive it

Recent Changes in the Selection Process

Benefits of Online Job Application Systems

- Quick/efficient processing of large numbers of applicants
- Automatic filtering/prioritizing of candidates
- Algorithms for scoring are faster, and may be more accurate and reduce bias
- For applicants, applying for jobs more convenient

But

- Never been easier to monitor, track, and identify individuals.
- Applicants are needing to adjust to unfamiliar selection methods like asynchronous video interviews.

Recent Changes in the Selection Process

- In this context there are other new applicant reactions to consider
- Two possibilities
  - Privacy issues
  - Anxiety around new selection procedures (AVIs)

Data Privacy and Security Concerns for Online Application Systems

- Human-centered perspectives on privacy and security
- Applicants accustomed to sharing personal information during the application process – but how much is too much?
- Algorithms that use big data may pose privacy concerns for individuals
- Attractive targets for hackers
- Need to reduce human error in security

Bauer, T. N., Truxillo, D. M., Jones, M., & Brady, G. (2020). Privacy and cybersecurity challenges, opportunities, and recommendations: Personnel selection in an era of online application systems and big data. In S.E. Woo, L. Tay, & R. Proctor, R. (Eds.), *Big Data in Psychological Research.* Washington, DC: APA Books.

Truxillo, D. (PI), Jones, M. (co-PI), and Bauer, T. (co-PI). *Eager: Exploring Applicant Privacy Concerns.* National Science Foundation, #1544535.

Data Privacy and Security Concerns for Online Application Systems

Protecting Data

- *Cybersecurity*: focused on the development of technologies, algorithms, and protocols for securing computer systems.
- Cybersecurity has three primary foci (Bishop, 2002)
  - *Confidentiality*: ability to protect information so it can only be seen/used by authorized parties.
  - *Integrity*: ability to trust that a source is legitimate
  - *Availability:* ensuring that information and services are available for user access when needed.

Can we conceptualize and measure these privacy concerns in the selection context?

Privacy and Data Security Concerns Scale (PDSCS) for Job Applicants

Brady, G. M., Truxillo, D. M., Bauer, T. N., & Jones, M. P. (2021). The development and validation of the Privacy and Data Security Concerns Scale (PDSCS). *International Journal of Selection and Assessment*, *29*(1), 100-113.

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Background

- Most large companies use online applicant tracking system
- General Data Protection Regulation (GDPR, 2016) in the European Union addresses a host of data privacy concerns
- But applicants in United States must provide their personal information
- Little control over how information is collected, stored, used
- No existing scale to assess applicant reactions to this
- **Current study**: Scale for evaluating specific applicant privacy concerns about online job applications, *Privacy and Data Security Concerns Scale* (PDSCS).

Privacy Concerns: Existing Areas and Measures

Invasion of privacy (e.g., Bauer et al., 2001; Gilliland et al., 1993)

- e.g., “I felt like the manner in which I was evaluated was an invasion of my privacy”.
- But invasiveness is not the same as privacy concerns
- Applicants today may have concerns about storage of data, appropriate use of data, and protection of data

- **Privacy concerns as a disposition or belief** (e.g., Smith et al., 1996; Stone et al.)
  - e.g., “The amounts and types of personal information stored by various organizations should be strictly limited.”

Need to understand how applicant’s see privacy and measure it.

However, the selection context is a bit different

- Selection is a high-stakes process
- Different selection practices elicit different kinds of privacy concerns responses

For example:

- Appropriate use of the data
- Data protection

Study Goals

- Identify dimensions of privacy from the applicant's perspective
- Provide evidence for new measure, the Privacy and Data Security Concerns Scale (PDSCS)

Overview of Scale Development

- Step 1: Item Generation and content validation;
- Step 2: Initial item reduction;
- Step 3: Confirmatory factor analysis;
- Step 4: Criterion-related validity.

Following Hinkin (1998)

Step 1: Item generation and content validation

- Items generated in context of the selection process about privacy during the online hiring process (research team)
- Previous research on privacy concerns
- 62 items

Step 1: Item generation and content validation

Open-ended data from 150 Mturkers asking about concerns about online job applications.

Age ~ 35, work experience, applied for job in last year

Compared respondents' concerns to content from the 62 items.

Three privacy concerns themes emerged that were aligned with the 62 items:

- *Secure connection*
- *Inappropriate/unintended use of information*
- *Mistrust in employer practices (concerns with hacking)*

Step 2: Initial Item Reduction (EFA)

- 452 MTurk workers (after dropping)
- Age ~ 36, work experience, applied for job in last year
- EFA of the 62 items from Step 1
- Initially 5 factors, but two factors not relevant to privacy concerns specifically:
  - Online security behavior, e.g., “I would be careful that the address/URL for the site I am visiting is accurate.”
  - General perceptions of applying online, e.g., “It would be unclear to me whether anyone in the company is actually seeing this application.”

