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Exploring How Self-Organizing Communities are Sustained / Cómo se mantienen las comunidades autoorganizadas

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Sustained

Ivana Radivojevic Milojevic

Doctoral Thesis Advisor: Dr. Aino Tenhiälä

ABSTRACT

This dissertation investigates the evolving landscape of work driven by self-organizing processes, focusing on their impact on worker contributions and experiences. The first study examines the outcomes of decentralizing employee development within organizations. By analyzing a mixed-methods case study of SelfCo, where employee development is managed through a peer-to-peer digital platform, the study investigates whether employees can capture returns from proactively participating in development services. Using archival personnel data, fuzzy sets qualitative comparative analysis, and in-depth interviews, the study explores how human and social capital investments relate to salary increases and identifies patterns of development investments that lead to individual returns. The second study explores the management of fear-based stigma in stigmatized occupations, specifically focusing on hacking. By analyzing public narratives and conducting interviews with hackers and platform leaders, this study develops a process model of stigma management tactics. It reveals how stigmatization can blend identities and practices, and how individuals can correct misattributed fear-based stigma to convey the positive value of their occupation. The third study analyzes engagement dynamics in the gig economy, focusing on the interaction between individual workers and digital intermediaries. This conceptual study introduces the notion of engagement funnels, describing how platforms manage varying degrees of worker engagement through self-selection mechanisms. The study highlights the importance of understanding engagement structures that facilitate both paid and unpaid contributions, supporting the gig economy's sustainability. Overall, this dissertation contributes to literature on employee-driven development, stigma management, and engagement in the gig economy. By drawing on human capital theory, stigma management, and signaling theory, it extends our understanding of how communities within and across organizations can support individuals' careers, well-being, and engagement.

RESUMEN

Esta disertación investiga el panorama cambiante del trabajo impulsado por procesos de autoorganización, centrándose en su impacto en las contribuciones y experiencias de los trabajadores. El primer estudio examina los resultados de la descentralización del desarrollo de los empleados dentro de las organizaciones. Mediante el análisis de un estudio de caso de métodos mixtos de SelfCo, donde el desarrollo de los empleados se gestiona a través de una plataforma digital de empleado a empleado, el estudio investiga si los empleados pueden obtener beneficios de la participación proactiva en los servicios de desarrollo. Utilizando datos de archivo de personal, análisis cualitativo comparativo de conjuntos difusos y entrevistas en profundidad, el estudio explora cómo las inversiones en capital humano y social se relacionan con los aumentos salariales e identifica patrones de inversiones en desarrollo que conducen a rendimientos individuales. El segundo estudio explora la gestión del estigma basado en el miedo en ocupaciones estigmatizadas, centrándose específicamente en el hacking. Mediante el análisis de relatos públicos y la realización de entrevistas a hackers y líderes de plataformas, este estudio desarrolla un modelo de proceso de tácticas de gestión del estigma. Revela cómo la estigmatización puede mezclar identidades y prácticas, y cómo los individuos pueden corregir el estigma basado en el miedo mal atribuido para transmitir el valor positivo de su ocupación. El tercer estudio analiza la dinámica del engagement en la gig economy, centrándose en la interacción entre los trabajadores individuales y los intermediarios digitales. Este estudio conceptual introduce la noción de canales de participación y describe cómo las plataformas gestionan los distintos grados de participación de los trabajadores a través de mecanismos de autoselección. El estudio subraya la importancia de comprender las estructuras de participación que facilitan tanto las contribuciones remuneradas como las no remuneradas, apoyando la sostenibilidad de la economía colaborativa. En general, esta tesis contribuye a la literatura sobre el desarrollo impulsado por los empleados, la gestión del estigma y el involucramiento en la gigeconomía. Al basarse en la teoría del capital humano, la gestión del estigma y la teoría de la señalización, amplía nuestra comprensión de cómo las comunidades dentro y fuera de las organizaciones pueden apoyar las carreras, el bienestar y el involucramiento de los individuos.

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INTRODUCTION

Accelerated paces of change have altered organizations' competitive landscapes, and pervasive uncertainty has reshaped work to be increasingly driven by individuals rather than organizations (Cappelli, 2008). This new world of work is thus characterized by high levels of individual autonomy and digital technologies facilitating connections among individuals, leading to changes within and across organizations. It is thus important to identify and understand how work realized through self-organizing processes affects workers' contributions and experiences of their work. Self-organizing processes have the potential to humanize work and motivate workers to engage in extra-role behaviors, feel highly committed, and pursue personally meaningful career paths (Kolbjørnsrud, 2018; Lee & Edmondson, 2017). However, workers might feel lost in figuring out how to craft their career or overburdened by the added responsibilities, leading to lower engagement, deviant behaviors, or leaving the work (Spreitzer et al., 2017). It is thus important to understand how workers interpret their work and behave within their self-organizing communities to achieve a balance in fulfilling collective and individual needs.

These new trends merit attention because they challenge some of the fundamental assumptions on which current theory is built and bear important implications for how individuals might decide to engage in their work and build their careers. The notion of community within organizations has gained prominence due to the proliferation of self-managing practices adopted by organizations (Lee & Edmondson, 2017). When key organizing practices are decentralized, such as performance management, the creation and capture of value between employees and the organization (Coff, 1997) changes in important ways as employees, instead of managers, can decide whether to invest in developing human or social capital (Dachner et al., 2021).

Communities can also extend beyond any single organization, as has been studied in research on occupations, whereby community members engage in shared practices and foster a collective identity (Anteby et al., 2016). However, some occupations can be stigmatized when audiences fear disruption of moral order (Hampel & Tracey, 2017) or potential harm (Helms & Patterson, 2014), and although this fear may stem from an occupation's misunderstood practices, audiences may attribute dubious intentions to individuals and exacerbate the stigmatization of occupational members, which bears important implications for how individuals can effectively manage this stigma. Finally, communities can serve as an important resource for individuals, especially when workers are not formally bound to a single organization but instead autonomously carry out their work, as in the case of the gig economy (Kuhn & Maleki, 2017). The gig economy poses challenges for digital intermediaries to manage workers' engagement (Cropanzano et al., 2023) and facilitate workers' paid and unpaid contributions (Moorman et al., 2024), which makes it necessary to extend theorization around how engagement between workers and platforms unfolds throughout the gig economy.

In this dissertation, I explore these changing patterns of community-based organizing in three different studies. In the first study, we examine what behaviors are rewarded when employee development is decentralized. Studying decentralization of employee development is important because this is a valuable source of competitive advantage for organizations (Hatch & Dyer, 2004; Jiang et al., 2012), yet decentralizing development involves shifting decisions from managers to employees. This challenges current assumptions that employee development is facilitated top-down by managers and employees are passive receivers (Cropanzano et al., 2023). It thus becomes crucial to understand whether employees can create value for the organization and secure rents from their investment decisions. However, whether employees may reap returns

from *offering* training themselves or from *self-selecting into* different development activities offered by their organizational peers remains an unanswered question.

This first study aims to answer the research questions, *Do employees capture returns from proactively offering and consuming services on a peer-to-peer development platform? If so, do these returns vary by the content of the development services offered or consumed by employees?* The underlying objectives are a) explore how human (firm-specific or general) and social capital investments in the platform relate to salary increases, b) identify combinations of peer-suggested rationales for the deservingness of a pay increase that is associated with a granted salary increase, and c) explore why certain patterns of development investments lead to individual returns. These objectives are important to understand whether individuals can accrue returns, in the form of salary raises, from investing in developing their own human or social capital as well as investing in developing the human or social capital of their peers, which opens potential for alterative paths through which employees can generate and subsequently capture value when employee development is decentralized.

In this first study, we conducted a mixed-methods case study on SelfCo, an organization that has decentralized employee development through a digital platform, whereby any employee can offer services to their peers, and any employee can make use of the offered services. Salary increase decisions were made by top management based in part on the recommendations of peers, who could recommend peers for a salary increase. We investigated the returns for employees from proactively participating in the development services by using three different strategies. First, we used archival personnel data on employees' development offerings and consumption to estimate panel regression models, including employee fixed effects, to explore how human (firm-specific or general) and social capital investments in the platform relate to salary increases. Next,

we used employees' recommendations for peers' salary increases and their text-based justifications from one year and conducted a fuzzy sets qualitative comparative analysis (fsQCA) to identify combinations of peer-suggested rationales for the deservingness of a pay increase that is associated with a granted salary increase. Furthermore, we conducted in-depth interviews with SelfCo employees and the leadership of the company to deepen understanding of why certain patterns of development investments lead to individual returns.

In the second study, I explore how individuals in a stigmatized occupation manage fear-based stigma. Studying how occupational incumbents manage fear-based stigma (Goffman, 1963) is important because stigmatization can result in stigmatizing *both the identities and practices* of occupational incumbents, exacerbating the negative impacts of stigmatization. Stigma research has distinguished between stigma that is attributed to the target's core identity (Hudson & Okhuysen, 2009) and stigma that is attributed to discrete events or morally dubious practices (Clark & Li, 2023). However, without considering the interacting implications of managing both identity-based and practice-based stigmatization, current theorization overlooks how stigmatized individuals can effectively manage stigma arising from an occupation's misunderstood practices. I studied the online crowdworking context of hacking, in which individuals identify cybersecurity vulnerabilities in client organizations and report these through an intermediating platform so the vulnerability can be addressed before a criminal can exploit it. This context is ideal for studying fear-based stigma management, because the hacking occupation is stigmatized from others' fear over the potential of being hacked, but this fear is misattributed to hackers' core identities as audiences tend to assume that hackers are malicious actors. Thus, rather than studying identity-based or practice-based stigmatization in isolation (Clark & Li, 2023; Hudson & Okhuysen,

2009), it is important to analyze how individuals manage stigma that is misattributed from their practices to their identities.

The second study aims to answer the research question, *How do individuals manage misattributed fear-based stigmatization?* The underlying objectives are a) explore how stigmatization can blend targets' identities and practices in public narratives of occupational outsiders and insiders, b) analyze individuals' stigma management tactics related to correcting misattributed fear-based stigma, and c) develop a process model explaining how individuals address misattributed fear-based stigma to remove the fear associated with their identities and place it on specific practices to effectively convey the positive value of their occupation. These objectives are important to understand how individuals in a fear-based stigmatized occupation can not only manage their stigma but attempt to correct audiences' misattributed fear such that audiences do not fear occupational incumbents and can value the work of the occupation. Moreover, analyzing the interactions between identity-based and practice-based stigma management extends current theorization by illustrating how these can be mutually reinforcing and facilitate positive outcomes of stigma management.

In the second study, I explored how individuals manage misattributed fear-based stigmatization in the hacking occupation. This context offers a unique opportunity to study fear-based stigmatization, because the hacking occupation is stigmatized from others' fear over the potential of being attacked online (i.e., hacked). However, this fear is misattributed to hackers' core identities: Individuals tend to assume that hackers are malicious actors, yet hackers are actually using the same practices as criminals (i.e., hacking) to protect against cyberattacks. I analyzed how the narratives of hackers and workers from intermediating crowdwork platforms conveyed the identities and practices of the hacking occupation. Public narratives about hackers

were analyzed by comparing all news stories from 2023 published in top news outlets from the USA, India, and China with narratives portrayed on 77 websites related to hacking. This analysis of public narratives illustrates the dynamics of stigmatization present among public narratives from outsiders and insiders of the hacking occupation, respectively. Then, based on 20 interviews with hackers and platform leaders and employees, this study applies grounded theory methods (Lepak & Snell, 2002) to construct a process model (Langley, 1999) of how individuals and organizations construct narratives to manage the fear-based stigmatization of their occupation.

In the third study, we analyzed how individual workers engage in gig work and how digital intermediaries engage with workers. Current research on human resource management configurations has explained how organizations can facilitate engagement among different groups of employees (Lepak & Snell, 2002), but further theoretical development is needed to consider how engagement unfolds in the gig economy. Managing workers' engagement in the gig economy is a key concern for platforms as individuals are not formally bound to platforms and have essentially no barriers to entry and exit, while individuals have to make both paid and unpaid contributions which varies by their personal motivations to engage in gig work, such as financial or professional growth. Rather than hiring and training workers, we study how platforms manage varying degrees of engagement through mechanisms of workers' self-selection. Studying how gig workers and platforms engage with one another is important because there are no formal employment relationships (Spreitzer et al., 2017), yet the gig economy de8/27/24 5:36:00 PMpends on workers' contributions (Kost et al., 2020). While organizations can implement various human resource management configurations to foster different types of employees' engagement (Lepak & Snell, 2002), current theorization needs to be expanded to

understand *how engagement unfolds* in the gig economy (Cropanzano et al., 2023) to facilitate *both paid and unpaid contributions* (Moorman et al., 2024).

The third study aims to answer the research question, *How do individual workers and digital intermediaries engage with one another in the gig economy?* The underlying objectives are a) to describe how individual workers engage with digital intermediaries in the gig economy (i.e., platform-mediated and app-mediated gig work intermediaries using algorithmic and human management), b) to describe how digital intermediaries engage with gig workers (i.e., who make paid and unpaid contributions), and c) explain how engagement unfolds among digital intermediaries and gig workers, such that individual workers can self-select through the varying engagement structures of digital intermediaries to satisfy their financial or professional motives. These objectives are important to understand how digital intermediaries can facilitate individual workers' engagement in the context of gig work arrangements that do not impose directive control but instead depend on workers' self-selecting into making different kinds of paid and unpaid contributions, which are essential to upholding the gig economy.

