Towards integrated learning experiences on social media: An exploration of #DayInTheLife videos for career exploration

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Though social media platforms contain rich information and insights on professional life, encounters with this content are often fleeting and disconnected, raising questions about the extent social media content is valuable for career identity formation. This paper reports on a research through design study that explores the potential of social media for supporting integrated learning experiences, through investigating and prototyping experiences around the use of TikTok #DayInTheLife videos for career exploration. We conducted semi-structured interviews of 10 college students to understand the value of social media content for career exploration and the feasibility of integrating such content towards reflective learning experiences. A qualitative analysis revealed that #DayInTheLife videos offer firsthand insights into professions that facilitates aspects of career identity formation, and have the potential to prompt and motivate further exploration. However, they are also limited due their short-form, disconnected, entertainment-oriented nature, the distracting context in which they exist, and the potential lack of representation in recommended content. We also had the students participate in an experience prototype in which we used native social media interactions such as comments, mentions, and direct messages to integrate encounters of disparate posts towards holistic and reflective learning experiences. We found that integrating encounters can facilitate more intentional reflection, add interactivity, and provide a sense of agency. We also surfaced contextual risk factors and design factors for designing integrated learning experiences on social media. We build on our findings to introduce and discuss a concept we call *SIMPLE apps* (**S**ocial media **I**nteractions **M**erged for **P**urposeful **L**earning **E**xperiences) and to discuss broader design implications for better harnessing social media content towards purposeful integrated learning.

CCS Concepts: • **Human-centered computing** → **Collaborative and social computing**; **Human computer interaction (HCI)**; **Interaction design**; • **Applied computing** → *Education.*

Additional Key Words and Phrases: research through design, youth career exploration, career identity formation, social media, #DayInTheLife videos, integrated learning experiences, SIMPLE apps (Social media Interactions Merged for Purposeful Learning Experiences)

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1 INTRODUCTION

Social media has a significant influence on youth decision making, fashion, lifestyle, dialect (e.g. slang), and more [29, 59]. Teens on average spend five or more hours on social media each day [2] where they are exposed to various lifestyles on apps such as TikTok and Instagram. This has been found to have both positive and negative effects for teens. On the negative side, social media can impact mental health [59] and be addicting, siphoning significant amounts of time away from in-person interactions and educational and career development [60]. On the positive side, however, social media can support expanded social capital and broaden access to information [54]. For example, social media

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trends like TikTok #DayInTheLife videos hold new possibilities for providing youth with a more scalable version of job shadowing, helping them understand professions and develop motivation towards specific careers. It is still unknown, however, whether the exposure that individuals get scrolling through social media posts is sufficiently integrated to help youth in reflecting and evolving their career identity, and if not, how one might better support this. Social media business models centered on maximizing information consumption [4, 41] encourage users to consume more content, but can lead to fleeting interactions that are scattered, disconnected, and not synthesized for more meaningful user experiences. This disjointed approach provides users with many information-rich encounters, but potentially hinders their ability to reflect on and integrate these encounters towards focused goals.

In this paper, we take a research through design approach to explore the potential of social media for supporting integrated learning experiences, through investigating and prototyping experiences around the use of TikTok #DayInTheLife videos for career exploration. Early pilot studies culminated in a final two-part study with 10 college students in which we interviewed them about past use of #DayInTheLife videos in relation to benefits and limitations for career exploration, and then had them take part in a Wizard-of-Oz [48] experience prototype [11] in which we used native social media interactions such as comments, mentions, and direct messages to integrate user encounters of disparate posts towards holistic and reflective learning experiences. Specifically, in our prototype, we had users engage with #DayInTheLife career videos on TikTok, interact with them through structured comments (i.e. comments that mention a predefined handle @explore.careers and use predefined hashtags to signal level of interest in the given career), and respond to chatbot DM messages that integrate these encounters by prompting users to reflect on how the specific post content relates to their broader career goals (see **Section 3.2** for more details).

A thematic analysis of benefits and limitations revealed that #DayInTheLife videos can support career identity formation by providing firsthand perspectives of professions and by facilitating reflection, reaffirmation, and reevaluation of career goals (**Section 4.1** details this in relation to the Meeus-Crocetti model for career identity formation [15]). They also have several strengths related to supporting behavior change. Specifically, their casual, digestable format provides an extremely low-effort context for initial engagement which can then act as entry points for further exploration and provide increased motivation and inspiration for the higher levels of effort required for further exploration (**Section 4.2** details this in relation to Fogg's Behavior Model [19]). However, the short-form nature of the posts and lack of integration is insufficient for decision-making, the distracting nature of the social media context prevents reflection and follow-up, the entertainment/influencer dimension can take away from career focus and realism, and the lack of representation and diversity can detract from its value (**Section 4.3**).

A thematic analysis of user experiences and reactions to our prototype showed that such integrating encounters can facilitate intentional reflection, add agency, interactivity, and fun, and that doing it through native social media features makes it accessible, intuitive, and effective (**Section 5.1**). However, we also identified additional contextual risk factors that need to be addressed and identified design factors to consider for the future (see **Sections 5.2-5.3**).

We build on these findings to introduce and discuss a concept we call *SIMPLE apps* (**S**ocial media **I**nteractions **M**erged for **P**urposeful **L**earning **E**xperiences), app experiences that utilize native social media interactions towards supporting holistic, integrated and reflective learning experiences. These experiences can reside purely within a social media platform like in our prototype, or can optionally integrate with an external platform for even more integrated learning experiences through the use of social login (e.g. "Login with TikTok") (Section 6.2). We conclude by discussing implications for designing social media platforms and SIMPLE apps that better harness the information on social media towards purposeful integrated learning experiences, for career exploration and beyond (Section 6.3).

Our paper makes the following contributions to the literature on social media and informal learning:

- A thematic analysis of the perceived benefits and limitations of #DayInTheLife videos on Tiktok for career exploration, revealing its strengths for career identity formation and behavior change as well as its limitations due to a lack of affordances for integration,
- A thematic analysis of user experiences of a Wizard-of-Oz experience prototype that revealed the benefits of and provided more nuance around experiences that integrate encounters towards more purposeful reflective learning experiences,
- The conceptualization of SIMPLE apps (Social media Interactions Merged for Purposeful Learning Experiences) as one general approach to designing integrated learning experiences on social media as well as a sensitizing concept for designing integrated learning experiences more broadly moving forward,

2 RELATED WORK

Our work particularly builds on and adds to the literature on social media for informal learning and social media design and usage, with a focus on perceptions and utilization of TikTok by students and professionals. We also draw from and contribute to prior work on designing for youth career exploration and youth career identity formation.

2.1 Social media for informal learning

With the widespread use of social media among students, researchers have begun to explore the extensive possibilities that social media platforms offer for informal learning [25, 83]. Informal learning refers to the unintentional or unplanned acquisition of knowledge outside formal educational settings. It is distinct from formal and non-formal learning, both of which center on planned learning activities that occur either within or outside a classroom or institution. Informal learning has the unique capacity to offer contextualized learning experiences tailored to individual needs. Social media platforms have many benefits for informal learning since they not only facilitate social interaction but are also hubs for news and information [1]. Social media can bring a democratic lens to education where learners can discuss and connect as they like, as opposed to the autocratic dissemination of knowledge from teacher to student [55]. Adolescents can cultivate transmedia skills by actively engaging with social media content across platforms [45], learn from influencers in their field of interest and gain transferable skills like content management and media production.

However, the use of social media for informal learning has challenges too. Concerns have been raised around the addictive nature of social media for youth [60], impacts on youth mental health [59], and the negative effect of social media usage on time used for studying, resulting in lower GPAs, academic stress, and procrastination [3, 5]. These make educational leaders and administrators hesitant to employ or promote social media as a tool for informal learning [12].

Part of the challenge lies in the business models underlying social media platforms which shape platforms and recommendation algorithms towards maximizing information consumption, quick bite-sized reactions, and endless scrolling [4, 41]. Social media platforms revolve around 'attention economies', originally coined by Goldhauber [20], in which attention is the most important commodity.