- EFA supported the three-factor structure.
- Kept items with loadings greater than .70, very low cross loadings.

Step 2: Initial Item Reduction (EFA)

- Nine items that assessed the three factors (3 items each):
- **Secure connection***:* "I would be concerned that technical issues with the application system would make my job application form observable by others." α = .92
- **Inappropriate use of information:** "I would be concerned that private information about me would be used to make a hiring decision." α = .85
- **Mistrust in employer security practices***:* "I would be confident that this employer uses tools for virus or malware detection (reverse scored)." α = .87
- Correlations between the three subscales ranged from *r* = .36-.55.

Step 3: Confirmatory Factor Analysis

- 349 MTurk workers (after dropping poor responses)
- Most over age 25, work experience, applied for job recently
- Hypothetical job application process.
- CFA: good to excellent fit with the proposed model items loading onto three factors.

Step 4: Criterion Validity/Nomological Network of the PDSCS

- 540 MTurk participants after dropping
- Age ~ 37, work experience, applied for job in last year
- Procedure: Responded to hypothetical selection procedures and that they had uploaded their CV. Then asked PDSCS questions.
- Three outcome variables:
  - **Fairness** (e.g., “Overall, I believe that this hiring process is fair.”)
  - **Affective reactions** (e.g., “I like this application system a great deal.”)
  - **Litigation intentions** (e.g., “I would be more likely to sue an organization that used this type of hiring system than one that did not.”)

Step 4: Criterion Validity/Nomological Network of the PDSCS

Criterion Validity

- Control variables: A*ge, sex, number of applications completed in the past year, neuroticism,* and *agreeableness*
- The PDSCS subscales predicted the three applicant reactions outcomes beyond the controls:
  - Fairness $\Delta R^2 = .22$
  - Affective reactions $\Delta R^2 = .25$
  - Litigation intentions $\Delta R^2 = .13$

Step 4: Criterion Validity/Nomological Network of the PDSCS

Of the three PDSCS subscales:

- *Mistrust* most strongly related to *fairness (β* = -.44, *p* <.01) and *affective reactions* (*β = -.47, p* < .01)
- *Secure connection* most strongly related to *litigation intentions (β = .33, p* <.01)
- *Inappropriate use of information* related to *litigation intentions* (*β* = .11, *p* < .05)

Discussion

- Applicants' privacy concerns in selection had three dimensions
  - Secure connection
  - Inappropriate use of information
  - Mistrust in employer security practices

- These related to applicants'
  - Fairness perceptions
  - Affective reactions
  - Litigation intentions

Discussion

- Useful tool to measure reactions in a contemporary selection setting

Practical issues

- Applicants have concerns not only in the moment of providing their information, but about the more long-term use of it.
- Employers may appease these concerns by using explanations about their privacy policies and procedures (e.g., McCarthy et al., 2017; Truxillo 2009).

Effects of Interview Anxiety on Performance and Reactions in the Context of Asynchronous Video Interviews (AVIs)

McCarthy, J. M., Truxillo, D. M., Bauer, T. N., Erdogan, B., Shao, Y., Wang, M., Liff, J., & Gardner, C. (2021). Distressed and distracted by COVID-19 during high-stakes virtual interviews: The role of job interview anxiety on performance and reactions. *Journal of Applied Psychology*, *106*, 1103-1117.

Background

- Employers increasingly use AVIs
- However, there is little understanding about the experience of job candidates in these virtual interview contexts.
- Even before COVID-19, applicant anxiety was common: 73% of candidates reported that job search is one most stressful things in life (CareerBuilder, 2017).

Although interview anxiety is an important reaction, understanding of it sparse

- Little research on what influences interview anxiety or
- How anxiety relates to
  - actual interview performance
  - fairness perceptions
  - perceptions of the organization in actual selection situations
- While the use of AVIs (Maurer, 2020) has surged, it is has not been studied much (Lukacik et al., 2020).
- Very few studies on reactions of applicants taking actual AVIs in an actual selection setting