In the third study, we theorized how individual workers and digital intermediaries engage with one another in the gig economy by developing a process model (Cornelissen, 2017) explaining how workers engage in gig work through paid then unpaid contributions and platforms engage with gig workers by utilizing algorithmic and human management to offer opportunities and capture signals of workers' different kinds of contributions and thus facilitate workers' self-selection into varying degrees of engagement. By reviewing empirical research and theoretical assumptions pertaining to human resource management (HRM) configurations with different kinds of workers (Lepak & Snell, 2002) within the context of the gig economy, this conceptual study described how the gig economy disrupts employee experience related to

engagement (Cropanzano et al., 2023). Moreover, the resulting process model explains how engagement unfolds throughout the pool of workers with varying motivations (such as financial or professional growth) by highlighting that each HRM configuration is temporally related, with workers having the potential to progress through the HRM configurations of digital intermediaries if they wish to increase their engagement (i.e., paid and unpaid contributions) to secure financial or professional growth.

As a whole, this research contributes to literature on employee-driven development, managing misattributed stigma, and engagement in the gig economy. By drawing on theory from human capital theory, stigma management, and signaling theory, these studies extend understanding of how communities can be sustained both within and across organizations. In the first study, our quantitative analyses revealed that employees received salary raises after taking general human capital training and also after offering firm-specific human capital and social capital training to their peers, while our qualitative analyses shed light on why contributing to the organization's internal community was valued. Overall, the findings from the mixed-methods case study illustrated alternative paths through which employees can generate and subsequently capture value through employee-driven development (Dachner et al., 2021).

In the second study, my grounded theory analysis illustrated how fear-based stigma can be managed not by simply accepting or avoiding stigma but rather by acknowledging the sources of others' fear and shifting the stigma from the occupational core (i.e., removing stigma from identities) to the occupational practices (i.e., stigmatizing fear-inducing events). The qualitative process model of stigma management tactics demonstrated the importance of teasing apart stigmatization processes related to identity-based and practice-based stigma to coopt the stigma (Helms & Patterson, 2014) to persuade others of the need for the stigmatized workers, thus

contributing to burgeoning research on how stigma can be embraced to facilitate positive outcomes (Cha & Roberts, 2019; Cowden et al., 2022; Helms & Patterson, 2014; Kreiner et al., 2022).

In the third study, our conceptual analysis extended theorization of engagement in the gig economy by introducing the notion of *engagement funnels* as a novel conceptualization of HRM configurations (Lepak & Snell, 2002) in gig work platforms. By identifying pathways through which platforms can support gig workers' engagement in fulfilling individual motivations, we illustrated how engagement can be in concordance between platforms and workers with ongoing renegotiations occurring (Cornelius et al., 2022) to support platforms' need for continuous engagement and workers' pursuits of their individual goals. As a whole, this dissertation research extends understanding of how self-organizing communities within organizations, online communities, and the gig economy can be sustained and support individuals' careers, well-being, and engagement.

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INTRODUCCIÓN

La aceleración de los ritmos de cambio ha alterado el panorama competitivo de las organizaciones y la omnipresente incertidumbre ha reconfigurado el trabajo, que cada vez está más en manos de los individuos que de las organizaciones (Cappelli, 2008). Este nuevo mundo laboral se caracteriza, por tanto, por un alto grado de autonomía individual y por unas tecnologías digitales que facilitan las conexiones entre las personas, lo que provoca cambios dentro de las organizaciones y entre ellas. Por lo tanto, es importante identificar y comprender cómo el trabajo realizado a través de procesos de autoorganización afecta a las contribuciones de los trabajadores y a las experiencias de su trabajo. Los procesos de autoorganización tienen el potencial de humanizar el trabajo y motivar a los trabajadores a participar en comportamientos extra-rol, sentirse altamente comprometidos y seguir trayectorias profesionales personalmente significativas (Kolbjørnsrud, 2018; Lee & Edmondson, 2017). Sin embargo, los trabajadores pueden sentirse perdidos a la hora de averiguar cómo elaborar su carrera o sobrecargados por las responsabilidades añadidas, lo que conduce a un menor compromiso, comportamientos desviados o el abandono del trabajo (Spreitzer et al., 2017). Por lo tanto, es importante comprender cómo interpretan los trabajadores su trabajo y cómo se comportan dentro de sus comunidades autoorganizadas para lograr un equilibrio en la satisfacción de las necesidades colectivas e individuales.

Estas nuevas tendencias merecen atención porque desafían algunos de los supuestos fundamentales sobre los que se construye la teoría actual y tienen implicaciones importantes para la forma en que los individuos pueden decidir comprometerse con su trabajo y construir sus carreras. La noción de comunidad dentro de las organizaciones ha ganado importancia debido a la proliferación de prácticas de autogestión adoptadas por las organizaciones (Lee y Edmondson,

2017). Cuando se descentralizan prácticas organizativas clave, como la gestión del rendimiento, la creación y captura de valor entre los empleados y la organización (Coff, 1997) cambia de forma importante, ya que los empleados, en lugar de los directivos, pueden decidir si invierten en desarrollar capital humano o social (Dachner et al., 2021). Las comunidades también pueden extenderse más allá de una única organización, como se ha estudiado en investigaciones sobre ocupaciones, en las que los miembros de la comunidad participan en prácticas compartidas y fomentan una identidad colectiva (Anteby et al., 2016). Sin embargo, algunas ocupaciones pueden ser estigmatizadas cuando las audiencias temen la interrupción del orden moral (Hampel & Tracey, 2017) o el daño potencial (Helms & Patterson, 2014), y aunque este temor puede provenir de las prácticas mal entendidas de una ocupación, las audiencias pueden atribuir intenciones dudosas a los individuos y exacerbar la estigmatización de los miembros de la ocupación, lo que tiene implicaciones importantes sobre cómo los individuos pueden manejar eficazmente este estigma. Por último, las comunidades pueden servir como un recurso importante para los individuos, especialmente cuando los trabajadores no están formalmente vinculados a una sola organización, sino que realizan su trabajo de forma autónoma, como en el caso de la economía gig (Kuhn y Maleki, 2017). La economía colaborativa plantea retos a los intermediarios digitales a la hora de gestionar el compromiso de los trabajadores (Cropanzano et al., 2023) y facilitar las contribuciones remuneradas y no remuneradas de los trabajadores (Moorman et al., 2024), lo que hace necesario ampliar la teorización sobre cómo se desarrolla el compromiso entre los trabajadores y las plataformas a lo largo de la economía colaborativa.

En esta disertación, exploro estos patrones cambiantes de organización basada en la comunidad en tres estudios diferentes. En el primer estudio, examinamos qué comportamientos se recompensan cuando se descentraliza el desarrollo de los empleados. Estudiar la

descentralización del desarrollo de los empleados es importante porque se trata de una valiosa fuente de ventaja competitiva para las organizaciones (Hatch & Dyer, 2004; Jiang et al., 2012), pero descentralizar el desarrollo implica trasladar las decisiones de los directivos a los empleados. Esto desafía los supuestos actuales de que el desarrollo de los empleados es facilitado de arriba abajo por los directivos y los empleados son receptores pasivos (Cropanzano et al., 2023). Por lo tanto, resulta crucial comprender si los empleados pueden crear valor para la organización y obtener rentas de sus decisiones de inversión. Sin embargo, sigue sin responderse la pregunta de si los empleados pueden obtener beneficios de la formación que ellos mismos ofrecen o de la autoselección en diferentes actividades de desarrollo ofrecidas por sus compañeros de organización.

Este primer estudio pretende responder a las siguientes preguntas de investigación: ¿Consiguen los empleados beneficios al ofrecer y consumir proactivamente servicios en una plataforma de desarrollo entre empleados? En caso afirmativo, ¿varían estos rendimientos en función del contenido de los servicios de desarrollo ofrecidos o consumidos por los empleados? Los objetivos subyacentes son a) explorar cómo las inversiones en capital humano (específico de la empresa o general) y social en la plataforma se relacionan con los aumentos salariales, b) identificar combinaciones de justificaciones sugeridas por los compañeros para el merecimiento de un aumento salarial que se asocia con un aumento salarial concedido, y c) explorar por qué ciertos patrones de inversiones en desarrollo conducen a rendimientos individuales. Estos objetivos son importantes para entender si los individuos pueden acumular beneficios, en forma de aumentos salariales, invirtiendo en el desarrollo de su propio capital humano o social, así como invirtiendo en el desarrollo del capital humano o social de sus compañeros, lo que abre la

posibilidad de vías alternativas a través de las cuales los empleados pueden generar y posteriormente capturar valor cuando el desarrollo de los empleados está descentralizado.

En este primer estudio, realizamos un estudio de caso con métodos mixtos sobre SelfCo, una organización que ha descentralizado el desarrollo de los empleados a través de una plataforma digital, mediante la cual cualquier empleado puede ofrecer servicios a sus compañeros, y cualquier empleado puede hacer uso de los servicios ofrecidos. Las decisiones de aumento salarial eran tomadas por la alta dirección basándose en parte en las recomendaciones de los compañeros, que podían recomendar a sus compañeros para un aumento salarial. Investigamos los beneficios que obtienen los empleados por participar proactivamente en los servicios de desarrollo utilizando tres estrategias diferentes. En primer lugar, utilizamos datos de archivo del personal sobre la oferta y el consumo de servicios de desarrollo por parte de los empleados para estimar modelos de regresión de panel, incluyendo efectos fijos de los empleados, para explorar cómo las inversiones en capital humano (específico de la empresa o general) y social en la plataforma se relacionan con los aumentos salariales. A continuación, utilizamos las recomendaciones de los empleados sobre los aumentos salariales de sus compañeros y sus justificaciones textuales de un año y realizamos un análisis comparativo cualitativo de conjuntos difusos (fsQCA) para identificar las combinaciones de justificaciones sugeridas por los compañeros sobre el merecimiento de un aumento salarial que se asocian a un aumento salarial concedido. Además, realizamos entrevistas en profundidad con empleados de SelfCo y con la dirección de la empresa para profundizar en la comprensión de por qué determinados patrones de inversión en desarrollo conducen a rendimientos individuales.

En el segundo estudio, exploro cómo gestionan el estigma basado en el miedo los individuos que ejercen una ocupación estigmatizada. Estudiar cómo los titulares de ocupaciones

gestionan el estigma basado en el miedo (Goffman, 1963) es importante porque la estigmatización puede resultar en la estigmatización tanto de las identidades como de las prácticas de los titulares de ocupaciones, exacerbando los impactos negativos de la estigmatización. La investigación sobre el estigma ha distinguido entre el estigma que se atribuye a la identidad central del sujeto (Hudson & Okhuysen, 2009) y el estigma que se atribuye a acontecimientos discretos o prácticas moralmente dudosas (Clark & Li, 2023). Sin embargo, sin considerar las implicaciones interactivas de la gestión de la estigmatización basada tanto en la identidad como en la práctica, la teorización actual pasa por alto cómo los individuos estigmatizados pueden gestionar eficazmente el estigma derivado de las prácticas incomprendidas de una ocupación. Estudié el contexto del «crowdworking» en línea, en el que las personas identifican vulnerabilidades de ciberseguridad en organizaciones clientes e informan de ellas a través de una plataforma intermediaria para que la vulnerabilidad pueda abordarse antes de que un delincuente pueda explotarla. Este contexto es ideal para estudiar la gestión del estigma basado en el miedo, porque la ocupación de hacker está estigmatizada por el miedo de los demás a la posibilidad de ser hackeado, pero este miedo se atribuye erróneamente a las identidades básicas de los hackers, ya que el público tiende a asumir que los hackers son actores maliciosos. Por lo tanto, en lugar de estudiar la estigmatización basada en la identidad o en la práctica de forma aislada (Clark y Li, 2023; Hudson y Okhuysen, 2009), es importante analizar cómo los individuos gestionan el estigma que se atribuye erróneamente desde sus prácticas a sus identidades.

El segundo estudio pretende responder a la pregunta de investigación ¿Cómo gestionan los individuos la estigmatización basada en el miedo mal atribuida? Los objetivos subyacentes son: a) explorar cómo la estigmatización puede mezclar las identidades y las prácticas de los

sujetos en las narrativas públicas de los outsiders y los insiders ocupacionales, b) analizar las tácticas de gestión del estigma de los individuos relacionadas con la corrección del estigma mal atribuido basado en el miedo, y c) desarrollar un modelo de proceso que explique cómo los individuos abordan el estigma mal atribuido basado en el miedo para eliminar el miedo asociado a sus identidades y colocarlo en prácticas específicas para transmitir eficazmente el valor positivo de su ocupación. Estos objetivos son importantes para comprender cómo las personas que ejercen una ocupación estigmatizada por el miedo pueden no sólo gestionar su estigma, sino también intentar corregir el miedo mal atribuido del público para que éste no tema a los titulares de la ocupación y pueda valorar el trabajo de la ocupación. Además, el análisis de las interacciones entre la gestión del estigma basada en la identidad y la basada en la práctica amplía la teorización actual al ilustrar cómo pueden reforzarse mutuamente y facilitar resultados positivos de la gestión del estigma.