With all that said, it is still true that integrated experiences are still possible through creative appropriation of social media platform affordances [34]. Researchers studying "micro blogging" show that social media allows users to share content in a relatively short format such as a post and to look for information or follow threads of conversations using hashtags and keywords [77] that create online learning communities [25] such as #Twitterhistorians, where enthusiasts enhance their knowledge through mutual engagement [33]. Vaast et al. argues that affordances for tagging others, reposting, and adding topical hashtags resulted in stronger connective action between users. A manifestation of

this is seen in “Meta Voicing”, in which users react to the content and presence of others using comments, likes, and shares [43].

While these studies highlight the value of social media affordances in creating connective user experiences that center on following and contributing to global conversations, they also highlight the fact that the integrated experiences supported by social media platforms today still center on information consumption. In contrast, little support is provided for individuals to integrate and synthesize reflections on what they learned from disparate informational encounters towards developing a thought out view on some topic such as moving through the process of career identity formation. Our paper aims to fill this gap by developing a more nuanced view on the benefits and limitations of social media for informal learning, and by proposing and studying a general approach for designing experiences aimed at synthesizing social media encounters towards deeper reflective learning experiences.

2.2 Utilization and perceptions of Tiktok

We specifically focus on #DayInTheLife videos on TikTok, centered on short-form videos ranging from a few seconds to a few minutes and an algorithmic newsfeed providing personalized video recommendations [69, 82] within a user’s “For-You” page (FYP). Research has spotlighted TikTok’s capacity to serve as a gateway for viewers to explore diverse topics and perspectives such as eating disorders, #BlackLivesMatter, COVID-19, and climate change [8, 23, 27, 39]. It has been referred to as a “video encyclopedia” [86], with large collections of information, some of which circulate widely through virality and “Trending Topics” [86]. It has been an effective at spreading knowledge about religions [47] and supporting language learning [13, 57]. TikTok has been used to help students discover new healthier diet plans, push back against societal beauty standards through the #BodyPositivity movement, and express difficult emotions leading to outreach and social support [7, 16, 28, 80].

Notably for this study, videos spotlighting professions such as radiology or neurology present firsthand insights into various careers [40, 50]. These often are part of a topical hashtag such as #DayInTheLife, a trend in which career professionals and post-secondary students provide a brief glimpse into their daily routine and professions. #MedicalTikTok has been especially prominent and has generated attention for its relevance, especially during the COVID-19 lockdown [70]. #TeachersofTikTok have also found the platform a useful space to offer pedagogical advice to fellow teachers [24] and creating a community where professional educators are able to share teaching philosophies and inspiration with each other.

Of course, TikTok has also faced criticism, e.g. for promoting content students found to be immature, inappropriate, and toxic [56]. Studies have raised concerns over information overload leading to technostress (stress caused by working with technology on a daily basis) [66, 71], and potential disorders like TikTok Use Disorder (TTUD) or “TikTok brain”, a term coined by researchers to describe the depression, anxiety, and stress experienced by users, specifically high school students from overuse of the application [26, 67].

These studies show the value and potential of TikTok as a means for sharing knowledge and educating others. Our paper contributes to this literature on the perceptions and utilization of TikTok by developing a more nuanced picture of the benefits and limitations of TikTok for youth career exploration. We then use this new understanding to motivate and study a new approach for enhancing learning experiences to go beyond following and engaging in global conversations, as valuable as that can be, to also support deep reflection and synthesis across the informational encounters one experiences.

2.3 Designing for youth career exploration

Adolescents who struggle to find careers that interest them generally have limited knowledge of potential job opportunities that are not visible within their immediate community, and they may hold stereotypes about different careers [46]. Obtaining career guidance is important to help them develop self-efficacy and to explore different career paths amidst external pressures ranging from gender-based academic stereotypes to parental expectations [22]. This can alleviate problems with career satisfaction, employment, social experiences, and health later down the line [84].

Researchers have explored solutions to make youth career guidance and exploration more accessible to the public. Some have used gamification techniques to make career guidance more engaging [10, 52, 68]. For example, one initiative involved youth in Nambida in codesigning a prototype game that related to their own life experiences while another engaged 1,625 Cambodian youth in a choose-your-own-adventure experience in which students guide their chosen character to their dream job [38]. These platforms emphasize the importance of an integrated experience to create meaningful reflection for students.

Platforms like Twitch and StackExchange have also been used for virtual mentorship [18, 61, 76], creating safe online learning spaces and communities where students can not only learn and seek advice from mentors, but also each other. An analysis of 847 threads in the Workplace subforum of StackExchange revealed that career guidance was sought on best practices like resume building and interviewing, threats to career progress, and time-sensitive decision making. Users valued the forum for its diversity in answers, immediacy, accessibility, and reciprocity within the community [32, 75]. These studies affirm the capability of social media to support youth career exploration.

Surprisingly, there has not been much literature introducing new designs that utilize social media for career exploration. As described earlier, students already use social media for informal learning in many ways, and #DayInTheLife videos already exist showcasing career information. Indeed, in a qualitative study on informal learning practices by teens using social media, "career/future planning" emerged as one of the three themes [6]. Research has also explored the appropriation of social media platforms for peer support and coordinated participation, and ways to "design for appropriation", though not for career exploration specifically [34–36]. This paper seeks to introduce a new design approach that enables one to leverage social media towards creating integrated career exploration experiences.

2.4 Youth career identity formation

To effectively support youth career exploration, it is important to recognize that career exploration does not only consist of isolated exploratory events, but is part of a career identity formation process potentially spanning years. This is why it is important to consider how one can integrate exploratory encounters into a broader supportive framework.

Adolescence is marked by identity development and exploration, with teens frequently asked to describe their career aspirations and interests [9]. Career identity formation involves individuals linking their motivations, interests and competencies with career roles that are acceptable to them and align with their authentic self, values, and goals [53]. In Marcia's Identity Status Theory and the Meeus-Crocetti Model [15, 44], career identity formation consists of intertwined dynamics of making career commitments, exploring those commitments, and reconsidering those commitments towards defining authentic commitments [14].

Many factors such as parental influence, peer influence, religious orientation, media, nationalism, economic conditions, teachers' power, and personal preferences influence the career identity formation process [72]. Media portrayals of adult career roles can inspire and motivate adolescents to work towards their career aspirations [72]. Researchers have also linked Marcia's Identity Status Theory and the Meeus-Crocetti Model to adolescent media usage [62–64, 81], with

mixed results. While some find that online social comparisons of ability contribute to lower identity clarity, others have found matured identity formation in adolescents to be associated with heavier engagement in online activities.

Our paper is motivated by the opportunity that social media platforms hold for supporting career exploration as well as the constraints they have for integrating the rich but isolated encounters youth may have on those platforms into a more holistic process for supporting youth in their career identity formation process.

3 METHOD

This research through design study was motivated by an interest in understanding the value of social media for supporting career exploration, and how one should best design experiences that leverage social media for that purpose. Early pilot interviews had surfaced a tension between the strengths social media had for learning and the lack of integration that prevented those strengths from being fully leveraged, which led us to our final two-part study of 10 college youth combining: 1) interviews about their past use of TikTok #DayInTheLife videos for career exploration and the perceived benefits and limitations they saw, followed by 2) a talk-aloud study in which we observed their use of our wizard-of-oz [48] experience prototype [11] that sought to provide and elicit reactions to a simple experience of how one might integrate encounters on social media to facilitate reflection and support purposeful learning goals. We sought to answer the following questions:

> **RQ 1:** What are the perceived benefits and limitations of social media-based #DayInTheLife videos for supporting youth career exploration?
>
> **RQ 2:** What benefits do integrated learning experiences provide for augmenting career exploration on social media and what contextual risk factors or design factors need to be considered in their design?