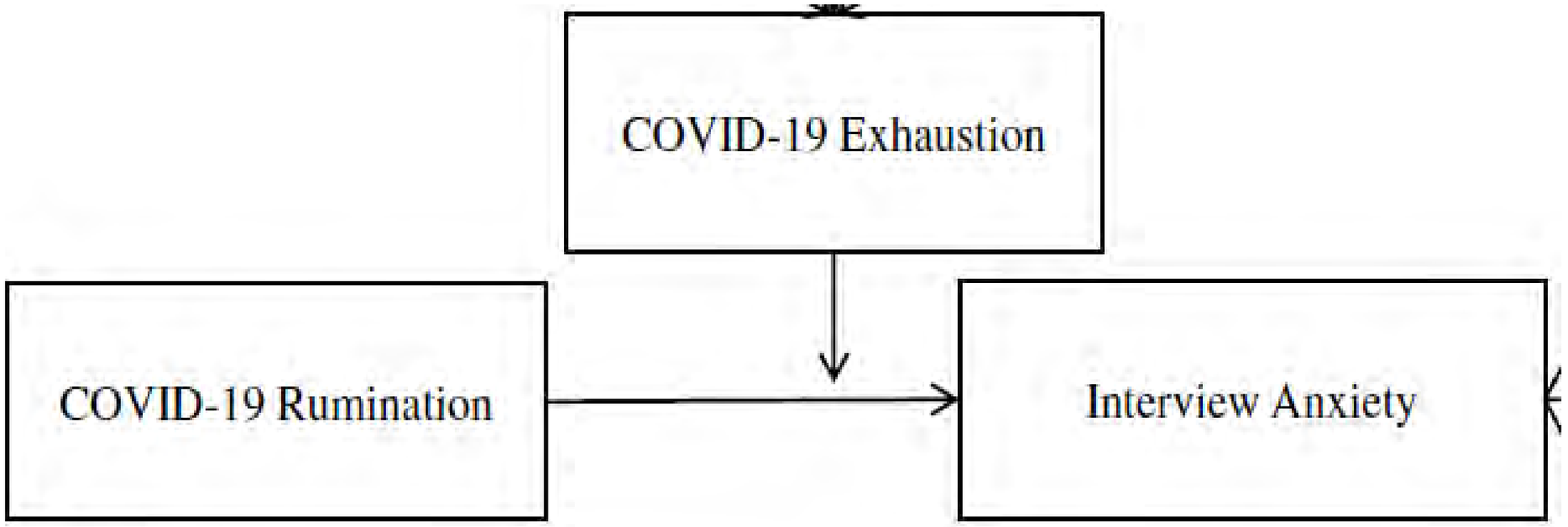
Theoretical Background and Hypothesis Development

- Models of interview anxiety (McCarthy & Goffin, 2004) identify performance anxiety
  - Distress related to interview performance
  - Applicants often note great anxiety around selection (Lukacik et al., 2020).
- Event System Theory (EST; Morgeson et al., 2015) posits that discrete events (e.g., pandemic) vary in terms of time, strength, and space affect organizational life

Theoretical Background and Hypothesis Development

- Rumination is one of the driving forces of anxiety (Demsky et al., 2019; Watkins, 2008)
- Pandemic-related rumination during interview may be associated with higher job interview anxiety.
- **Hypothesis 1:** COVID-19 rumination is associated with interview anxiety.
- **Hypothesis 2:** COVID-19 rumination's effects stronger with high COVID-19 exhaustion