En el segundo estudio, exploré cómo los individuos gestionan la estigmatización basada en el miedo mal atribuido en la ocupación de hacker. Este contexto ofrece una oportunidad única para estudiar la estigmatización basada en el miedo, porque la ocupación de hacker se estigmatiza a partir del miedo de los demás a la posibilidad de ser atacado en línea (es decir, hackeado). Sin embargo, este miedo se atribuye erróneamente a las identidades básicas de los hackers: Los individuos tienden a asumir que los hackers son actores maliciosos, aunque en realidad los hackers utilizan las mismas prácticas que los delincuentes (es decir, hackean) para proteger contra los ciberataques. Analicé cómo las narrativas de los hackers y los trabajadores de las plataformas intermediarias de crowdwork transmitían las identidades y prácticas de la ocupación de hacker. Las narrativas públicas sobre los hackers se analizaron comparando todas las noticias de 2023 publicadas en los principales medios de comunicación de Estados Unidos, India y China con las

narrativas presentadas en 77 sitios web relacionados con hacking. Este análisis de las narrativas públicas ilustra la dinámica de estigmatización presente entre las narrativas públicas de personas ajenas e internas a la profesión de hacker, respectivamente. A continuación, basándose en 20 entrevistas con hackers y líderes y empleados de plataformas, este estudio aplica métodos de teoría fundamentada (Lepak & Snell, 2002) para construir un modelo de proceso (Langley, 1999) sobre cómo los individuos y las organizaciones construyen narrativas para gestionar la estigmatización basada en el miedo de su ocupación.

En el tercer estudio, analizamos cómo los trabajadores individuales se involucran en el trabajo gig y cómo los intermediarios digitales se involucran con los trabajadores. La investigación actual sobre configuraciones de gestión de recursos humanos ha explicado cómo las organizaciones pueden facilitar el involucramiento entre diferentes grupos de empleados (Lepak y Snell, 2002), pero se necesita un mayor desarrollo teórico para considerar cómo se desarrolla el involucramiento en la economía gig. La gestión del grado de participación de los trabajadores en la gigeconomía es una preocupación clave para las plataformas, ya que las personas no están vinculadas formalmente a las plataformas y básicamente no tienen barreras de entrada y salida, mientras que las personas tienen que hacer contribuciones tanto remuneradas como no remuneradas, que varían en función de sus motivaciones personales para participar en el trabajo gig, como el crecimiento financiero o profesional. En lugar de contratar y formar a los trabajadores, estudiamos cómo las plataformas gestionan los distintos grados de participación a través de mecanismos de autoselección de los trabajadores. Estudiar cómo los trabajadores y las plataformas se relacionan entre sí es importante porque no existen relaciones laborales formales (Spreitzer et al., 2017), aunque la gigeconomía depende de las contribuciones de los trabajadores (Kost et al., 2020). Aunque las organizaciones pueden aplicar diversas configuraciones de gestión

de recursos humanos para fomentar diferentes tipos de participación de los empleados (Lepak y Snell, 2002), la teorización actual debe ampliarse para comprender cómo se desarrolla la participación en la economía colaborativa (Cropanzano et al., 2023) para facilitar tanto las contribuciones remuneradas como las no remuneradas (Moorman et al., 2024).

El tercer estudio pretende responder a la pregunta de investigación ¿Cómo se interrelacionan los trabajadores individuales y los intermediarios digitales en la gigeconomía? Los objetivos subyacentes son a) describir cómo los trabajadores individuales se involucran con los intermediarios digitales en la economía gig (es decir, intermediarios de trabajo gig mediados por plataformas y aplicaciones que utilizan la gestión algorítmica y humana), b) describir cómo los intermediarios digitales se involucran con los trabajadores gig (es decir, que hacen contribuciones remuneradas y no remuneradas), y c) explicar cómo se desarrolla el involucramiento entre los intermediarios digitales y los trabajadores gig, de tal manera que los trabajadores individuales pueden autoseleccionarse a través de las diversas estructuras de involucramiento de los intermediarios digitales para satisfacer sus motivos financieros o profesionales. Estos objetivos son importantes para entender cómo los intermediarios digitales pueden facilitar el involucramiento de los trabajadores individuales en el contexto de los acuerdos de trabajo gig que no imponen un control directivo, sino que dependen de la autoselección de los trabajadores para hacer diferentes tipos de contribuciones remuneradas y no remuneradas, que son esenciales para mantener la economía gig.

En el tercer estudio, teorizamos cómo los trabajadores individuales y los intermediarios digitales se relacionan entre sí en la economía gig mediante el desarrollo de un modelo de proceso (Cornelissen, 2017) que explica cómo los trabajadores se involucran en el trabajo gig a través de contribuciones pagadas y no pagadas y cómo las plataformas se relacionan con los

trabajadores gig mediante la utilización de la gestión algorítmica y humana para ofrecer oportunidades y captar señales de los diferentes tipos de contribuciones de los trabajadores y, por lo tanto, facilitar la autoselección de los trabajadores en diferentes grados de participación. Mediante la revisión de la investigación empírica y los supuestos teóricos relativos a las configuraciones de gestión de recursos humanos (GRH) con diferentes tipos de trabajadores (Lepak y Snell, 2002) en el contexto de la economía colaborativa, este estudio conceptual describe cómo la gig economy altera la experiencia de los empleados en relación con el involucramiento (Cropanzano et al., 2023). Además, el modelo de proceso resultante explica cómo se desarrolla el nivel de participación en el conjunto de trabajadores con distintas motivaciones (como el crecimiento financiero o profesional), destacando que cada configuración de GRH está relacionada temporalmente, y que los trabajadores tienen el potencial de progresar a través de las configuraciones de GRH de los intermediarios digitales si desean aumentar su participación (es decir, contribuciones remuneradas y no remuneradas) para garantizar el crecimiento financiero o profesional.

En conjunto, esta investigación contribuye a la literatura sobre el desarrollo impulsado por los empleados, la gestión del estigma mal atribuido y el involucramiento en la economía gig. Al basarse en la teoría del capital humano, la gestión del estigma y la teoría de la señalización, estos estudios amplían la comprensión de cómo las comunidades pueden mantenerse tanto dentro como fuera de las organizaciones. En el primer estudio, nuestros análisis cuantitativos revelaron que los empleados recibían aumentos salariales después de recibir formación general sobre capital humano y también después de ofrecer formación sobre capital humano y capital social específicos de la empresa a sus compañeros, mientras que nuestros análisis cualitativos arrojaron luz sobre por qué se valoraba la contribución a la comunidad interna de la organización. En

general, los resultados del estudio de caso de métodos mixtos ilustran vías alternativas a través de las cuales los empleados pueden generar y posteriormente capturar valor mediante el desarrollo impulsado por los empleados (Dachner et al., 2021).

En el segundo estudio, mi análisis de teoría fundamentada ilustró cómo el estigma basado en el miedo puede gestionarse no simplemente aceptando o evitando el estigma, sino más bien reconociendo las fuentes del miedo de los demás y desplazando el estigma del núcleo ocupacional (es decir, eliminando el estigma de las identidades) a las prácticas ocupacionales (es decir, estigmatizando los eventos que inducen miedo). El modelo de proceso cualitativo de las tácticas de gestión del estigma demostró la importancia de separar los procesos de estigmatización relacionados con el estigma basado en la identidad y el estigma basado en la práctica para cooptar el estigma (Helms y Patterson, 2014) con el fin de persuadir a otros de la necesidad de los trabajadores estigmatizados, contribuyendo así a la floreciente investigación sobre cómo se puede adoptar el estigma para facilitar resultados positivos (Cha y Roberts, 2019; Cowden et al., 2022; Helms y Patterson, 2014; Kreiner et al., 2022).

En el tercer estudio, nuestro análisis conceptual amplió la teorización del involucramiento en la economía gig introduciendo la noción de canales de involucramiento como una nueva conceptualización de las configuraciones de la GRH (Lepak y Snell, 2002) en las plataformas de trabajo gig. Mediante la identificación de las vías a través de las cuales las plataformas pueden apoyar el involucramiento de los trabajadores en el cumplimiento de las motivaciones individuales, ilustramos cómo el involucramiento puede estar en concordancia entre las plataformas y los trabajadores con renegociaciones continuas (Cornelius et al., 2022) para apoyar la necesidad de las plataformas de un involucramiento continuo y la búsqueda de los trabajadores de sus objetivos individuales. En conjunto, esta investigación de disertación amplía la

comprensión de cómo las comunidades autoorganizadas dentro de las organizaciones, las comunidades en línea y la economía gig pueden sostenerse y apoyar las carreras, el bienestar y el compromiso de los individuos.

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Chapter 1: Individual Returns for Employee-Driven Development

ABSTRACT

To prevent skills shortages in organizations and facilitate continuous employee learning, companies are increasingly adopting development models in which employees are given high discretion regarding the contents of their learning and are encouraged to engage in peer-to-peer development. The returns employees may capture from investing in self-development and peer-to-peer development are likely to depend on the value they create for the organization and on how the organization shares this value with them. Yet, empirical evidence regarding employee returns to investments in employee-driven development models is scarce. Using a mixed-methods case study of SelfCo, a project-based organization in the ICT sector, this paper investigates how investments in human and social capital via a digital development platform relate to salary increases. Our quantitative analyses based on personnel data from the organization find that not only investing in developing one's own general human capital but also investing in developing peers' firm-specific human and social capital is positively associated with individual returns in the form of salary increases. A fuzzy-set qualitative comparative analysis of peer-based salary increase recommendations and data collected from interviews with managers and employees from the organization provide insights regarding the alternative potential paths through which employees may generate and subsequently capture value from their development investments.

Keywords: Compensation, employee development, human capital, social capital, peer-to-peer learning platforms, salary increase

INTRODUCTION

Employee development has long been recognized as a potential source of competitive advantage because, through investments in employee development, companies can enhance their human capital and, in turn, their organizational performance and odds for survival (De Vos & Cambré, 2017; Garavan et al., 2021; Hatch & Dyer, 2004; Jiang et al., 2012). Historically, employee development frameworks relied on projected company requirements and involved sporadic interventions aimed at equipping employees with the necessary skills for improving their productivity at their current job or for upcoming job roles (Bell et al., 2017; Dachner et al., 2021). In these models, employees played a passive role in the sense that they had little to say about the content and the timing of the training they received within the organization.

However, recent changes in the business environment have challenged the validity of the traditional employee development model. Increased uncertainty and rapid technological change make it difficult for organizations to predict their needs for skills in the future, which may result in critical skill shortages in organizations. Not surprisingly, a lack of the necessary skills to help the business reinvent itself to compete in the current competitive environment is a recurring concern among CEOs across the globe (e.g., see PwC's 27th Annual Global CEO Survey, 2024). Skills are also becoming obsolete at a faster rate. For example, the World Economic Forum performed a recent survey of more than 800 employers across the world, and the surveyed companies predicted that 44% of employees' skills will be disrupted in the next five years and that six in ten staff members will require training before 2027 (Di Battista et al., 2023).

In response, companies are increasingly adopting employee development models in which there is an emphasis on ongoing, continuous development to ensure employees are up to date with the skills required. In addition, to accelerate training agility, decisions about development in

organizations are increasingly transitioning from *employers* to *employees*, giving employees much more discretion to choose not only the contents of training but also when to receive it (DeRouin et al., 2004). Importantly, as part of this ongoing, learner-centered development model, employees have also acquired a higher responsibility as providers of training to other employees (for recent reviews of the evolution of employee development models, see Bell et al., 2017; Dachner et al., 2021; Noe et al., 2014).

To facilitate these new forms of employee-driven development, companies across different sectors, such as Google, Amazon, GE, Hubspot, Hilti, Avon Products, PwC, and Swisscom Enterprise Customer, have introduced internal peer-to-peer digital platforms that allow employees to author and share learning contents (Bersin, 2021; Ricco, 2018; Stringer, 2020; Veenhoff, 2018). For example, GE created Brilliant U, a digital platform that hosts videos and offers employee-driven learning throughout its enterprise, with more than 30% of employees developing and sharing content with their peers in just the first year the platform was launched (Schwartz et al., 2017). Similarly, PwC launched Digital Lab, in which employees could share solutions built by themselves: Employees made over 7,000 contributions, and 55,000 employees were regularly using the platform for upskilling (Dua & Duarte Steele, 2021).

Through these platforms, employees can autonomously decide what content to consume as well as what content to offer. Participation in these platforms is voluntary, enabling employees to develop different types of skills depending on their needs and offering the content they think may be of value to their colleagues. Essentially, what these platforms do is delegate a function that used to be highly centralized in the human resources department and management of the organization to lower-level employees.