3.1 Recruitment and Participants

We recruited college students through campus newsletters, email lists, and social media. The recruitment message included a screening survey asking about demographics and background context relevant to the study (e.g. current career interests, use of social media, and the extent to which they used different channels for exploring careers, including #DayInTheLife videos on social media). Since our study focused on helping students explore careers, we emphasized students at earlier stages who would be more likely to need support exploring future career paths (5 first-years, 4 second-years, and 1 third-year). We selected 10 respondents with diverse majors in STEM spanning game design,

ID	Career Interests	Prior Tiktok Use	Prior Exposure to DITL
P1	Software Engineer, UI/UX Designer, Data Analyst	0-2 hours a day	Has seen DITLs of Software Engineers
P2	ML and NLP Engineer, Frontend Developer, Linguist, Language Teacher	0-2 hours a day	Has seen DITLs about students or careers like teaching and law
P3	Game design, UI/UX Design	0-2 hours a day	Has seen DITLs of college athletes
P4	Pathology, Pediatrics, Trauma Surgeon	0-2 hours a day	Has seen DITLs of college students
P5	Smithsonian Archivist	0-2 hours a day	Has seen DITLs of "That Girl" and Study With Me's
P6	Business Analysis, Data Analysis, Consulting Work	0-2 hours a day	Has not seen DITLs
P7	Computer Science, Project Managment	Does not use	Has not seen DITLs
P8	Psychologist	0-2 hours a day	Has seen DITLs of athletes or people with successful careers
P9	Data Science, Environmental Engineering	Does not use	Has not seen DITLs
P10	Surgeon, Researcher, Professor	0-2 hours a day	Has seen DITLs from different countries

Table 1. Participant Table

computer science, linguistics, biology, business management economics, neuroscience, electrical engineering, and bioinformatics, and with diverse career interests such as software engineer, ui/ux design, pediatrics, archivist, data analytics, environmental engineering, and so on. Our respondents indicated varying levels of familiarity with Tiktok and #DayInTheLife videos, with 7 respondents having encountered TikTok #DayInTheLife career videos and 3 respondents who did not use TikTok or did not recall encountering #DayInTheLife videos (see **Table 1**[1]).

3.2 Experience Prototype

Our prototype sought to provide a way for participants to interact with #DayInTheLife videos natively within the TikTok platform while also integrating those interactions together in ways that promote reflection and synthesis towards a better understanding of their career goals and aspirations, as described below and depicted in **Figure 1**.

3.2.1 Viewing TikTok #DayInTheLife videos and mentioning an account handle in a post comment. Users first explored careers through viewing #DayInTheLife videos on TikTok presented to them on their *For-You page* or found using the *search feature*. After viewing these videos, users could add *structured comments* to these posts in which they would mention an account handle that we had created, @explore.careers, and use hashtags from a predefined hashtag scheme to convey information such as their level of interest in a career. The mention of our @explore.careers account provides a way to identify and integrate encounters users have with #DayInTheLife videos, and the comment text and hashtags allow for collecting initial reactions, preferences, thoughts, or questions. As will be described, we had different hashtags schemes that participants could choose between (e.g. one might use *#interest1, #interest2, #interest3, #interest4, #interest5* to convey increasing levels of interest in a career similar to a 5-star rating system).

3.2.2 Facilitated reflection through one-on-one chatbot conversations with the account handle. After mentioning @explore.careers in a post comment, we followed-up with the user through private one-to-one "chatbot" conversations using TikTok's *direct messages (DMs)* feature. The "chatbot" was implemented through a Wizard-of-Oz protocol in which a member of the research team played the role of the chatbot. The chatbot asked questions to elicit reflection and synthesis towards their career goals, e.g. the reasons for the rating they gave or further prompts to engage more deeply with the content of the post. For example, a user that just rated a video might get a message saying, *"You rated a video about Data Analysts with a rating of 5. I see you are highly interested in this career! What are some aspects of this career that you liked?"*. Examples of questions encouraging the user to reflect critically about how the career aligns with their own goals and aspirations include: *"Can you imagine yourself as a professional in this career in the future? Does it align with the desired lifestyle you want for yourself?"* or *"How do you see it fitting your passions, abilities and experiences?"*. Follow up prompts encourage users to compare or aggregate information they learned from previously engaged content. These questions help users to reflect in ways that build on past reflections, towards creating a more integrated experience.

3.3 Study Procedure

Selected respondents participated in a one-hour in-person study. The study began with a brief semi-structured interview that sought to more deeply understand their interaction with and experience of #DayInTheLife career videos on social media, and what they liked or disliked about them in comparison to other career exploration resources and content (e.g. *"Have TikTok #DayInALife videos had any influence on your career goals or career exploration previously? Can you*

[1]We provide background context for each participant in our participant table to help with interpretation of quotes, but leave out participant-level demographic information to minimize risks of deidentification.

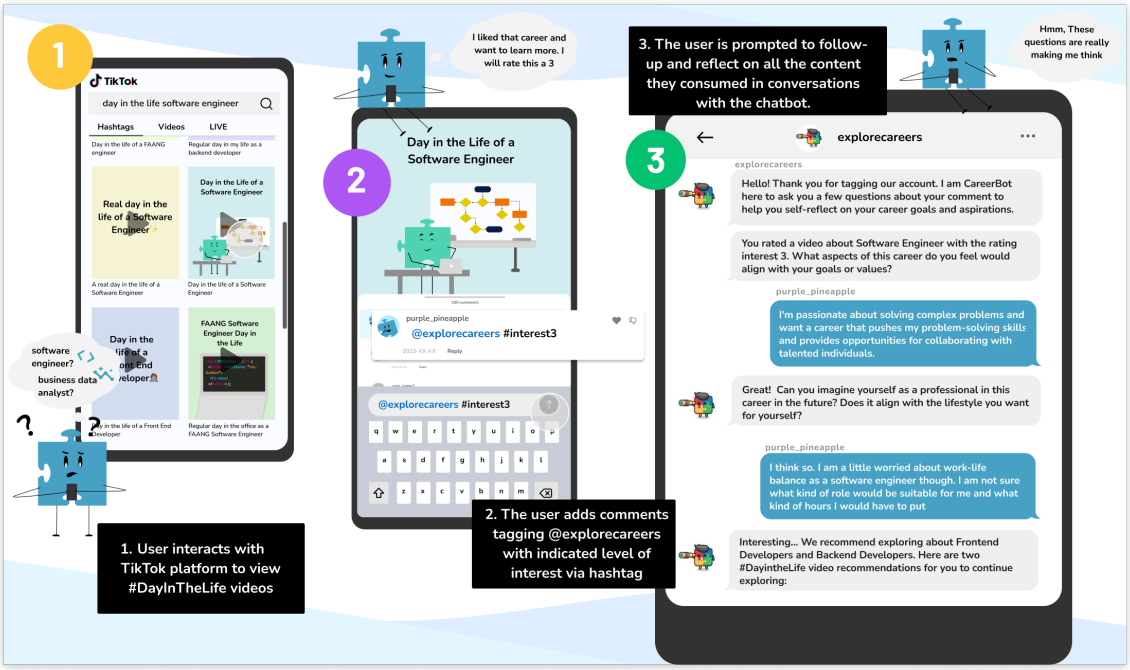

Fig. 1. The experience of our experience prototype was focused within social media where 1) users explore the rich content on social media such as the #DayInTheLife videos on TikTok on their feed or in search results, 2) users use our account handle to tag our dedicated account, providing a way for linking the interactions together 3) users leave comments with their preference and thoughts on the career, 4) users are prompted to follow-up on their interaction by chatbot conversations that asks multiple reflective questions and support connecting with previous reflections

describe how?" or *"What are some aspects that you felt were lacking from #DayinALife videos when it comes to career exploration?"*).

The remaining 45-minutes focused on a talk-aloud study in which students engaged with the described Wizard-of-Oz experience prototype. Three researchers were present in each session in the roles of primary interviewer, note-taker and the wizard. The primary interviewer briefly introduced the participant to the concept and how they would be able to interact with posts using structured comments. We then presented participants with 8 possible hashtag schemes that they could use when interacting with #DayInTheLife videos along with an example of its intended use as a comment on videos. The schemes in our prototype varied in the keywords used to express interest (*e.g #explore1 versus #interest1*), the presence or absence of numbers in the scheme (*e.g #interest1 versus #less-interested*) and the number of levels of ratings such as 5-level ratings, 3-level ratings, binary ratings *(e.g #prefer, #donotprefer)* or level-less ratings (e.g #notforme, #iloveit). Participants were asked to describe their initial thoughts on each of the eight schemes as they scrolled through them and to choose three that they liked most. After they described which they preferred and why, they were asked to actually try out their choices by commenting on a chosen Tiktok to experience the feel of typing out the structured comment. Participants discussed their experience, including which scheme was ultimately their top preference, and any possible challenges they may have faced in making the comment. The aim was to elicit insights on the design of hashtag schemes by understanding what better fit participants' mental models and what usability issues might arise.