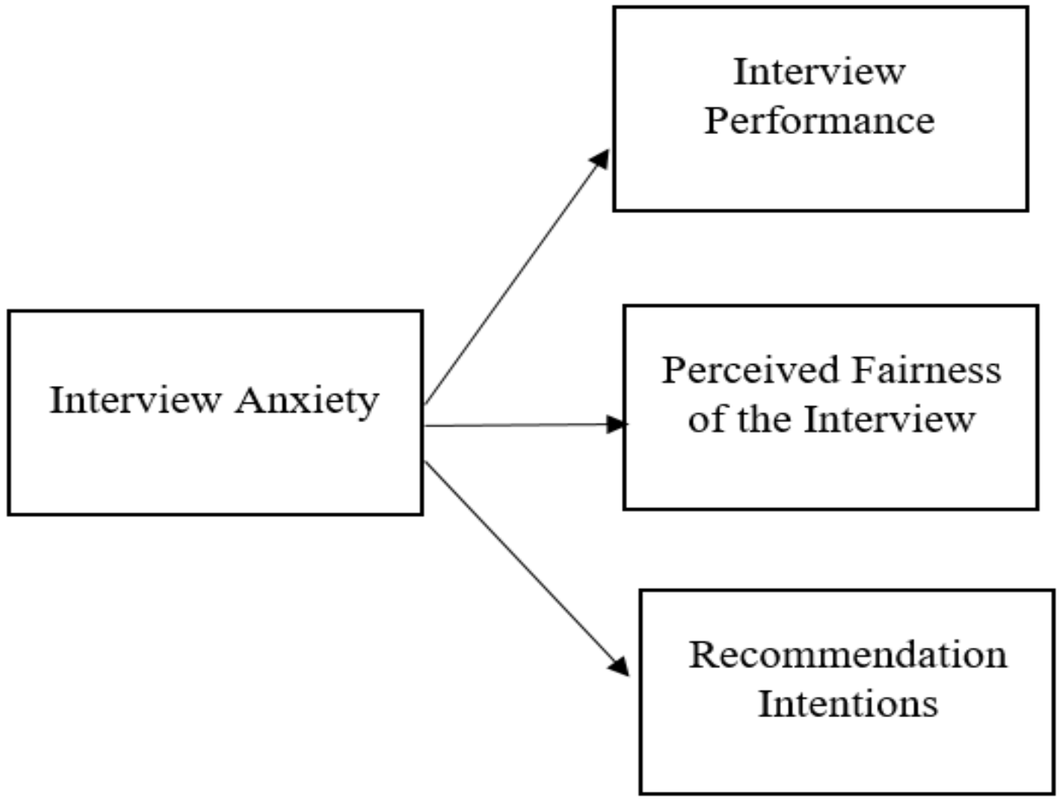
Hypotheses 1 and 2



Theoretical Background and Hypothesis Development

- Negative relation between anxiety and interview performance, but no studies with actual applicants (Powell et al., 2018).
- **Hypothesis 3:** Interview anxiety is associated with lower performance in an AVI.
- Applicant reactions studies show that when applicant anxiety is high, fairness perceptions and recommendation intentions are low (Hausknecht et al., 2004; McCarthy et al., 2017a).
- **Hypothesis 4:** Interview anxiety for an AVI is associated with (a) lower fairness perceptions and (b) lower recommendation intentions.

Hypotheses 3 and 4



Method

Participants and Procedure

- Applicants who took an AVI from US-based recruiting technology company, April 29 to August 3, 2020
- 8,343 applicants interviewing for 373 organizations in 73 countries
- Applicants took survey immediately afterwards

Method

Antecedents

- COVID-19 rumination
- COVID-19 exhaustion

Applicant reaction

- Interview anxiety (6 items; e.g., “During the virtual job interview, I was nervous”)

Outcomes

- Interview performance: Percentile score standardized within each organization
- Perceived fairness
- Recommendation intentions

Control variables. Age, gender, race, location, employment status, level

Results

- COVID-19 rumination and exhaustion positively related to interview anxiety
  - Effects of rumination greater when exhaustion was higher (γ = .03, p < .01)
  - Covid exhaustion related to the number of Covid deaths and duration of the pandemic in the respondent's region
- Interview anxiety negatively related to
  - interview performance (γ = -.23, p < .001)
  - fairness (γ = -.23, p < .001)
  - recommendation intentions (γ = -.20, p < .001)

Discussion

- One of the first to illustrate the relationship between anxiety and interview performance in an actual hiring situation
- One of the first to examine the applicant experience of actual AVIs
- Examined antecedents of interview anxiety in a high-stakes situation in a pandemic

Discussion

AVI anxiety mattered:

- Lower AVI performance
- Lower fairness perceptions
- Lower recommendation intentions

Discussion

Theoretical and practical implications

- Anxiety an important reaction for new selection procedures, e.g.,
  - AVIs
  - Gamified selection
  - Other procedures unfamiliar to applicants
- Anxiety may decline as new selection procedures become more familiar to applicants

Discussion

Future research directions

- Rumination and intrusive thoughts about outside factors during selection – for example
  - health
  - family
  - job security
  - childcare
- Employers may work to reduce interview anxiety because of effects on fairness, interview performance, and perceptions of the organization
- Consider the use of “wise interventions” (Walton, 2014), such as short explanations that can affect test-taker reactions (McCarthy et al., 2017b)

Some questions moving forward

Applicant Reactions: Preferred Methods But What Are They Now?

(e.g., Steiner & Gilliland, 1996; Anderson et al., 2010; Bauer, McCarthy, Anderson, Truxillo, & Salgado, 2012; Hausknecht et al., 2004; SHRM white paper; SIOP white paper.)

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Have preferences for the assessments changed?

And what about new assessments (Woods et al., 2020), for example:

- AVIs (of various types)
- Gamified assessments
- Algorithmic scoring of CVs

Which “classic” applicant reactions may now be more relevant and less relevant?

Formal Characteristics

1. Job-Relatedness
2. Opportunity to Perform
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Explanation

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Some questions moving forward

- What are the antecedents that may affect applicant reactions? Examples:
  - Different AVI characteristics (e.g., Lukacik et al., 2020)
  - Use of different types of gamified assessments (e.g., Woods et al., 2020)
  - Use of avatars
  - Is it
    - the selection procedure itself or
    - the technology/medium (e.g., Potosky, 2008) or
    - some other contextual issue?

Some questions moving forward

What are some new applicant reactions?

- How do we explain to applicants what is going on in a scoring algorithm?
  - Is **transparency** (good fit with justice theory) a new reaction with downstream effects on outcomes?
  - Do applicants feel that an actual person will not see their responses? (Do they care?)

Does selection fairness mean something different now than it did 30 years ago?

Thank you!

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