As decisions are delegated to employees, it becomes crucial to understand whether employees can create value for the organization and therefore secure rents from their investment decisions. Yet, knowledge regarding the returns to participating in development actions in employee-driven development models remains limited. Previous research on employee-driven development models has focused mostly on antecedents of participation in training (Bednall & Sanders, 2017; Bell et al., 2017; DeRouin et al., 2004; London & Hall, 2011; London & Smither, 1999), but it has not explored how such training translates into individual returns for participants. The extensive literature on returns to employee development, mostly drawing from human capital theory, has typically focused on exploring the returns to training provided by the employer (e.g., Almeida & Carneiro, 2009; Konings & Vanormelingen, 2015; see also Bassanini et al., 2007 for a review), with an emphasis on understanding if returns accrue differently depending on whether the acquired human capital is firm-specific or general. Overall, the evidence suggests that participation in training leads to higher wages and wage growth in the organization.

However, current literature remains silent regarding the returns employees may reap from *offering* training themselves or from them *self-selecting into* the different development activities offered by their peers in the organization. Whether employees can accrue returns from investing in their own development or developing others is not obvious. On the one hand, if employees create value for the organization by developing others, the employer may want to share part of this value created with employees to incentivize them to engage in such behaviors (Coff, 1997). On the other hand, whether rents are shared may ultimately depend on the value and the transferability of the human capital the development activities provided. To extend knowledge in this area, in this paper we ask: *Do employees capture returns from proactively offering and*

consuming services on a peer-to-peer development platform? If so, do these returns vary by the content of the development services offered or consumed by employees?

We follow recent work (Dachner et al., 2021) and consider employee development in a broad sense, including activities that can help increase employee capacity to perform in a current or future job in the organization. Thus, our focus is not only on development activities aimed to improve task-related skills (human capital) but also on those that can help develop social relationships in the organization (social capital). We explore returns to investments in the form of salary increases, which is one of the most important indicators of external career success for individuals (Judge & Bretz Jr., 1994). In line with extant work that has investigated how investments in human capital and social capital intertwined to create value for the individual (Ng & Feldman, 2010), we also explore whether they act as complements or substitutes in the case of employee-driven development.

To empirically explore these questions, we conduct a mixed-methods case study on a project-based organization (which we refer to as SelfCo) that has decentralized employee development through a digital platform, whereby any employee can offer services to their peers, and any employee can make use of the offered services. Salary increase decisions are made by top management based in part on the recommendations of peers, who once per year are asked to suggest who is deserving of a salary increase and why. We investigate the returns for employees from proactively participating in the development services by using three different strategies.

First, we use archival personnel data on employees' development offerings and consumption to estimate panel regression models, including employee fixed effects, to explore how human (firm-specific or general) and social capital investments in the platform relate to salary increases. Next, we use employees' recommendations for peers' salary increases and their

text-based justifications from one year and conduct a fuzzy sets qualitative comparative analysis (fsQCA) to identify combinations of peer-suggested rationales for the deservingness of a pay increase that is associated with a granted salary increase. Furthermore, we conduct in-depth interviews with SelfCo employees and the leadership of the company to deepen the understanding of why certain patterns of development investments lead to individual returns.

The results from our analyses on the records-based personnel data revealed that not only investing in developing one's own general human capital but also developing peers' firm-specific human and social capital was positively associated with individual returns in the form of salary increases. The findings from our qualitative data analysis further helped us understand how managers and employees of SelfCo attributed value to these different investments. Overall, the findings from the mixed-methods case study illustrated alternative paths through which employees may be able to generate and subsequently capture value in this proactive, dynamic, and technology-enabled era of employee-driven development (Dachner et al., 2021).

RETURNS TO INVESTMENTS IN EMPLOYEE-DRIVEN DEVELOPMENT

Human Capital Investments

Prior research has identified investments in human capital and social capital as two effective career advancement strategies (Campion et al., 2022; Ng et al., 2022; Seibert et al., 2001). Human capital refers to the knowledge, skills, and abilities embedded in the employee (Becker, 1962). Human capital can be acquired through different types of activities, but attending employer-provided training has historically represented one of the most important ways through which individuals developed their skills throughout their careers (Bell et al., 2017; Cappelli, 2008).

The impact of employee human capital development on earnings growth has been a central theme for human capital researchers (e.g., Becker, 1962; Mincer, 1974). An important distinction typically made in the human capital literature is between firm-specific training, which enhances productivity only in the current firm, and general training, which increases productivity in more than one organization. This distinction is relevant for understanding the consequences that participating in training activities has for salary increases. According to the human capital model proposed by Becker (1962), salary increases associated with general training should outweigh salary increases associated with investments in firm-specific training, because general human capital is more transferable than firm-specific human capital. Thus, although human capital development should lead to higher rents for the organization, how much of these rents are shared with the individual should depend on the market value of the human capital accumulated. To keep their employees, employers will need to allocate more rents to the employee when the human capital acquired by that employee is general rather than when it is firm specific. Yet, in order to preserve incentives to invest in firm-specific human capital, employers may still share with the employee some of the rents derived from investments in firm-specific human capital (Becker, 1962; Coff, 1997).

Several studies focused on testing the prediction that individuals' investments in company training activities should lead to higher wage growth. These studies typically linked information on training provided by the employer (usually measured through surveys that asked about it) to individuals' earnings and/or earnings growth and tended to find a positive relationship between the two (Altonji & Spletzer, 1991; Booth & Bryan, 2005; Frazis & Loewenstein, 2005; Loewenstein & Spletzer, 1999; Parent, 1999; Pischke, 2001). The extensive literature on human

capital thus tends to support the notion that investing in the training offered by the employer is an effective career advancement strategy for individuals.

However, whether employees can also capture returns from the development investments they proactively self-select into within the emerging employee-driven development model is not obvious. The traditional human capital model emerged in an era in which employers were the ones who would decide not only what content to offer but to whom and when (Bell et al., 2017; Noe et al., 2014). In this context, employees were only training receivers, mostly from their supervisors, and there was little question about the value of such training for the organization, because the organization oversaw the design of the content of the training in the first place. In contrast, in employee-driven models, the decisions regarding what type of content to offer and to whom are delegated to employees. As the development model changes, the career progression model may change as well. This new model represents an important shift in several dimensions and raises new questions that deserve further investigation.

First, in the employee-driven development model, employees are not only receivers of training but also active training providers: They are expected to create and teach content to develop the human capital of their peers (Bell et al., 2017; Noe et al., 2014). *Do employees capture returns from developing the human capital of their peers?* Second, employees can choose what content to share with their peers as well as what content to consume themselves. *Do different returns accrue to providers depending on whether the content is aimed to foster firm-specific or general human capital?* Finally, as individuals self-select into the development activities, companies' willingness to increase salaries to retain different investments in human capital may change in the employee-driven development model. *Do we continue to observe general human capital leading to higher salary increases than firm-specific human capital?*

Social Capital Investments

The second important career advancement strategy identified by the literature is the investment in the development of social capital (Seibert et al., 2001). Employee social capital can be defined as the set of resources rooted in relationships that create value for employees (Coleman, 1990; Nahapiet & Ghoshal, 1998). Activities aimed at forming relationships with others in the organization that have the potential to be instrumental for the career of the individual can be considered as investments in social capital (Forret & Dougherty, 2004; Ng & Feldman, 2010). Integrating previous research on social capital (Burt, 1992; Granovetter, 1973; Lin, Ensel, et al., 1981; Lin, Vaughn, et al., 1981), Seibert et al. (2001) revealed that having a network of relationships with individuals in an organization can be beneficial for career success, because it can provide access to information, resources, and career sponsorship. Previous work, for example, has identified building relationships with supervisors as key for the career advancement of individuals (Forret & Dougherty, 2001; Yang et al., 2018; Yean & Yahya, 2008).

Employee-driven development models can also have important consequences regarding how returns accrue for the development of social capital. As employees can freely choose what contents to provide and to consume, they can also engage in offering activities that enhance valuable social connections in an organization. These activities may include, for example, participation in shared sports events or hobbies (Good et al., 2023). But *what are the salary returns for offering or consuming social capital services whose content is designed by employees?* In addition, the careers literature has suggested that accumulating social capital can enhance the returns that accrue to individuals for their investments in human capital in the traditional employer-driven development model (Ng & Feldman, 2010). The role of employees as not only consumers but also providers of human and social capital development activities raises

the question of how offering these different developmental activities leads to individual returns. Accordingly, in this paper, we also investigate whether offering (consuming) social capital services act as a complement or as a substitute of offering (consuming) human capital services in the employee-driven development model.

DATA AND METHODS

Research Context

To explore whether employees reap returns from investing in employee development activities in the employee-driven development model, we perform a field study in a European company in the ICT sector with about 450 employees that offered software development services, which we will refer to as SelfCo. Over the years, SelfCo has received numerous accolades for the satisfaction and engagement of its employees. The organization's business model was based on hourly billing of customers for software design, development, and digital platform services. Employees, most of whom were software developers, were organized into project teams that operated in close contact with customers. SelfCo has organized itself with many self-management principles (see for example Lee & Edmondson, 2017), including self-managing teams, decentralized work execution, work monitoring, and, important for the present study, employee development. Given the high level of competition and demand for labor in the ICT sector, how rents are allocated between employers and employees represents a key concern for the retention of employees.

The case of SelfCo offers a unique opportunity to explore individual returns from participating in employee-driven development, in terms of investing in developing oneself and developing one's peers. In 2016, the company introduced an online platform that decentralized employee development. Using this platform, employees could have access to a catalog of

services, from which they could freely choose those that suit them. As explained by one manager in the company, "*The main goal of introducing this platform was to improve the matching between employee needs and the company offering.*"

The service categories were related to a variety of aspects such as improving client relationships, enhancing communication skills, social activities, and stress management, among others. The format of the services varied depending on the type of service (e.g., meeting in person, online, together with a group, or between two individuals). The company encouraged employees to offer services themselves, and although some services were offered by external providers (e.g., support for mental health), most were indeed offered by the employees of the company. Participation in the platform was voluntary, and the people operations team at SelfCo was overseeing how the platform was used, namely whether some services that were not requested should be discontinued and if in some areas there was more demand. People operations would encourage more services to be created or more providers to offer the existing services in the areas of higher demand. The activity (offering or consuming services) was, however, not explicitly or formally rewarded, i.e., there was no fee paid to employees based on the services they provided, nor there was a clear formula linking salary increases to the activity on the platform.

Salary increases at SelfCo were determined in part by peer suggestions. Once a year, the managers of each unit would send a request to all employees asking for their feedback regarding who they thought deserved a salary increase. Peers could voluntarily report who, and if they decided to name someone, they needed to provide a clear justification for their suggestions. The managers of each business unit would then review the peer recommendations and based in part on this information, would make their recommendations to the CEO, who would ultimately make

the decision regarding to whom to grant salary increases as well as the amount of increase. The company had a pay transparency policy such that employees could choose to have their pay levels published on the internal web, and most employees (over 80%) had opted to do so. Thus, people could find out the pay of the vast majority of their peers.

METHODS

We investigate the returns to participating in employee-driven development activities by using three different strategies. First, we use quantitative data from the company archives with detailed information about all employee offerings and consumption of development services and salary increases and estimate the returns to different types of participation in the platform using panel regression analyses. Next, we use text data corresponding to all the salary increase recommendations made by the peers in one year and investigate how configurations of peer-articulated rationales for deservingness of a pay increase predicted actual salary increases through fuzzy-set qualitative comparative analyses. Finally, we analyze data collected from interviews with employees and company leadership to provide suggestive evidence of the mechanisms behind the relationship between employee development activities and salary increases.

Analyses with Quantitative Data

We retrieved individual-level data for a three-year period (2018–2020) from SelfCo's company archives. All data were anonymized by the organization[1]. We retrieved information

[1] Employees' gender information was not provided by the company to avoid violating the general data protection regulation (GDPR), as there were very few females in the organization. Furthermore, we could not make use of the salary data pertaining to all employees in SelfCo for our regression analyses because the primary contact person from the organization masked some individuals' identification information (i.e., their IDs) to avoid violating GPDR. The data were masked by changing the employee IDs in the salary data file, making it impossible for us to match those employees' salary data with the other data file containing employees' activities in the platform. However, the data allowed us to assess the presence of systematic differences between masked and unmasked employees. We ran t-tests on the key independent variables of offering services, consuming services, and presence in the platform to examine if

about their demographics and salary from the personnel records of the organization. We matched this data with the digital platform database containing information about employee participation in the platform. After omitting observations with incomplete information about their pay, the final matched panel data contained 246 individuals and 431 person-year observations.

Dependent variable

Our dependent variable is salary increase. For each individual, we calculated salary increase as the difference between the salary in the focal year minus the salary in the previous year. As salary increases were skewed to the right, we log-transformed this difference. The company did not have a formal career progression or promotion structure but was a very flat organization; therefore, salary increases were an important vehicle for employees to capture returns for the value they contributed to the organization.

Independent variables

Employees could offer a service on the platform, and the service was given once someone requested to use it. We observe only the services that were consumed, i.e., if someone offered a service but was not requested that year, we do not observe that availability of the offering. Our data thus captures all instances of services offered and subsequently consumed by employees through the platform, which included 80 distinct service offerings and 132 service consumptions.