Next we dived deeper into the process by asking participants to browse through a predefined set of TikTok #DayInTheLife videos and to share out loud their thoughts, feelings, and reactions as they viewed and interacted with them. Before the study began, we had already gathered a large pool of #DayInTheLife videos from a diverse range of careers and handpicked 5 videos for each participant. These videos were selected based on their screening survey responses to include at least 2 videos from careers they were interested in with the remaining 3 randomly selected to be careers they may be neutral towards or not interested in.

Participants watched the TikToks given to them and then interacted with them using the hashtag scheme *#interest1, #interest2, #interest3*, one of the top ranked hashtag schemes based on earlier pilot studies. The wizard had access to the @explore.careers TikTok account, so could see live updates as the user interacted with the account and was also able to hear the user as they were prompted by the primary interviewer to talk-aloud as they interacted. The wizard initiated follow-up conversations with them through DMs that were specific to their interactions to simulate the experience a user might get of integrating and reflecting deeper on the content they had viewed in conversation with the chatbot. At the end of the session, participants were asked questions regarding their experience, their thoughts on the integrated learning concept and their reflections that arose during the talk aloud study. At the conclusion of this process, they were asked to fill out a final survey about their experience and thanked for their participation.

3.4 Qualitative Analysis

The interview and talk-aloud study were audio recorded, transcribed, and analyzed along with the survey responses using an inductive coding process. Transcripts were cleaned and broken down into sections using holistic coding. Three researchers engaged in initial open coding to identify potentially relevant data in the raw qualitative data [74].

Theme	Subtheme	Illustrative Quote
Benefits for career identity formation	Provides firsthand depiction of how their life works	Yeah, usually like, since they give kind of like a more personal like picture of what's going on? Like usually I use those videos to kind of like understand, like, what would I be getting myself into, like, if I want to pursue it?
	Facilitates reflection, reaffirmation, and reevaluation of goals	But I think like watching these videos, kind of reaffirms that sense, if that makes sense. Like, oh, coz like, I'm still thinking like, what I want to do post grad. And sort of like, I don't know, it's kind of nice to have, like, some reinforcement on what I think are potential paths for me.
Benefits for behavior change	Reduces barriers through casual, digestible formats	It is a one minute max video. So it's not like it's too much of a commitment. It's just you watch the video and you kind of like, get a general vibe.
	Creates entry points for potential further exploration	It gives you an outlook, it gives you an idea and then it just gives you enough to know if you want to continue looking into it deeply.
	Motivates and inspires lifestyle improvements	Okay, yeah so there's this guy whose name is Singh in USA. And he's like, he got an internship at Microsoft and that was the first one I watched. And then after that, it gave me like, kind of motivation to work more, so I can work at Microsoft too
Limitations from Format, Focus, Context, and Representation	Short-form nature and lack of integration insufficient for decision-making	You can only get so much in 60 seconds. I think that's one limit, especially for like complicated careers. I would say. Like for CEOs, I don't know what CEOs actually do, but I imagine it's complicated
	Nature of social media context not conducive for reflection and follow-up	I mean, I don't think there are any benefits of using Tiktok. Because you get distracted a lot. You know, there will be some funny videos coming in, you would start watching them and you know, lose attention. Even if you're working on something very important. Just one video can change your mind. And you can just get distracted, you know.
	Entertainment / influencer dimension takes away from career focus and realism	TikTok is more geared towards entertainment, that I don't find many videos like that, that are like very, like, have like all this explanation about like, what they do. And like, one of the views I saw on there was more geared towards a lifestyle than the actual like, like lifestyle outside of work than what they do during work
	Lacks representation of or personalization to diverse backgrounds and values	it's always for big tech companies. And I don't, even though I'm a CS major, I actually am not the most interested in working at like, any famed company, because they seem kind of, well, I don't know, corporate.

Table 2. The themes and subthemes pertaining to the Benefits and Limitations of #DayintheLife videos for career exploration

All researchers then discussed and clustered initial codes to identify themes utilizing inductive thematic analysis to discern and group together recurring patterns within the data [73]. After initial themes and subthemes were determined, researchers discussed them together to identify core concepts and hone in on an updated set of themes that were then used in subsequent rounds of coding. In each subsequent round, at least two researchers independently recoded each of the interviews and respective survey responses. Finally, discrepancies or newly observed subthemes were discussed and resolved with all researchers through comparative analysis.

4 BENEFITS AND LIMITATIONS OF #DAYINTHELIFE VIDEOS FOR CAREER EXPLORATION

Our first set of analyses centered on understanding the benefits and limitations of social media #DayInTheLife videos (DITL) for career exploration. We identified five themes relating to benefits, two centered on the benefits for various dynamics of career identity formation (in relation to the Meeus-Crocetti model [15]) and three centered on benefits for behavior change (in relation to Foggs Behavior Model [19]). However, we also identified four limitations to their usefulness for career exploration related to their format, focus, context, and representation. Together, these motivate the opportunity of social media content for career exploration as well as the need for SIMPLE apps (or some other intervention) for enabling users to fully utilize the potential benefits.

4.1 Benefits for career identity formation

As mentioned in Related Work (Section 2.4), the Meeus-Crocetti model describes identity formation as a process of making commitments and then engaging in exploration and reconsideration of those commitments towards authentic commitments [15]. Participants described DITL videos as providing a lightweight way to explore "firsthand" depictions of a profession and described how it facilitated reflection, reaffirmation, and reevaluation of their lifestyle goals and aspirations.

4.1.1 Provides personal "firsthand" depiction of "how their life works". Participants appreciated how the DITL videos provided a *"more personal picture" (P6)* into specific careers, expressing that these personal accounts were *"firsthand information" (P8)* helpful for understanding *"what people in various careers are going through in the day to day basis" (P8)*, *"how it works... how your work schedule is gonna be" (P10)*, and *"what would I be getting myself into, like, if I want to pursue it (P6)"*. Some elaborated on their specific career exploration contexts:

> *"I'm like a business major. So a lot of them are like daily life of a big four accountant... it's like interesting to like, see, like how their life kind of like works... how stressful it is... like hybrid schedules and stuff. I felt like that was pretty interesting. And it gave me like a better scope of like, what these jobs would entail." (P6)*

> *"I know I want to work in a hospital I kind of already knew like, what to expect like, but I guess for different like jobs and by the hospital, there's different like call times and stuff, which it showed which was nice." (P4)*

4.1.2 Facilitates reflection, reaffirmation, and reevaluation of goals. These firsthand depictions of how life works helped catalyze exploration, reflection, and evolution of participants' career identity and aspirations. In some cases, DITL videos led them to critically assess and reevaluate their compatibility with a particular career or certain types of jobs within that career, teaching them *"what it is that I don't want to do" (P5)* or that *"careers that I thought I wanted... I realized I actually did not want to do." (P8)*:

> *"they've sometimes made me consider different career opportunities... I'll look at some types of accountants and I just don't really want to do it. Because I don't really feel like the type of work like, be normal with me." (P6)*

In other cases, DITL videos helped to reaffirm and *"validate the things that I want" (P5)*, or to learn more about and refine the details of their preexisting career goals:

> *"[I] already have a solid perception of self... But I think like watching these videos, kind of reaffirms that... it's kind of nice to have, like, some reinforcement on what I think are potential paths for me." (P1)*

> *"Sometimes, I see a video and I'm like, how can I incorporate that into game design? Because that seems fun and I want to do that. But I also don't want to like, give up on the career that I'm pursuing right now. So I like try to combine." (P3)*

4.2 Benefits for Behavior Change

Beyond the benefits DITL videos provide for exploring, reflecting, and evolving authentic career commitments, their design also helps overcome barriers to behavior change. Foggs Behavior Model [19] describes behavior change as dependent on three factors: Motivation, Ability, and a Prompt/Trigger. People change their behavior when they are prompted to do so and have a level of motivation that is high enough given the ability/effort required.