To measure the different types of development investment decisions (offering and consuming employee development services), we considered the main content of the development

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there were any significant differences from observations that were masked. We found no support for any statistically significant differences on offering services and presence in the platform, but masked individuals consumed services 17.84% less than unmasked individuals (masked individuals consumed an average of 2 services while unmasked individuals consumed an average of 2.65 services). There was no statistically significant difference between the masked and unmasked individuals in their probability of getting a salary increase or the percentage of salary increase among those who received a salary increase.

service exchanged in the platform. Some services aimed at developing *human capital*, which could involve *firm-specific* skills, such as coaching peers in different firm areas (e.g., specific client relationships, SelfCo business strategy, etc.), or *general* skills transferable across different work settings (e.g., improving communication skills, learning about a new technology in a study group, etc.). In addition, any member of the organization could also offer services aimed at building *social capital*, such as organizing a free-time activity/hobby (e.g., a running club) or other services developing the internal community (e.g., socializing over a shared meal).

Two independent raters coded whether the service was aimed at developing skills or fostering social relationships in the community. For those services aimed at developing skills, the raters further coded those that were transferable skills (i.e., general) or those that were specific to the organization (i.e., firm-specific). Disagreements among the coders were collectively discussed until agreement was reached. In our data, there were 21 distinct firm-specific human capital services, 33 distinct general human capital services, and 26 distinct social capital services offered by the employees. (For more detail, see Table A1 in Appendix A.)

Our independent variables are yearly continuous variables that capture how many times an employee offered services and how many times they consumed services over the year. More specifically, our main independent variables are *human* and *social capital offering* as well as *human* and *social capital consumption*. In subsequent analyses, we divided human capital offering and consumption further into two subcategories: *firm-specific* and *general* human capital.

Control variables

We control for the average annual project billing rates of the employee. Project billing rates are a function of project complexity and are positively related to the level of required skills

and work demands. The company only provided information about tenure and age in a coarse way in order to anonymize the data. The majority of the employees did not change age or tenure category in our three-year study period. We thus only include a categorical value of low (less than the median [three years]) and high tenure (equal or higher than the median [three or more years]), as the tenure categories absorb the changes in age categories.

Estimation Strategy

We estimate panel data regressions at the employee-year level with employee fixed effects. The inclusion of employee fixed effects enables us to eliminate the effect of any heterogeneity bias due to selection into various learning investments in the platform if we assume that the selection process varies only across employees and not over time for the same employee. The effects of other employee time-invariant factors are also eliminated using employee fixed-effects models. Because employees do not change business units, employee fixed effects also absorb any business unit fixed effects. Because individual observations are not independent from each other, standard errors are clustered by employee. All service offering and consumption variables and control variables were lagged to *t-1* to account for the fact that salary increases will reflect the past year's investments.

Findings from the Quantitative Analysis

About half of the employees (48.26%) received a salary increase during our window of observation. On the platform side, 42% of the employees participated by offering and/or consuming services in years 2018–2020. Before running our main regression models, we explore how those who participated in the platform by offering and/or consuming differ from those who did not for the whole sample. To do that, we ran t-tests on the differences in means across different available descriptive variables. The analyses are shown in Table 1.

Based on the t-tests, employees who participated and especially those who offered services on the platform had somewhat higher monthly pay levels than those who did not participate in the platform. Most employees who participated in the platform had a tenure of three or more years and were over 40 years old. Employees who offered services also had significantly higher project billing rates than those who did not offer any services, which means that services were more likely to be offered by employees with better skills or those who were working on strategically important projects. Employees with less than three years of tenure were more likely to consume services than those with higher tenures. In addition, employees who consumed services were overall slightly younger in age than employees who did not consume services.

[INSERT TABLE 1 HERE]

Correlations and descriptive statistics of the variables included in the models are shown in Table 2. We next turn to our panel regression models. Model 1 in Table 3 includes only our control variables and finds tenure to be positively associated with salary increase. Next, we examine the impact of offering human capital (HC) and social capital (SC) services. We find that offering HC services [$b = 0.33$ (0.12); $p < 0.01$] and offering SC services [$b = 0.41$ (0.20); $p < 0.05$] predict salary increases (see Table 3, Model 2). We then explore the impact of the possible complementary/substitution effects between the two service offering categories by including an interaction term between offering HC and offering SC services. The interaction term is significant and positive [$b = 3.42$ (0.21); $p < .001$; see Table 3, Model 3 and Figure 1]. Simple slopes analysis indicates that offering HC services is associated with receiving relatively higher salary increases at high (+ 1SD) levels of SC offering ($b = 4.13$, $p < 0.001$; $CI = 2.72–5.54$), and relatively lower salary increases ($b = 0.21$; $p < 0.05$; $CI = 0.02–0.41$) when SC offering is low (-1SD), indicating a *complementary* effect between the two offerings.

Next, we study how the consumption of the services is related to salary increases. We find that consuming HC services positively predicts salary increases [b = 1.02 (0.37); $p < 0.01$; see Table 3, Model 4], while we fail to find a significant association between consuming SC services and salary increase [b = 0.64 (0.56), *n.s.*]. We also explore the existence of complementarities or substitution effects between the two types of consumption of development services and find a negative interaction effect between the two [b = -0.33 (0.16); $p < .05$, see Table 3, Model 5, and Figure 1]. The simple slopes analysis suggests that HC consumption has a weaker effect (b = 0.83; $p < 0.001$; *CI* = 0.21–1.45) when SC consumption is high (+1 SD) than when it is low (b = 1.02; $p < 0.001$; *CI* = 0.29–1.75 at the level of 1 SD below the mean). Thus, the results suggest the existence of a *substitution effect* between HC and SC consumption. Model 6 (see Table 3) includes all offering and consumption variables and reaches qualitatively the same conclusions.

[INSERT TABLES 2 and 3, and FIGURE 1 HERE]

Next, we split the HC offering (Model 1 in Table 4) and consumption (Model 2 in Table 4) into two subcategories: *firm-specific* HC services and *general* HC services. Taken together (Model 3, Table 4), the results suggest that offering firm-specific HC services [b = 0.24 (0.09); $p < 0.01$] and consuming general HC services [b = 0.97 (0.45); $p < 0.05$] positively predict salary increases. The estimated coefficient of the variable offering general HC services is positive but only marginally significant [b = 1.00 (0.58); $p < 0.10$; see Table 4, Model 3]. In contrast, consuming firm-specific HC services is not related to salary increases.

[INSERT TABLE 4 HERE]

Fuzzy-Set Qualitative Comparative Analysis

Next, we analyze the text coming from the peer-based recommendations for salary increases. We were able to retrieve information on peer recommendations for one year: 2018[2]. Our data comprises 324 distinct peer recommendations for 110 different individuals, of which 49.09% (n = 54) ultimately received a salary increase. As mentioned, peers could recommend any employee they felt deserved a salary increase, and they had to provide a justification for why they felt that person deserved a pay increase. Thus, the peer recommendations consist of open-ended texts, and any employee could receive one or multiple recommendations from peers. The analysis of these text-based peer recommendations for salary increases can shed light on the value that peers placed on investments in development of human and social capital.

Our interest was to explore which combinations of employees' attributes and behaviors as described by peers were associated with receiving a salary increase. To do that, we conducted a fuzzy sets qualitative comparative analysis (fsQCA) similar to previous research that has used fsQCA to explore how configurations of factors relate to compensation (Greckhamer, 2016; Lewellyn & Muller-Kahle, 2022). We first inductively coded (Miles et al., 2019; Strauss & Corbin, 1998) the peer recommendations data to capture the various reasons employees mentioned in their recommendations for a peer to receive a salary increase. As these were open-ended texts that employees provided when voluntarily recommending a peer for a salary increase, inductive coding allowed us to identify valuable factors as described in employees' own words. One of the authors conducted the first round of inductive coding by looking for substantially different rationales that peers gave in their recommendation for the deservingness of a salary increase. The initial coding scheme was developed from this first round of coding. In the second

[2] SelfCo provided us the peer recommendations for salary raises from one year only.

round of coding, another author coded the full data set based on the coding scheme. The two authors then compared their codings with each other and discussed disagreements until an agreement was reached. The codes with their operational definitions are presented in Table 5 (for further detail, including sample quotations, see Table A2 in Appendix A).

In their justifications for salary increases, peers mentioned five qualitatively different reasons for why a person would deserve a salary increase: the human capital they possessed; that they were proactively helping or training others; they were helping to build an internal community; they were a good cultural fit; and/or they were underpaid. We also counted how many peers had recommended a salary increase to a specific employee, given that there was substantial variation (the 324 peer recommendations were given to 110 employees).

After coding our text data, we used fsQCA to analyze what configurations of characteristics that were mentioned in peer recommendations predicted receiving an actual salary increase (yes/no). Further details on the analytic approach for the fsQCA are presented in Appendix B. It is important to note that our sample is restricted to employees who received at least one peer recommendation for a salary increase, as opposed to also having peer rationales for why a person would *not* deserve a salary increase[3].

[INSERT TABLE 5 HERE]

Findings from the Fuzzy-Set Qualitative Comparative Analysis

The results of the fsQCA are presented in Table 6. Black circles represent the presence of a characteristic in each configuration, circles with an X represent the absence of a characteristic

[3] We can only assess which combination(s) of characteristics are sufficient for receiving a salary increase as opposed to also assessing which characteristics are related to *not* receiving a salary increase (absence of a salary increase), since for that analysis, we would have needed to include employees who did not receive any peer recommendation. This data was not available for this analysis.

in each configuration, and a blank space indicates that the presence or absence of that characteristic does not influence the outcome. Large circles represent a *core condition* or conditions that are "decisive causal ingredients" (Misangyi et al., 2017, p. 276); small circles represent *periphery conditions* or conditions with weaker evidence for a causal relationship with the outcome (Fiss, 2011), within each configuration. The raw coverage shows the proportion of cases covered by multiple configurations, and the unique coverage shows the proportion of cases covered by that specific configuration; these two scores thus indicate the extent of overlapping and separated configurations (Greckhamer et al., 2018). The overall solution consistency of 0.97 and coverage of 0.30 indicate that this solution predicts salary increases 97% of the time and accounts for 30% of the instances of salary increases. Two different configurations of characteristics mentioned by peers were found to predict the outcome of interest: a salary increase. The unique coverage of each was 0.15, suggesting they were equally important in predicting salary increases.

[INSERT TABLE 6 HERE]

The first configuration shows that being described as having human capital and being underpaid but *not* as contributing to developing an internal community were core conditions (definitive elements of the configuration) that contributed to receiving a salary increase, while proactively helping or training others and receiving a high number of peer recommendations were periphery conditions (i.e., also sometimes present). Based on these core and periphery conditions, we refer to the employees who received a pay raise in this configuration as *experts* at SelfCo. The second configuration shows that the combination of being described as building an internal community and being a good cultural fit were core conditions that contributed to receiving a salary increase, while proactively helping or training others, being described as underpaid, and

receiving a high number of peer recommendations were periphery conditions. We call employees represented by this configuration *social capital creators.*

The findings from the fsQCA complement our results from the regression analyses. First, the finding that peers did indeed value when others became experts provides support for the result from the regression analyses showing that salary increases were predicted by human capital consumption in the platform. In addition, the finding that contributing to building the community (social capital) was also highly valued by peers resonates with the regression result that offering social capital services had a positive impact on salary increases. Finally, although employees did not speak in terms of firm-specific or general human capital, they seemed to be aware that some skills could have a high market value and thus highlighted the deservingness of a higher pay (someone being "underpaid"). This result resonates with our finding from the regression analysis that consumption of general human capital led to salary increases as general human capital might have higher market value. Finally, the results also shed light on the importance of "being a cultural fit" for getting salary increases in the organization we studied.

Interviews

We also conducted ten interviews with individuals in SelfCo, including six interviews with employees and four interviews with the leadership of the company (e.g., unit managers and the founder of the company) to gain a deeper understanding of the mechanisms linking participation in human and social capital development activities to salary increases. These interviews enabled us to interpret our findings from the records-based quantitative analysis and the fsQCA.

Each interview, lasting from 30 to 60 minutes, focused on understanding why employees and leaders thought that offering or consuming development services was of value to them and

the organization. The interviews were conducted via an online meeting tool, recorded with each informant's consent, and transcribed in verbatim. We analyzed the qualitative interview data using inductive analysis practices (Miles et al., 2019; Strauss & Corbin, 1998).

Findings from the Interviews

The upcoming sections summarize the findings related to the value individuals attributed to engaging in human capital development activities, followed by the value they attributed to engaging in social capital development activities.