DITL videos on social media feeds provide the prompt and the short format makes engagement extremely low effort. This engagement then itself acts as another prompt for further exploration while also serving to increase motivation to take action in other higher-effort steps towards their career goals.

4.2.1 Reduces barriers through casual, digestible formats. Participants appreciated the ability to explore through *"quick, one minute videos [that] feel more engaging." (P6)* Interpreted through Foggs Behavior Model, the short format and casual, digestible nature of DITL videos within social media feeds prompts people to explore careers including *"careers that aren't really advertised as well." (P8)* and creates a low effort context to make exploration accessible, e.g. *"for [those] who don't have the means to actually shadow someone." (P4)* As some participants elaborated,

> *"it is a one minute max video. So it's not like it's too much of a commitment. It's just you watch the video, and you get a general vibe. And then from there, just expand on that and see if you get more videos, just depending on what the algorithm gives you. (P1)*

> *"it's just a casual thing to do. you don't have to think about like, in one moment I'm really like, trying to figure out this career. Just like casually scrolling and like seeing this is like, Oh, interesting..." (P2)*

P2 compared this to alternative platforms that made them feel overwhelmed and pressured:

> *"I don't use that many tools to help me but like [in] high school, they [had] this one website [that] just like had like a list of occupations. And it was just like really hard and... pressurizing to like, go through that... TikTok was really nice. It's just casual." (P2)*

4.2.2 Creates entry points for potential further exploration. Participants described engagement in DITL videos as also acting as a "prompt" nudging students towards further career exploration outside the platform. Though videos are short, they provide just enough information to *"get you thinking" (P7)*, *"to know if you want to continue looking into it deeply" (P9)*, and to know what and how to explore:

> *"sometimes I'll see like, um day in the life videos for really niche companies and I'll be like, I never heard of that one before so I'll like research it" (P1)*

> *"Like I will be scrolling on Instagram or Snapchat and will see like, stuff about specific major how it's about the future of this, they produce this type of tech, they, They're into this research, and it just intrigued me. Maybe I'll go do my own research about it once, like I have, you know, pigeonhole into the thing." (P9)*

4.2.3 Motivates and inspires lifestyle improvements. Engagement in DITL videos not only prompts students to further exploration, it also provides a source of inspiration and motivation. For some, this motivation centered on particular careers and setting goals to *"try to think how I can get there" (P2)*. For example,

> *"if you see these videos, they kind of motivate you to work in these big tech companies... there's this guy whose name is Singh in USA. And he's like, he got an internship at Microsoft and that was the first one I watched. And then after that, it gave me like, kind of motivation to work more, so I can work at Microsoft too." (P10)*

For others, motivation stemmed from seeing work habits of others, *"like a very put together structure" (P7)*, motivating them to improve their own productivity for developing their career:

> *"I feel like looking at successful people for me, and as far as me to stay on my grind per se. So I do say like inspiration, inspirational for me in that way." (P1)*

> *"I do think about them, like, okay, like, how can I improve my schedule through like, what kind of stuff that they do? And like how I can like just relate it to myself. I think a little bit like that.." (P2)*

> *"it motivates me to do my work. And I'll watch so many of them to the point where it's like, okay, well, now I feel bad about the fact that I'm not being productive. And then I'll basically use that to leverage myself into being productive." (P5)*

4.3 Limitations from Format, Focus, Context, and Representation

Despite the many benefits of DITL videos, students also described limitations to their usefulness as a resource for career exploration. First, the short form nature and lack of integration makes them insufficient for decision making without further research. Second, the nature of the social media context is not conducive to reflection and follow-up. Third, the realism and career focus can be affected by the tendency of influencers to over glorify their careers or focus on entertainment to increase views. Finally, the lack of diverse representation of background and values can decrease the value for underrepresented students.

4.3.1 Short-form nature and lack of integration insufficient for decision-making. Participants felt that the short form videos about the career meant *"you can only get so much in 60 seconds... especially for complicated careers" (P1)* and that *"it isn't in depth enough....doesn't tell you exactly how to get there." (P5)*. Some participants described preferring and using other platforms like Facebook and YouTube *"for that longer form content" (P1)* describing a *"huge gap with TikTok" (P6)* and a need *"to gear TikTok into like potentially longer form content" (P1)* or *"kind of integrate it." (P6)*

> *"you're looking at like a small picture... You're just seeing like, oh, yeah, I just got coffee on this day... if there was a way to make longer videos or kind of integrate it, I feel like that would make it way better." (P6)*

Another participant described the need to watch and integrate multiple videos to obtain an accurate picture of a career:

> *"Take the video, a singular video with a grain of salt, because it is a personal anecdote, and everybody's experience is different... if you only look at like, a few DayInTheLife videos... you'll get this misconception of what the career actually entails because it's different for different people and different in different locations.....[It] has to be an ongoing process." (P3)*

4.3.2 Nature of social media context not conducive for reflection and follow-up. Participants described the social media context as not conducive for the reflection or follow-up needed for career exploration: *"it can be dismissed because it's like a social media platform." (P8)* As some participants elaborated:

> *"you get distracted a lot... there will be some funny videos coming in, you would start watching them and you know, lose attention... Just one video can change your mind. And you can just get distracted." (P10)*

> *"They have the whole For-You-page that's happening... [you] like get distracted... another thing is the refresh button. Really hard to find another [similar] video, you'd have to go and search it up for a while." (P8)*

4.3.3 Entertainment / influencer dimension takes away from career focus and realism. Participants expressed that *"Tiktok is more geared towards entertainment" (P2).* Participants described *"really long intros, that didn't really pertain to the career" (P1)* or content that spent a lot of time on *"lifestyle outside of work" (P2). "People are just sharing [their] day... they're not giving you any knowledge." (P10)* They described that *"it really depends on who the influencer is... if the person is trusted in their fields" (P8)* and if they are *"good content producers" (P9).* They characterized many influencers as trying to get more views and likes, resulting in inaccurate or overglorfied depictions of careers. They *"entice you"* (P6) and make *"it [feel] more like attractive" (P6).* As one participant elaborated:

> *"I think it's cool to like fantasize about because usually, like the Day in the Life videos I see are like very much, I don't know if I'd call them like, realistic per se, where it's more like, oh, I go to the gym. I go to like, a really nice restaurant. And then like, they do like 20 minutes of coding. I don't know how realisitic that is. Yeah, but like, I don't know, it's cool to think about at least." (P1)*

One participant compared the quality with actual shadowing:

> *"[in] my senior year of high school, I went and like shadowed different doctors... it was a real life day in life instead of just like a day in life on TikTok. And I think actually being there and experiencing it is a lot different because you see, oh, literally everything and not just from their perspective." (P4)*

4.3.4 Lacks representation of or personalization to diverse backgrounds and values. Finally, one participant described limitations due to representation of backgrounds and values that did not align or connect to her personally:

> *"But every now and then I'll get like, some older white guy talking about like, oh a day in the life of like usually an engineer, and I'm not always interested in what they have to say, because they're white guys....and it's always in San Francisco." (P5)*

> *"with career videos, I don't find them that helpful, if I'm being honest, because it's always for big tech companies... [I] am not the most interested in working at like, any famed company, because they seem kind of corporate... And I prefer a bit more with more fluidity in my career, which isn't exactly reflected." (P5)*

5 EXPLORING THE EXPERIENCE OF INTERGRATED ENCOUNTERS WITH #DAYINTHELIFE CONTENT

Our second set of analyses centered on understanding participant reactions to the wizard-of-oz experience prototype of integrated encounters as described in the methods section (Section 3). Participants described the integrated learning

experience as supporting reflection and adding interactivity in a natural way, and their experience in the process helped surfaced risk factors such as discomfort with public comments and the distracting nature of social media. Their preferences around hashtag schemes and engagement with follow-up DM conversations reveal factors that need to be considered in designing such purposeful learning experiences.