Value attributed to human capital development

Our interview data revealed that employees may have a mix of intrinsic and extrinsic motivations to offer human capital development services. Not all the motivation to participate in giving was driven by extrinsic rewards; rather, employees did it because they were also motivated by the intrinsic satisfaction gained from sharing their expertise with others. As put by one employee: "*They are 'the givers,' meaning their motivation or orientation within the organization is somehow related to sharing their expertise*." Another developer at SelfCo described this by saying:

> *We have people who are very interested in something specific, like technology or design methodology or something, and they are passionate about it, and they want to share that knowledge. So, there's a bit of a "prophet-like" attitude in that they find the knowledge so important and fascinating that they want others to understand it, too.*

In addition, employees believed that offering human capital development services increased their visibility and reputation as experts in front of their colleagues and the entire organization. This visibility was perceived to ultimately lead to salary increases. For example, a SelfCo developer described this by saying:

> *My motivation to offer skill development services is that I'm really good at something and I'm very interested in it, I have extensive knowledge about [a*

> *specific technology] and I want to share that knowledge through a study circle or mentoring. […] I've been getting quite a few salary increase recommendations, and even got a salary increase. My skills are becoming visible to people.*

Managers also supported the idea that developing others' human capital would ultimately lead to salary increases. Managers further stressed that sharing expertise with others was expected as a means of developing relevant human capital in the company. Conversely, highly skilled employees who did *not* share their expertise were described as falling behind in their career development at SelfCo. As one manager put it:

> *The fact is, it's always about teamwork and that we have people with different levels of seniority, so if you are not willing or able to share your knowledge, then you fall behind. Even if you were the best, if there's an average programmer who is willing and able to share that knowledge, then they ultimately become more valuable to our organization because enabling someone else's success is essentially our goal.*

Value attributed to social capital development

The interviews revealed that the value attributed to offering social capital services was related to creating a sense of community and fostering employee well-being, which was believed to increase the capacity of their peers to do better in their jobs in the long term. From an individual perspective, social capital services were offered as a means to build their network in the organization. An employee highlighted the role of these activities in fostering connections:

> *There are a lot of hobby-based services that are community-oriented. For example, here in [a SelfCo city office], there is a top triathlete, who has offered swimming lessons. And we have had someone advising us on how to prepare for hiking. So, offering that service combines liking to do that activity and finding people in our social network who are interested in similar things and building community.*

Senior leaders at SelfCo acknowledged the time and effort required in building community, such that the value of building social capital was considered equally important to the

expertise in projects, a finding that resonates with the two configurations we found in the fsQCA analysis. As one of the managers explained in our interviews:

> *Someone might take a larger role in the client field, but then maybe they have a smaller role in the SelfCo community, but someone else might take a larger role in generating a sense of community and boosting well-being, so others can keep up with the client projects. That is valuable, too.*

This equal value attributed by the managers to human and social capital was also perceived by the employees, as a SelfCo employee explained: "*I have noticed that salary increase recommendations are largely based on the recognition that the individual is very important to the community or that they actively share their expertise."*

Another manager explained how in their considerations of deservingness of a salary increase, in addition to in-role performance and the value they create with customers, they take contribution to the community into account:

> *In my opinion, the key aspects are, well, first of all, of course, how one performs in the job they do. Then another criterion may be whether one generates some additional value for the customer beyond their own role. And then the third thing is the value generated for SelfCo culture. Creating a sense of community and well-being for everyone helps us succeed in the customer projects*.

DISCUSSION

Employee-driven development models are on the rise and represent an important departure from the traditional development model that characterized most organizations in the past century. The present mixed-methods study on the case of SelfCo explored how employees investing in their own development and that of their peers was related to salary increases, thus shedding light on individual returns that can be accrued from offering or consuming services related to proactively developing human and social capital. Our text-based analyses and qualitative interviews also revealed how managers and employees of SelfCo interpreted the value of these different investments, which highlighted alternative potential paths through which

employees could generate and subsequently capture value. SelfCo encouraged employees to find developmental paths along which they could offer something of value, and that value could be targeted toward developing human capital or social capital.

Theoretical Contributions

The present research contributes to the literature on human capital theory by exploring the individual level returns associated with investments in an employee-driven development model, where decisions regarding what development to pursue and what learning contents to offer to one's peers are delegated to lower-level employees. First, we found that employees received higher salary increases when they invested in developing their own general human capital rather than firm-specific human capital. This is in line with the traditional human capital model, which explains that employers allocate larger rents to employees who have developed capital that can be transferred to other employers to retain these employees (Becker, 1962; Campbell et al., 2012). The same logic seems to apply when decisions regarding the type of human capital to invest in are made by employees.

Second, our findings that employees accrue returns from investing in developing their peers extend the human capital literature by shedding light on how delegating development to employees may have impacted value creation and capture by employees performing a role that used to reside in the hands of managers and the human resources function of the organization. Current theorization of human capital development is based on the traditional development model in which employees are the receivers of training and employers decide what training contents to deliver (Bell et al., 2017; Dachner et al., 2021; DeRouin et al., 2004; Noe et al., 2014). However, the growing use of employee-driven development practices challenges this assumption by fostering peer-to-peer development.

While the human capital literature posits that individuals typically accrue larger returns from investing in their own general human capital rather than in their own firm-specific human capital (Becker, 1962), when investing in the development of their peers, we found that employees accrued returns from developing not only general but also firm-specific human capital. Thus, by examining employees as creators of learning content, we identified a novel path through which employees can accrue returns from firm-specific human capital investments: Employees with valued firm-specific human capital could capitalize on their knowledge and skills to develop their peers in these areas, and this valued behavior resulted in salary increases for the employees offering these developmental opportunities. This suggests that employees who create valuable capital for their organization likewise capture part of the value they are generating by developing their peers.

Our findings also contribute to the careers literature by extending the scarce knowledge regarding how social and human capital development interact as career management strategies (Ng & Feldman, 2010). We found evidence of a complementary effect between human and social capital on the offering side: It seems that the value of each offering increased with the presence of the other. We can only speculate why this happens, but it might have been that those who offered social capital services became more central in the community and therefore managed to attract more people to their offering of human capital services. When we presented this finding to a senior leader of the company, their interpretation was that offering social capital services might have been perceived by managers as a signal that these employees were good with clients (have social skills), which could end up leading individuals to work in more important projects in which their valuable human capital could be fully capitalized.

In contrast, on the consumption side, we found evidence of a substitution effect between the consumption of human and social capital services, perhaps because engaging in many social capital activities came at the cost of not fully capitalizing on the human capital in projects that could take more time. This is a potential explanation that we cannot test with our data but that could receive future research consideration.

Practical Implications

The present research provides information regarding the implications that participating in employee-driven development models has for individuals' career advancement as well as for their employers. The introduction of employee-driven development models has been motivated with the ultimate goal of remaining competitive in today's landscape of faster disruption rates and obsolescence of skills (Cappelli & Keller, 2013; Lee & Edmondson, 2017; Lemmetty & Collin, 2020; London & Smither, 1999). Yet, an important concern for companies that introduce this model is how to motivate employees to invest in developing their peers. We found that, at SelfCo, individuals accrued meaningful returns from their investments in developing others, even in the absence of formalized incentive systems. This suggests that the way individuals "get ahead" in these new employee-driven models may require them to engage in different development activities.

When organizations are decentralizing their management functions out of a desire to build dynamic capabilities for sustained innovation, they may consider combining different forms of distributed authority and self-management mechanisms that best fit their strategy, culture, and other human resource management practices (Felin & Powell, 2016). Previous research on self-managed organizations has likewise affirmed that distributed authority and self-selection mechanisms need to be carefully crafted and managed to fit with the culture of the organization

(Lee & Edmondson, 2017). SelfCo carefully implemented their decentralized development practices to be mutually reinforcing and to support the company strategy and guiding principles. In particular, employee development in SelfCo was largely decentralized, different pathways for horizontal career development were supported, and there was a high degree of pay transparency. These various features in combination also made it possible for managers to use peer recommendations and related justifications for salary increases to have more comprehensive information about what kinds of skills and activities were valued at the grass roots of the organization and why.

Limitations and Suggestions for Future Research

The present research also bears certain limitations, which present valuable opportunities for future research. We were able to triangulate our findings across multiple sources of data, offering a fuller picture of the returns to participating in employee-driven development in the case organization. The three different types of data offer a more complete picture of employee returns and what different configurations of activities and qualities were valued in the case organization and why. However, our exploratory mixed-methods case study was based on a single medium-sized organization in the ICT sector. Further studies should examine the employee returns from employee-driven development in other contexts. In particular, examining individual returns in other cases such as larger companies, in different industries/geographies, or using more formalized incentive mechanisms for participation in employee-driven development models would provide important insights into the generalizability of these findings.

Participation in the platform is not exogenously driven as individuals self-selected into it; therefore, we cannot claim causality in our regression analyses. Our specification using individual fixed effects helped to account for potential time invariant differences across

individuals, such as differences in quality or the stock of human capital of individuals until the beginning of the period of our data. Yet unobserved time-variant characteristics of the individuals (such as other kinds of changes in their capabilities or motivation) could still be driving participation in the platform and salary increases. Furthermore, we did not have access to any measure of individual performance or of the potential differences in individual skill levels, which limited our ability to explore heterogeneous effects across individuals. Future research with access to such data could develop a more nuanced understanding of how returns from investing in employee-driven development may vary by important individual characteristics.

CONCLUSION

Employee-driven learning is becoming more prevalent across organizations, especially as technology makes it more feasible than ever before to allow employees to create learning contents and engage in peer-to-peer development. This phenomenon stretches beyond current conceptualizations of employee development models because learning content providers are no longer the human resources managers or other managers in the organization, and employees can choose to invest in different kinds of human or social capital. The present research sheds light on how individuals accrue returns from investing in developing themselves or their peers. We hope our study will spur further research on this phenomenon.

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TABLES AND FIGURES

Table 1. T-tests comparing characteristics of employees depending on their participation in the platform

	Employees who offered services	Employees who *did not* offer services	t-test result	Employees who consumed services	Employees who *did not* consume services	t-test result	Employees who participated in the platform	Employees who *did not* participate in the platform	t-test result
Pay level [a] *(mean centered)*	273.12	-10.53	t(429)= -1.84^{+}	90.94	-17.04	t(429)= -1.35	113.96	-24.01	t(429)= -1.80^{+}
Project billing rate [a] *(mean centered)*	10.16	-0.32	t(419)=-3.41***	-0.12	0.02	t(419)= 0.10	1.08	-0.22	t(419)= -0.91
Tenure	> 3 years (25.00%), < 3 years (75.00%)	> 3 years (32.53%), < 3 years (67.47%)	t(429)=-0.63	> 3 years (41.18%), < 3 years (58.82%)	> 3 years (30.58%), < 3 years (69.42%)	t(429)=1.72^{+}	> 3 years (41.33%), < 3 years (58.67%)	> 3 years (30.34%), < 3 years (69.66%)	t(429)= 1.85^{+}
Age *(percent per category)*	>30 (6.25%), 30-39 (0%), 40-49 (37.50%), 50+ (56.25%)	>30 (7.23%), 30-39 (6.51%), 40-49 (50.60%), 50+ (35.66%)	t(429)= -1.37	>30 (10.29%), 30-39 (4.41%), 40-49 (42.65%), 50+ (42.65%)	>30 (6.61%), 30-39 (6.61%), 40-49 (51.52%), 50+ (35.26%)	t(429)= -1.79^{+}	>30 (10.67%), 30-39 (4.00%), 40-49 (44.00%), 50+ (41.33%)	>30 (6.46%), 30-39 (6.74%), 40-49 (51.40%), 50+ (35.39%)	t(429)= -1.88^{+}

Statistical significance reported for t-tests: *** *p<0.001,* ** *p<0.01,* * *p<0.05,* $^{+}$ *p<0.10.*

[a] The pay level and billing rate information is mean centered at the request of the company

Table 2. Descriptive statistics and correlations

Variables	Obs.	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Salary increase (log)	431	2.21	2.37	1.00									
(2) Billing rate (t-1)	431	#	11.41	-0.14*	1.00								
(3) Offering human capital services (t-1)	431	0.13	1.22	0.02	0.08	1.00							
(4) Offering social capital services (t-1)	431	0.09	0.69	-0.02	0.11*	0.10*	1.00						
(5) Consuming human capital services (t-1)	431	0.30	0.84	0.12*	0.04	0.05	0.15*	1.00					
(6) Consuming social capital services (t-1)	431	0.16	0.58	0.04	-0.01	-0.01	-0.02	0.43*	1.00				
(7) Offering firm-specific human capital services (t-1)	431	0.07	0.94	0.01	0.07	0.77*	0.10*	0.04	-0.02	1.00			
(8) Offering general human capital services (t-1)	431	0.06	0.78	0.03	0.04	0.64*	0.04	0.03	0.01	0.00	1.00		
(9) Consuming firm-specific human capital services (t-1)	431	0.10	0.39	0.05	-0.02	0.08	-0.03	0.70*	0.26*	0.10*	0.02	1.00	
(10) Consuming general human capital services (t-1)	431	0.20	0.63	0.13*	0.06	0.01	0.22*	0.90*	0.41*	-0.01	0.03	0.30*	1.00

* shows significance at the 0.05 level.
# Omitted by the request of SelfCo

Table 3. Panel regression results (OLS) predicting salary increase with offering and consuming services on the platform

	Salary increase (log)					
VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Billing rate (t-1)	0.04	0.04	0.04	0.04	0.04	0.04
	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Tenure (t-1)	3.72***	3.61***	3.63***	3.60***	3.53***	3.51***
	(0.42)	(0.43)	(0.43)	(0.41)	(0.42)	(0.43)
Offering human capital services (t-1)		0.33**	0.30**			0.21*
		(0.12)	(0.11)			(0.10)
Offering social capital services (t-1)		0.41*	0.35+			0.12
		(0.20)	(0.19)			(0.24)
Offering human X social capital services (t-1)			3.42***			3.36***
			(0.21)			(0.62)
Consuming human capital services (t-1)				0.78**	1.07**	1.02**
				(0.27)	(0.36)	(0.37)
Consuming social capital services (t-1)				-0.01	0.58	0.64
				(0.46)	(0.56)	(0.56)
Consuming human X social capital services (t-1)					-0.33*	-0.33*
					(0.15)	(0.16)
Individual FEs	YES	YES	YES	YES	YES	YES
Observations	431	431	431	431	431	431
Number of employees	246	246	246	246	246	246
R-squared (within)	0.11	0.12	0.12	0.16	0.17	0.18
R-squared (between)	0.07	0.07	0.02	0.06	0.07	0.02

Robust standard errors in parentheses, *** $p < 0.001$, ** $p<0.01$, * $p < 0.05$, + $p < 0.10$

Table 4. Panel regression results (OLS) with human capital services split into general and firm-specific human capital

	Salary increase (log)		
VARIABLES	Model 1	Model 2	Model 3
Billing rate (t-1)	0.04	0.04	0.03
	(0.04)	(0.03)	(0.03)
Tenure (t-1)	3.61***	3.55***	3.55***
	(0.43)	(0.41)	(0.42)
Offering *firm-specific* human capital services (t-1)	0.26**		0.24**
	(0.09)		(0.09)
Offering *general* human capital services (t-1)	1.05+		1.00+
	(0.57)		(0.58)
Offering social capital services (t-1)	0.40*		0.02
	(0.19)		(0.31)
Consuming *firm-specific* human capital services (t-1)		0.40	0.35
		(0.43)	(0.48)
Consuming *general* human capital services (t-1)		0.97*	0.97*
		(0.38)	(0.45)
Consuming social capital services (t-1)		-0.03	-0.03
		(0.48)	(0.49)
Individual FEs	YES	YES	YES
Observations	431	431	431
Number of employees	246	246	246
R-squared (within)	0.12	0.16	0.16
R-squared (between)	0.05	0.06	0.04

Robust standard errors in parentheses, *** $p<0.001$, ** $p<0.01$, * $p<0.05$, + $p<0.10$

Table 5. Description of conditions from peer-based recommendations in fsQCA on salary increases (N=110)

Characteristics (conditions)	Operational definition	Mean	Standard deviation
Salary increase	Indication of whether target employee of peer recommendations received salary increase, based on decision of unit leader	0.48	0.50
Human capital	Described as having skills, experience, doing work well, creating value for customers, and/or innovating/selling more to customers	0.42	0.49
Proactively helping or training others	Described as going beyond one's immediate work role, helping others to make the project succeed, and/or providing training/mentoring that adds to peers' skills and knowledge	0.82	0.39
Building the internal community	Described as building the internal community (prosocial organizational behavior, improving the work climate)	0.26	0.44
Cultural fit	Described as being a good cultural fit (nice person, represents company values)	0.34	0.47
Underpaid	Described as someone worth keeping (via higher salary) and/or having a salary that is too low/unfair in relation to colleagues	0.41	0.49
Number of people recommending	Absolute count of number of peer recommendations each employee received	0.41	0.33

Table 6. Results of fsQCA on peer recommendations for salary increases

Characteristics (conditions)	Expert	Social capital creator
Human capital	●	
Proactively helping or training others	•	•
Building the internal community	⊗	●
Cultural fit		●
Underpaid	●	•
High number of peer recommendations	•	•
Consistency	0.94	1
Raw coverage	0.15	0.15
Unique coverage	0.15	0.15
Cases	4-48 (0.99), 4-36 (0.97), 2-10 (0.95), 4-7 (0.89), 4-37 (0.78), 4-8 (0.78), 4-18 (0.61), 4-6 (0.61)	4-12 (0.99), 4-43 (0.95), 4-26 (0.89), 4-14 (0.85), 4-29 (0.85), 4-16 (0.78), 4-17 (0.78), 4-41 (0.78)
Overall solution consistency	0.97	
Overall solution coverage	0.30	

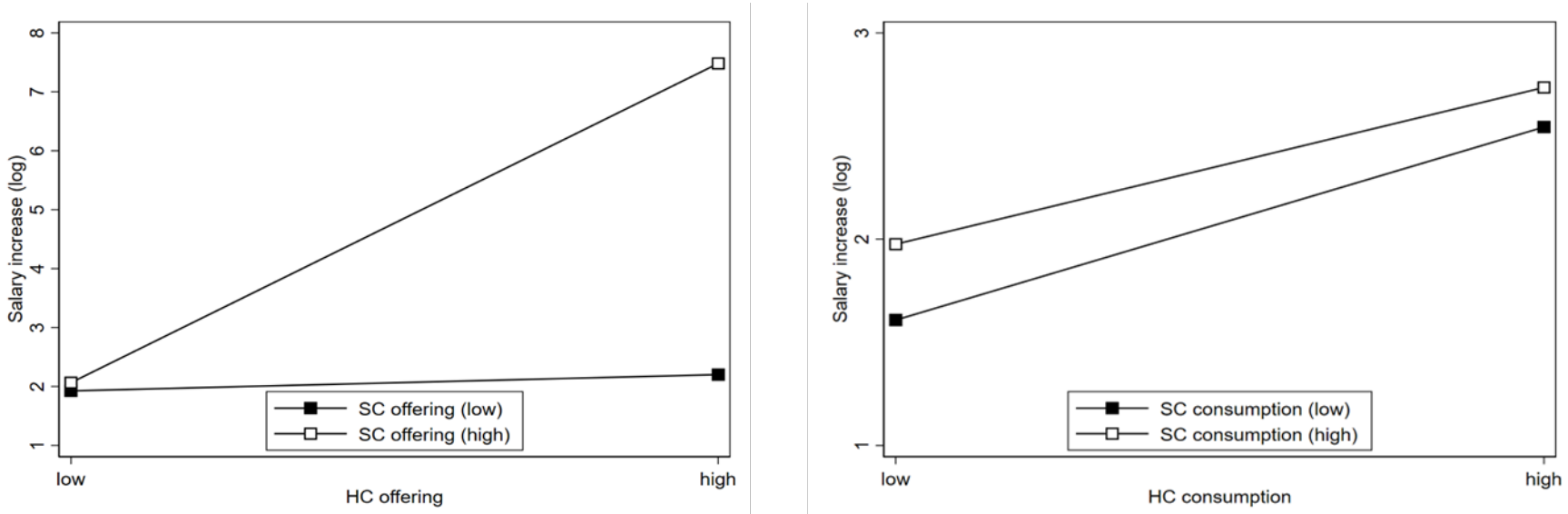

Figure 1. Interactions between human capital (HC) and social capital (SC) service offering, and human capital (HC) and social capital (SC) service consumption (plotted at +1SD and -SD the mean)

APPENDIX A

Table A1: Examples of services in each category on the self-directed learning platform at SelfCo*

Examples of firm-specific human capital service services	Service descriptions on the platform
"*Vision Discussion"*	Group discussion where we aim to collectively concretize our vision. We will discuss global, community, and individual fears, as well as their impact on our business, work life, and individuals' lives. Finally, we will reflect on how we can together help our clients and each other towards a world where tomorrow is not frightening.
"*Success Discussion"*	Would you like to have a success discussion? In the SelfCo way, of course. Let's talk about how things have been going, what wishes and thoughts you have. Book a session here, so we can sit down and talk things through.
"*Know Your Customers"*	Do you need to reach out to a new customer with very little background information about them? Or do you already know your customer but want to get to know them even better? Learn to leverage the available customer information more effectively, succeed in collaboration, and engage the customer more deeply. Understand the customer's business, pain points, and challenges. This is especially useful when you want to generate new leads for a customer or when you are starting to work with a new customer."
"SelfCo Business Insights"	Would you like to learn more about SelfCo's business, for example billing or the development of customer relationships? Let's dive together into SelfCo's sales data and discover brilliant insights.
"Lunch with the leaders"	Let's increase mutual understanding at the lunch with the leaders. Are you interested in the latest trends, SelfCo strategy, industry, and market outlooks, or financial figures? Do you need to know more about SelfCo, its services, business segments, or projects? Let's discuss topics of your professional interests. You are invited to pose questions, familiarize yourself with our operations, or

present challenges to our leadership team. Whatever your preference, we are at your service.

Examples of generic human capital service services	Service descriptions on the platform
"Study circle on [a specific technology]"	Dive into this digitally delivered training, tailored for self-paced learning. Eager for a more collaborative experience? Send your request, and we'll facilitate the creation of a learning group, that kicks off by independently exploring the introductory sections, then come together to tackle the more complex segments, benefiting from peer support and trainer guidance when needed. This collaborative environment also fosters lively discussions, addressing queries and insights that arise during individual study. This blend of self-guided and group learning ensures a comprehensive understanding of [the specific technology], tailored to various learning styles and schedules.
"*Workshop Facilitation*"	Would you like to learn how to facilitate a high-quality workshop or organize one for your project? Perhaps on design, a more technical topic, or something similar? Get help here!"
"*Overcome Stage Fright*"	Are you nervous about public speaking, or does anxiety and fear paralyze you when you need to be at your best? Would you rather enjoy public speaking and find your full potential in challenging situations? How can you transform fear and nervousness into a resource? How do you achieve peak performance? This training is conducted as group coaching by coaches when enough people have expressed interest. If you want personal coaching, that's also possible. Please mention it specifically in connection with this request.
"*Boost to Leadership*"	Interested in project management? Looking for mentoring in leadership-related issues? Whether you're focused on solving a specific problem or aiming for long-term development of your leadership skills, place an order for this service!

"*Becoming an Effective Communicator*"	How should a message be formulated? What constitutes enriching and solution-focused interaction? How does body language affect communication? Interpersonal skills are at the forefront in today's working life. Each of us is constantly communicating with colleagues and clients alike. Come and discover how you can become an even better communicator.
Examples of social capital services	Service descriptions on the platform
"*Team Orienteering*"	Are you often feeling lost and disoriented? Is it time to learn the basics of orienteering [navigation with a map]? Let us know if you're interested in an orienteering course! Once a sufficient number of people have signed up, the coach will gather the group and arrange suitable times for training sessions.
"*Family Day*"	SelfCo's family days offer fun activities for the whole family! These family days are held in [city A] about every six months. Suggest activities for the next family day, or inform your people if you want to organize a family day in [city B] or [city C]. Let's organize an event for all interested parties.
"*Fitness Campaign*"	We organize fitness campaigns inspired by staff ideas, such as the Biggest Loser. Do you have an idea for a new challenge? Propose your idea for a fitness campaign, and let's come up with incentives to motivate the team.
"*Help in Crisis*"	Life sometimes presents situations where your own resources just aren't enough. Through this service, you can seek support in acute situations. This service is provided by your own People team. Let's plan together what can be done immediately to alleviate the situation. (These requests are prioritized first on the service request list.)

*The service descriptions are translated from Finnish to English.

Table A2. Description of categories of peer-based recommendations used in fsQCA

Characteristics (conditions)	Operational definition	Illustrative quotations
Human capital	Described as having excellent skills, expertise, doing work well, creating value for customers	"Has been doing high-quality work that has garnered client praise on-site for two years already." "NN's expertise is at a diamond-hard level. The code is extremely high quality, and NN tirelessly pushes it in an ever-better direction"
Proactively helping or training others	Described as going beyond one's immediate work role, helping others to make the project succeed, and/or providing training/mentoring that adds to peers' skills and knowledge	"Always ready to help me or others with [technology] issues until a solution is found. Clearly cares not just about own project but also about the work of others." "The attitude, courage and skills meet in a rare way. Amazingly good understanding of how things work together. Takes on even the unpopular tasks in a commendable way. A definite 'Giver'." "NN has been my technical mentor throughout my SelfCo career." "Supports developing SelfCo operations by providing training"
Building the internal community	Described as building the internal community (prosocial organizational behavior, improving the work climate)	"NN does a lot of work for the comfort of others. An extremely important person in creating a sense of community." "NN improves the atmosphere of the office by bringing in an office dog, acro yoga and other therapy tools.

		Always ready to support and listen."
Cultural fit	Described as being a good cultural fit (nice person, represents company values)	"NN embodies the qualities that I feel are characteristic of SelfCo. A skilled and energetic person who takes responsibility, cares for others, and shares expertise." “Friendly and approachable and helps when asked. Eager to learn new technologies.”
Underpaid	Described as someone worth keeping (via higher salary) and/or having a salary that is too low/unfair in relation to colleagues	"The salary is not sufficient compared to the expertise and quality of work." “Skilled guy, in my opinion, the current salary does not match the skill level.” “It would probably be a good idea to raise NN’s salary to match that of the other team members. NN will likely leave in search of better pay. I assume NN could quickly find another job elsewhere, and NN’s departure would be a loss for SelfCo in many ways.”

*The peer recommendation quotes are translated from Finnish to English.

APPENDIX B

FsQCA is an increasing popular analytical approach in organization research because it allows researchers to robustly assess complex configurational relationships between explanatory conditions and an outcome (Wilhelm et al., 2020). Using Boolean logic, fsQCA identifies commonalities and differences across cases with the same outcome.