5.1 Benefits include facilitating reflections and adding interactivity in a natural way

5.1.1 Questions and Comments facilitate intentional reflection and slowing down. People described the ratings and chatbot conversations as disrupting their typical dynamic of continuous scrolling and how the chatbot questions *"really made me think a little bit more" (P7)* when in the past they might just *"go on to the next thing" (P2)*:

> *"I feel like the chatbot helped me slow down a little bit and realize, okay, like, what are the important things in that video? Like, what did I like the best." (P1)*

> *"Watching the videos and...having to rate it makes you actually think about how important what they are saying is." (P7)*

5.1.2 Integrating support for career exploration adds agency, interactivity, and fun. Students also described how it also improved their experience of TikTok. The typical TikTok experience centers on endless shallow consumption of content. Integrated interactions added depth, making it *"fun... way more interactive than just TikTok on its own" (P3).* Students also commented on how it gave them more agency:

> *"it gave me like a sense of agency... I felt like I was like, deciding on if this job would work out or not." (P6)*

> *"It's a very different kind of interaction because it's a bot, like it's always going to talk to you and always gonna respond to you. Whereas the creator, like might not never see your comment." (P3)*

5.1.3 Building on existing social media makes it accessible, intuitive, and effective. Finally, students liked that the experience was built on top of natural interactions within existing social media platforms. Participants described the process as *"pretty easy especially because commenting on your FYP is pretty common" (P8)* and helpful since we are employing *"a platform that they're already used to" (P8).* Building on existing social media allows participants to engage in career exploration in a way that already feels intuitive and accessible to them.

> *"I feel like tagging the account in order to get that kind of conversation going in the comments. I think that's like, the most intuitive way...just using... the actual TikTok framework itself." (P1)*

Participants described liking the transition and integration from public comments to private conversations:

> *"the comment itself is just like the tip of the iceberg. So it gives you a general idea of my interest level. And then if you want to know more about my interest level, you can like see my responses to the chat bot." (P3)*

> *"I thought it was pretty intuitive, like the process where it's like, okay, make the comment, and then it goes straight into a DM, I thought that all works pretty nicely." (P1)*

5.2 Risk factors include discomfort with public comments and distracting social media context

5.2.1 Discomfort with public comments. Despite feeling that building on existing social media was intuitive and effective, some participants expressed discomfort with commenting publicly on DITL videos because of the perceptions of the content creator and their friends, saying *"it'd be funny if one of my friends came across it" (P8)* and it'd be *"very random for other people to see" (P2).*

> *"I'm not a hashtag girly... never have been a fan of leaving comments... that's awkward for me" (P5)*

This was particularly true for hashtags expressing lack of interest in a career:

> *"if I was less interested in it, I would feel very uncomfortable writing that and having the Creator like get the wrong idea. Because people can be very mean on the internet... the creator of the videos might misinterpret that as throwing some shade... I would have been uncomfortable had the hashtag have been something other than like, interests one through three" (P3)*

For one participant, discomfort with public comments related to privacy implications:

> *"people don't need to know my opinions online..like, don't share your self online. I believe in digital footprints, I don't like people being able to track my opinions." (P5)*

5.2.2 Distracting nature of social media can prevent engagement in career interactions. Even though writing comments and responding to follow-up prompts does help people slow down and reflect to some extent, one participant expressed that the distracting nature of social media might prevent them from engaging in these activities in the first place :

> *"I don't think it should be used as a main tool, like I said, because I mean, at the end of the day, it's there for entertainment. And I continue scrolling or looking at career options are going to look into memes or whatever other things are on there, and then I'll just forget the career aspect of it." (P9)*

5.3 Design factors to consider when implementing structured comments and conversations

What should a designer keep in mind when designing integrated encounters? Two important things to consider in the design space for our method included: (1) what structured comments (hashtag schemes) one would like to support, and (2) what follow-up prompts one might ask in the DMs. Participant reactions and preferences to our wizard-of-oz

Theme	Subtheme	Illustrative Quote
Benefits of Integrated Experiences	Questions and Comments facilitate intentional reflection and slowing down	I feel like the Chatbot helped me slow down a little bit and realize, okay, like, what are the important things in that video? Like, what did I like the best
	Integrating support for career exploration adds agency, interactivity, and fun	It's a very different kind of interaction because it's a bot, like it's always going to talk to you and as always gonna respond to you. Whereas the Creator, like might not never see your comment
	Building on existing social media makes it accessible, intuitive, and effective	I feel like tagging the account in order to like, get that kind of conversation going in the comments. I think that's like, the most intuitive way I think with like, just using like, the actual TikTok framework itself.
Risk factors of our approach	Discomfort with public comments	But, I will say that if I was less interested in it, I would feel very uncomfortable writing that and having the Creator like get the wrong idea. Because people can be very mean on the internet
	Distracting nature of social media can prevent engagement in career interactions	I don't think it should be used as a main tool, like I said, because I mean, at the end of the day, it's there for entertainment. And I continue scrolling or looking at career options are going to look into memes or whatever other things are on there, and then I'll just forget the career aspect of it
Design factors for structured comments and conversations	Hashtags need to be expressive enough to support one's intent	Sometimes I'm like neutral on a career. But I still like want to explore that field, if I'm like, thinking of it as like a user. So I don't know, I feel like it's nice to have that middle option
	Hashtags need to be cognitively and logistically easy to use	Not a fan of the no numbers only because it's a lot more to type. And I feel like when people are on TikTok, they're there to mindlessly scroll. And if they have to type too much, I feel like you're going to lose interest
	Conversations should be purposeful, responsive, and integrated	Make it more like personal or like, like my responses would like actually kind of be factored in factored in with like, career exploration and like searches. Yeah, I think I'd prefer it way more

Table 3. The themes and subthemes pertaining to the Exploring the experience of integrated encounters with #DayInTheLife content

experience prototype showed hashtags need to balance being *expressive enough to support one's intent* while also being *cognitively and logistically easy to use*. Conversations in DMs need to be *purposeful, responsive, and integrated* to keep students engaged.

5.3.1 Hashtags need to be expressive enough to support one's intent while being cognitively and logistically easy to use. There were several ways in which student preferences showed a need for hashtags to be expressive enough to support one's intent. For example, some participants expressed the importance a neutral option to provide flexibility for students who "*aren't really sure, [but] still want to get more stuff like this in your feed" (P7)*:

> *"...sometimes I'm like neutral on a career. But I still like want to explore that field... I don't know, I feel like it's nice to have that middle option." (P1)*

In terms of number of levels, participants who preferred a 5-level rating system described it being easier to express their interest level when they had *"a wider range of options" (P7)*, saying that *"where there's less levels it gets harder as you are in between a little bit more." (P8)*:

> *"I feel like the five level scale is better because it accounts for like a lot more leeway like if you're like slightly interested in something" (P6)*

Participants also described a need for the hashtags to be cognitively and logistically easy to use. For example, while a 5-level rating system was more expressive, it can be *"pretty overwhelming" (P3)* and *"gives too [many] options for the person to think about"* (P2). This led some participants to prefer a 3-level rating system:

> *"the three level one actually was the best because it doesn't require a lot of reflecting. And you can still say I'm not sure about it" (P9)*

"before, I was like five would be good. But now that I did it, I kind of think three is better. I think five would overwhelm me too much." (P4) Participants described preferring hashtag schemes with number systems rather than numberless schemes because it was a better cognitive match and easier to remember: *"numbers are easier to just look at" (P4)* "*Without numbers it makes it a little vague" (P7)*. They preferred the use of "interest" rather than "explore" because it *"makes more sense" (P6)* and was best for expressing their intent:

> *"the word interest kind of conveys exactly what I'm trying to do with this hashtag. Because I'm trying to think like, you know, what, if I forgot what I'm doing this hash tag for. I like the interest, the word itself, kind of as a reminder of like, what we're doing here." (P3)*

Participants also described the need for interactions to be logistically fast. In an early pilot, users were frustrated when they had to switch keyboards on their phone to use special characters (e.g to type a hyphen for "interest-1"), leading us to remove this option for the final study. As one participant said,

> *"when people are on TikTok, they're there to mindlessly scroll. And if they have to type too much, I feel like you're going to lose interest." (P3)*

5.3.2 Conversations should be purposeful, responsive, and integrated. Students expressed wanting questions that were *"more specific [rather than] very open ended" (P2)* and responsive to the video and the student's past responses, where their *"responses would like actually kind of be factored in" (P6)*:

> *"it felt a little bit just like robotic like it wasn't really like taking like my feedback into consideration. If there was a way that like, it could respond or like come up with some counter points..." (P6)*

They described a more personalized experience that was also integrated with the environment, e.g. through *"hav[ing] the chatbot kind of like, recommend me videos" (P6)* or *"queu[ing] another TikTok, kind of based on those responses." (P1)*

6 DISCUSSION: LEVERAGING SOCIAL MEDIA CONTENT FOR PURPOSEFUL LEARNING

In this section, we synthesize our findings to reflect on implications for social media as a site for purposeful learning experiences. We then introduce the concept of SIMPLE apps (**S**ocial media **I**nteractions **M**erged for **P**urposeful **L**earning **E**xperiences) for designing experiences that build on social media content in ways that integrate them towards more holistic reflective learning experiences, both for career exploration and beyond.

6.1 Implications for social media as a site for purposeful learning experiences

While our results focused on TikTok #DayInTheLife videos for career exploration, they also have broader implications for informal learning on social media. Just as career identity formation is an involved process of evolving authentic career commitments through iterative exploration and reconsideration in ways that require reflection and synthesis of information (see **Section 2.4**), learning in other domains also involves a process of evolving knowledge schemas [65] and engaging in sensemaking to explain and resolve gaps in knowledge [58, 79]. What would it look like for social media to not only expose people to useful information, but to actually support them in the reflective process of synthesizing and evolving knowledge schemas? Our findings provide a few important takeaways.

First, we found that social media does have strengths for facilitating this kind of deep reflective learning. It can provide rich firsthand depictions of perspectives and lived experiences (**Section 4.1.1**) and can facilitate some exploration, reflection, and evolution of an individual's perspectives (**Section 4.1.2**). We also found that social media has strengths for behavior change. The casual digestible format of posts enables extremely low-effort engagement (**Section 4.2.1**), which can lead to entry points for further exploration (**Section 4.2.2**) along with increased motivation to match the higher levels of effort required (**Section 4.2.3**). The main limitation, however, is that the lack of integration and the distracting nature of the social media context prevents integration (**Section 4.3.1**) and reflection (**Section 4.3.2**). Social media content is also insufficient on its own due to the entertainment focus of content (**Section 4.3.3**) and does not support tailoring to ones own goals, values, or background (**Section 4.3.4**).

These insights point to the significant learning benefits that could be derived from designs that help users integrate the learning encounters they have so that they are remembered, reflected on, and synthesized into evolving ones knowledge schemas, goals and values. Our simple prototype around integrating encounters showed that doing so can help facilitate intentional reflection (**Section 5.1.1**) in an intuitive, accessible way (**Section 5.1.3**), and in ways that add more agency, interactivity, and fun to social media (**Section 5.1.2**).

We see this as a promising direction for reimagining typical social media dynamics from addictive consumption and doomscrolling [41] to a dynamic that supports purposeful reflection and learning. One particularly thorny challenge to doing so is the business incentives that come into play. We note that there are areas of potential alignment with business goals. For example, the strengths we observed that social media holds for sharing information, building awareness, and prompting action directly relate to their use for advertising, except that they are currently optimized for impulsive clicks. One could also imagine a sustainable business model that centers on providing users with the ability to integrate the encounters they have towards intentional goals that enable the platform to facilitate purchases that are directly in line with what the user needs, e.g. courses that help a user work towards a career they'd like to pursue.

6.2 SIMPLE Apps: Social media Interactions Merged into Purposeful Learning Experiences

How might we work towards supporting integrated encounters on social media? In this section, we discuss one direction for doing so through what we call SIMPLE apps, **S**ocial Media **I**nteractions **M**erged for **P**urposeful **L**earning **E**xperiences, a concept that builds on our prototype towards a broader framework for designing integrated social media experiences.

SIMPLE apps are experiences that consists of a combination of: 1) normal encounters of informational posts on existing social media platforms, e.g. in their feed or in search results, 2) *integrating interactions* with those posts in ways that can be linked to the application, e.g. through comments that mention a user handle, browser plugin enhanced interactions, or in a possible future, native platform support for an "integration API", and 3) *integrating interfaces* that merge disparate post encounters towards holistic reflective learning experiences and goals, e.g. through chatbot DM interactions or an external platform linked through social login ("Login with TikTok").

6.2.1 Designing integrating interactions in SIMPLE apps: structured comments, browser plugins, and an integration API. Integrating interactions are post-level interactions that allow a user to record immediate thoughts, and importantly, do so in a way that can be programmatically identified and integrated with other interactions. In our prototype, for example, we used structured comments in which users could write a comment that used predefined hashtags to signal interest level in a career and that mentioned the @explore.careers account to enable identification and integration.

We learned that these post-level interactions need to balance the tension between increasing expressiveness to support user intents and decreasing cognitive and logistical complexity to keep interactions simple and easy to use (**Sections 5.3.1**). For example, out of the hashtag schemes we presented, participant discussions lead us to suggesting a three-level scheme utilizing hashtags #interest1, #interest2, and #interest3. The use of the term "interest" matches a core intent / mental model of many users exploring careers, the three levels provides users with a neutral option for expressing uncertainty, and the scheme is easy for users to recall and use. LLM technologies may also remove the need for hashtags schemes if LLMs are able to extract structured data from arbitrary comment text. This would allow users to write any comment, maximizing expressiveness while removing the need to remember particular hashtag schemes.

Privacy issues and discomfort with public comments are, however, one limitation to using structured comments for integrating interactions (**Sections 5.2.1**). This could potentially be alleviated by simply submitting generic comments like "@explorecareers cool!", "@explorecareers :heart", or just "@explorecareers". The only required piece is a mention of the dedicated app handle/username to enable identification. Preference data could be collected afterwards through private DM conversations. For those adverse to any form of public record, some social media platforms also have the option of sharing a post directly to a user, which could be used to forward a post to @explore.careers.

We also note that one can also go outside of native features, e.g. through creating userscripts or browser plugins that modify the UI of target platforms to enable integrating interactions. We believe that future work here could draw from and add to the literature on designing for appropriation [17].

Designers of social media platforms could also consider directly supporting an "integration API". While developer APIs in the past have typically been defined at the level of posts, one might consider APIs that allow customization of interaction widgets within posts, e.g. to allow a user to "save" a post to an "explore careers app", with a customizable modal opening after each save in which users can rate or reflect on careers. Data sharing with developer apps could be tightly restricted to only the posts that a user saves to their specific app or in which they use their provided widget.

6.2.2 Designing integrating interfaces in SIMPLE apps: DM conversations and external platforms. Besides integrating interactions, SIMPLE apps also require integrating interfaces that facilitate reflection and synthesis. In our prototype,

for example, we used DM conversations to prompt users to reflect back on posts they encountered and to integrate those reflections towards developing their career identity. We learned that conversations on DMs, and likely integrating interfaces in general, need to be purposeful, responsive, and integrated (**Section 5.3.2**).

We see interesting directions for designing even more integrated experiences through linking a user's social media-based interactions with an external platform through the use of OAuth authentication and social login (e.g. "Sign in with TikTok"). For example, after a user engages in an integrating interaction with @explore.careers, one might provide them with a personalized link that directs them to a separate platform (see **Figure 2**).

By having users login with their TikTok account credentials, the platform can provide uniquely tailored career exploration support that is aware of and responsive to the videos the user has already watched and the preferences, thoughts, and questions they've already submitted. Such a platform could use the users' past ratings to provide recommendations for careers or videos to explore, suggest career reflection activities tailored to their career identity formation state, or draw from nation-wide occupational data (e.g. O*NET and BLS) to present more in-depth data on careers they are considering. The platform could also link back to TikTok with recommendations of other #DayInTheLife videos or search strings that surface particular careers or topics. Just as any other application, user data would be private and inaccessible to other users.

Hence, SIMPLE apps leverage the existing rich content residing on social media platforms by providing a way to integrate across different bite-sized encounters to help people to listen, explore, and synthesize the different things they are hearing into an integrated and interactive experience. They aim to facilitate thoughtful reflection of the content and motivate further exploration towards meaningful action and behavior change.

6.3 Examples of SIMPLE app opportunities beyond career exploration

SIMPLE apps are not limited to career exploration. They are compelling when: 1) social media can provide rich and digestible first-hand information not available elsewhere, 2) learning is most effective when encounters are not isolated but integrated, and 3) encounters on social media can help motivate and facilitate more in-depth learning activities.

Health and wellness is one example satisfying these three criteria. First, there is significant amounts of content on social media providing valuable insights into exercise routines, healthy recipes, meditation techniques, self-care tips, and other information promoting physical and mental well-being [30, 51, 78] Second, users still struggle to integrate these practices into their own lives, thus requiring integrated support and follow-up. Third, encounters with social media clearly do hold the possibility of motivating further action, as also evidenced by the many studies that have been conducted on behavior change and social media [21, 31, 37, 42]. Users might come across disconnected posts, like a particular intriguing healthy recipe or a motivating exercise routine that the user would wish to adopt into their own life. However, such encounters and motivations tend to be fleeting because users can get easily distracted due to the infinite scroll. In such a context, SIMPLE apps would help the user in slowing down and conveying their interest in these different types of wellness practices, allowing the SIMPLE app to follow-up on them. The SIMPLE app could potentially link this content to users' health data from other sources, including fitness data like calorie counts, step tracking from wearable devices (such as Apple Watch, Fitbit, etc.), and established health goals to provide personalized support. For instance, it can compare recipes that users appreciate on social media and analyze them with the users current calorie intake, offering insights into the potential impact such changes can have on their personal goals.

Environmental awareness and sustainability is another example. Social media is teeming with content about environmental awareness from informative discussions on climate change and nature preservation to guidance for sustainable initiatives and green innovations [49, 85]. Encountering such content can temporarily create a source of motivation,

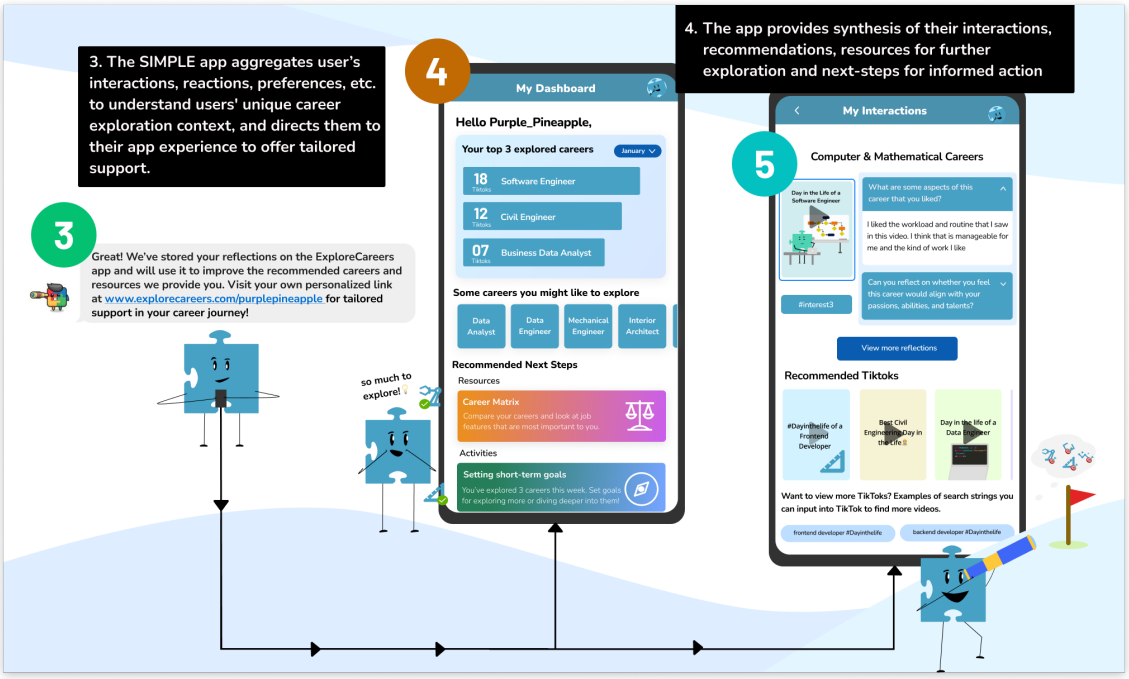

Fig. 2. After the interactions on social media, users can then be guided to an external platform where they receive 5) suggestions for careers based on their interests, resources for further exploration of those careers and recommended next steps for informed and meaningful action such as goal setting and career comparisons. The platform creates a positive feedback loop with 6) synthesis of their interactions and reflections grouped by sectors and additional #DayInTheLife video recommendations and generated search strings for going back to social media for further exploration.

but requires much more support to integrate into one's lifestyle. SIMPLE apps possess the ability to integrate these encounters by encouraging users to engage with informative discussions, reflect on their significance, and contemplate how such initiatives can be incorporated into their lives. By integrating such motivating content, news of events and initiatives occurring near the user with an aggregated map of environmental impacts around them, SIMPLE apps can provide a holistic view of the impact on users' lives. They can offer personalized recommendations and resources beyond social media, such as linking to scientific studies and latest innovations, to enhance motivation on these issues and, ultimately, encourage informed action towards adopting sustainable initiatives and innovations into their behaviors. SIMPLE apps are also interesting to explore further in this context because of the collective action attributes of environmental issues. How might SIMPLE apps enable one to integrate encounters and coordinate action across a community or a friend group?

One of the broader future directions we derived from this exploration of SIMPLE apps is the opportunity for enhancing people's ability to listen in a noisy networked world. Social media has democratized people's ability to share and consume information, but it still has not made it easy to reflect on and synthesize that information, i.e. to engage in deep listening. Integrating content across multiple posts may provide opportunities for facilitating thoughtful engagement with diverse viewpoints. While these are very preliminary thoughts, we see interesting directions for the design of SIMPLE apps for facilitating less reactive conversations, healthier online discourse and genuine listening.

7 LIMITATIONS

We conclude by acknowledging the limitations of this study for future work. First, our experience prototype only considered integrating encounters directly within TikTok. Much richer experiences can be designed through integrating native interactions with external platforms since this would allow for arbitrary interfaces for reflection and synthesis. Second, it would be worth following up on this qualitative study with a larger deployment to quantify experiences and impacts for larger numbers of people over a larger period of time that allows studying the entire journey, from encounters on social media to deep exploration on the platform.

8 CONCLUSION

In this paper, we report a research through design study that sought to understand the value of social media for fostering integrated learning experiences, by first studying the benefits and limitations of #DayInTheLife videos for supporting career identity formation through a qualitative study with 10 college students. We identified five benefits relating to either career identity formation as described by the Meeus-Crocetti model and behavior change as described by Foggs Behavior Model. #DayIntheLife videos can provide firsthand perspectives to support exploration and can facilitate reflection, affirmation, and reevaluation of career goals/commitments. Their casual digestable format helps to prompt low-effort engagement which then creates entry points and inspiration for further exploration. However, despite these benefits, their short-form nature and lack of integration, their entertainment focus, the distracting context in which they exist, and the potential lack of representation in recommended content limits the value derived. We also used a wizard-of-oz experience prototype to explore how one might integrate encounters on social media across such separate posts towards guided learning experiences. Our qualitative analysis revealed that such experiences can facilitate more intentional reflection, add interactivity, and provide a sense of agency. We built on these insights to introduce and discuss the concept of SIMPLE apps and discuss broader design implications for better harnessing social media towards purposeful integrated learning experiences.

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