Two key strengths of fsQCA are the capacity to analyze cases where combinations of conditions, rather than the presence of a single one, affect the outcome, and the potential for equifinality (i.e., achieving the same outcome via different paths) to be present. These are important considerations to analyze peer-based salary recommendations, because any employee could freely mention any criteria. Moreover, as there was not a clear formula determined by the company regarding what would drive salary increases, the potential range of value-contributing behaviors that are deemed worth acknowledging via salary raises could be broad (i.e., rather than salary raises being solely tied to job performance, SelfCo might also give salary raises to recognize different kinds of organizational behaviors, such as helping or training others). This suggests the potential for equifinality of different factors for actual salary raises. FsQCA was thus pursued to understand which combinations of characteristics (or conditions) led to salary raises.

FsQCA necessitates calibration of all measures to depict substantial differences in kind and degree among cases (Greckhamer et al., 2018). For the qualitatively described characteristics, set membership was assigned a value of 1 if that characteristic was present in the peer recommendation for a given employee (i.e., case). The quantitative number of peer recommendations was calibrated such that the threshold for full membership was set to 9 (the 0.95 percentile), the crossover point was set to 2 (the 0.50 percentile, to capture those who

received a relatively high number of peer recommendations), and the threshold for nonmembership was set to 1 (the 0.05 percentile) (Ragin, 2008). We set the minimum raw consistency value to 0.80 and a minimum frequency of 2 cases per configuration (Ragin, 2008), such that cases above these cutoffs were coded as leading to the outcome. The outcome was set to a value of 1 if the employee received a pay raise within a year. FsQCA creates three types of solutions, and we report the complex solution as this is the most conservative approach because it uses only empirically occurring situations (Wilhelm et al., 2020).

Chapter 2: Criminals hack to attack, but hackers hack to protect: Exploring the narrative process of managing misattributed fear-based stigmatization

ABSTRACT

This research analyzes the implications of fear-based stigma stemming from audiences' misunderstanding of an occupation, blending targets' identities and practices and exacerbating the negative impacts of stigmatization. Managing misattributed fear-based stigma is explored in the context of the hacking occupation, in which fear of cyberattacks leads to stigmatization of hackers as criminals. Through a grounded theory analysis of 20 interviews with hackers and platform leaders and an analysis of public narratives (332 news stories from occupational outsiders and 77 websites from occupational insiders), this research constructs a process model explaining individuals' narrative tactics for managing misattributed fear-based stigma. Three sub-processes inductively emerged: selectively using or avoiding the stigmatized word, distinguishing between one's identities and practices, and leveraging fear to highlight the positive value of one's particular application of these practices. This study contributes to the stigma literature by demonstrating how individuals can manage fear-based stigma by shifting focus from stigmatized identities to specific practices, offering a new perspective on stigma management to not only help individuals survive with the negative impacts of stigmatization but to also thrive by conveying the positive value of their particular identities and practices.

Keywords: Stigma, identities, practices, occuaptional community, hackers, narrative process model

INTRODUCTION

Stigmas are socially constructed attributes that discredit the targets of stigmatization as flawed or tainted (Goffman, 1963) which can result in stigmatizing an occupation and its incumbents (Zhang et al., 2021). Stigmatization is an inherently emotional process (Kvåle & Murdoch, 2022; Zhang et al., 2021) with moral overtones (Ashforth, 2019) that can invoke strong emotions, such as fear. When audiences feel threatened that a target can cause intentional or malicious harm (Helms & Patterson, 2014) or disrupt a broader moral code (Hampel & Tracey, 2017), stigmatization is likely to ensue.

However, fear-based stigmatization can stem from an occupation's misunderstood practices. Stigma research has distinguished between stigma that is attributed to the target's core attributes or identity (Hudson, 2008; Hudson & Okhuysen, 2009) and stigma that is attributed to discrete events or morally dubious practices such as corporate fraud or scandals (Clark & Li, 2023). As experiencing fear triggers appraisals regarding one's own well-being (Vuori & Huy, 2016), audiences may react with stigmatizing the moral identity of the target without separating whether their fear stems from the target's core attributes or specific practices. Exploring the implications of stigmatization that results from an occupation's misunderstood practices is important because this stigmatization can result in stigmatizing both the identities and practices of occupational incumbents, exacerbating the negative impacts of stigmatization.

Fear-based stigmatization that blends targets' identities and practices bears significant implications for how stigmatized individuals can effectively manage the stigma. While previous research has offered suggestive evidence that identity-based and practice-based stigmatization are linked (Hampel & Tracey, 2017; Helms & Patterson, 2014), it is important to systematically examine how identity-based and practice-based stigmatization are related

because identities and practices are mutually reinforcing. Thus, the research question guiding this study is: *How do individuals manage misattributed fear-based stigmatization?*

An ideal setting to explore how individuals manage misattributed fear-based stigmatization is the hacking occupation. This context offers a unique opportunity to study fear-based stigmatization, because the hacking occupation is stigmatized from others' fear over the potential of being attacked online. However, this fear is misattributed to hackers' core identities: Individuals tend to assume that hackers are malicious actors, yet hackers use the same practices as criminals (i.e., hacking) to protect against potential cybersecurity attacks. "Hacker" is thus a highly stigmatized word due to the fear it often incites. Therefore, I applied grounded theory methods (Charmaz, 2006) and developed a process model (Langley, 1999) to explain how individuals and organizations constructed narratives to manage fear-based occupational stigmatization. The data comprised individually conveyed narratives from 20 interviews with hackers, platform leaders, and employees, and publicly conveyed narratives from 332 top news stories about hackers (i.e., narratives from occupational outsiders), and 77 websites related to hacking (i.e., narratives from occupational insiders).

The present findings contribute to the stigma literature by inductively developing a process model of narrative tactics for managing misattributed fear-based stigmatization. Public narratives can perpetuate stigmatization by incorrectly using the stigmatized word and mixing the practices and identities of occupational incumbents. Individuals may then decide whether they prefer to avoid inciting fear and potential stigmatization by not using the stigmatized word, or they might choose to use the stigmatized word and thus address stigmatization. The first step in addressing stigmatization involves clearly distinguishing one's identities and practices to dispel fear targeting the individual's identity and instead

situate fear on specific applications of the occupation's practices. This distinction between practices and identities then allows individuals to place audiences' fear on the practices that can cause real-world problems, after which individuals can convey the positive value of their identities by presenting themselves as a solution to these fear-inducing problems.

This research demonstrates the importance of teasing apart stigmatization processes related to identity-based (core) and practice-based (event) stigma. While previous research has considered how emotions such as shame, anger, and disgust impact stigmatization (Kvåle & Murdoch, 2022; Ritvala et al., 2021), focusing on fear highlighted that audiences' fears were well-placed but misattributed to targets' identities as opposed to a particular application of their practices. Moreover, rather than aiming to remove stigma (Aranda et al., 2023; Hampel & Tracey, 2017; Siltaoja et al., 2020), the present research highlights that this fear-based stigma was coopted (Helms & Patterson, 2014) to persuade others of the need for the stigmatized workers, thus contributing to burgeoning research on how stigma can be embraced to facilitate positive outcomes (Cha & Roberts, 2019; Cowden et al., 2022; Helms & Patterson, 2014; Kreiner et al., 2022). Most importantly, this research illustrates how fear-based stigma can be managed not by simply accepting or avoiding stigma but rather by acknowledging the sources of others' fear and shifting the stigma from the occupational core (i.e., removing stigma from identities) to the occupational practices (i.e., stigmatizing fear-inducing events). This is a hitherto unstudied destigmatization process, as it implies using the fear-based stigma to convey the positive social value of the stigmatized occupation. This extends the scholarly conversation about stigmatization by highlighting the value of analyzing identity-based and practice-based narratives and how individuals and organizations can embrace fear-based stigma to support their occupational community.

CONCEPTUAL BACKGROUND

Stigma refers to "individual attributes that are viewed as personal flaws within a social context" (Ragins, 2008, p. 196), stemming from the seminal work of Goffman who described stigma as "an attribute that is deeply discrediting" that reduces a person "from a whole and usual person to a tainted, discounted one" (Goffman, 1963, p. 3). Stigma is not an inherent feature of a particular identity or practice, but rather the process of stigmatization, or attributing stigma to a social group, is socially constructed by observers: Observers may categorize someone as part of a deviant social group and thus attribute negative stereotypes from that category (Kreiner et al., 2022). Moreover, stigmatizing others is inherently an act of moralizing (Ashforth, 2019), as it involves passing judgement on others (Hampel & Tracey, 2019), and it is an emotional process (Kvåle & Murdoch, 2022; Zhang et al., 2021) that often invokes strong emotions, such as disgust and fear. The emotion of fear is closely related to stigmatization, because audiences may fear that interacting with the stigmatized target will lead to the stigma transferring to them (Hudson & Okhuysen, 2009; Khessina et al., 2021), or audiences may fear that the targets can disrupt a broader moral code (Hampel & Tracey, 2017; Ritvala et al., 2021) or cause intentional or malicious harm (Helms & Patterson, 2014).

Fears of social or personal harm may lead to perceiving the individuals conducting these practices as morally apprehensible, resulting in stigmatization of both the practices and the identities of those individuals. On the one hand, core stigmatization of a social group's identities or central attributes can occur when audiences perceive an organization or set of organizations as "incompatible with ordinary standards of organizational accounts… This leads to a belief that the organization is somehow suspect, untrustworthy, damaged, or otherwise 'less than' what acceptable organizations should be" (Hudson, 2008, p. 254). On the other hand, event stigmatization occurs when a salient event, such as scandals or disruptive practices, spur unconscious and spontaneous moral judgements of the event, which

then leads to seeking understanding of the cause of the event and attributing blame; the more the negative outcomes are perceived as intentional and controllable by the target, the greater the attribution of blame and subsequent stigmatization (Clark & Li, 2023).

While research has extensively explored each type of stigmatization, potential interrelationships between both identity-based and practice-based stigmatization have been overlooked. It is important to examine both identity-based and practice-based stigmatization, because identities inform practices and practices reinforce identities. Moreover, fear-based stigmatization can stem from misunderstood occupational practices, such as bankers (Frandsen & Morsing, 2022; Walsh et al., 2023), salespeople (Mikolon et al., 2021), lawyers (Meisenbach, 2010; Vough et al., 2013), and police (Ashforth et al., 2007, 2017; Dick, 2005). When audiences perceive the practices to be morally dubious, audiences may unconsciously attribute morally dubious intentions to the individuals engaging in these practices, resulting in stigmatization of both the practices and identities of occupational incumbents. This is an important distinction because whether stigma is targeting the core identity or practices of an occupation informs how stigmatized targets can manage the meaning associated with that stigma.

Stigma management refers to "active attempts to manage the meaning of a stigma for oneself and for others" (Kreiner et al., 2022, p. 106). Previous research has studied stigma management in response to stigmatizing audiences' fear that the targets would disrupt a moral order, which resulted in stigmatizing the identities of the target group as having morally dubious intentions, ranging from members of motorcycle clubs associated with criminal activity (Kvåle & Murdoch, 2022) to healthcare workers during the COVID-19 pandemic from perceptions that the pandemic was a hoax (Rapp et al., 2023). Studies on stigma management tactics related to identity-based stigmatization have shed light on how

individuals can mitigate identity threats, using tactics such as reframing to infuse positive meaning and neutralize negative meaning, recalibrating to adjust the implicit evaluative standards, and refocusing to shift focus to non-stigmatized features (Ashforth et al., 2007; Ashforth & Kreiner, 1999). However, this stream of research has not considered the implications of identity-based stigmatization emerging from audiences' misunderstanding of the targeted group's practices. If incumbents of a stigmatized occupation perceive that others' identity-based stigmatization is the result of their practices being misunderstood, then it is unlikely that individuals feel threats to their identities and identity-based stigma management tactics may be uncommon or ineffective.

Current research has suggestive evidence that identity-based stigmatized individuals may perceive that others' fear stems from a misunderstanding about their practices, resulting in attributing dubious intentions to the occupation. For example, police officers addressed potential accusations of using coercive authority by conveying narratives that located their practices within a legally defined social order as opposed to stemming from questionable personal motivations (Dick, 2005). Research also found that employees of a bank that had a branch involved in a highly publicized money laundering scandal did not feel shame, guilt, or embarrassment; instead, individuals attributed the money laundering to a few "bad apples" (Frandsen & Morsing, 2022, p. 2004). Another study explored how a travel agency that catered to working and middle class people in Victorian Britain responded to stigmatization from elite audiences who viewed this organization as morally dubious: The elite's anxiety about working and middle class tourists and fear for their social position led to their vilification of this organization, but the leader of the stigmatized travel agency did not acknowledge this identity-based stigmatization and instead emphasized the organization's use of accepted travel practices and conveyed the positive value these practices provided to

society, ultimately alleviating the elites' fears and eradicating the stigma (Hampel & Tracey, 2017). Although this stream of research focused on identity-based stigma management, the nuanced responses of stigmatized individuals suggests that identity threats were not salient, which seems to be because these individuals recognized that others' fear stemmed from a misunderstanding of their practices.

Another stream of research has investigated practice-based stigmatization, whereby audiences' fear for the potential of an occupation's practices to cause harm leads to attributing these practices as morally dubious, such as casino workers being perceived as engaging in deceptive activities (Lai et al., 2013) and clients in men's bathhouses being seen as "morally wrong" for their same-sex sexual activities (Hudson & Okhuysen, 2009, p. 136). Research on practice-based stigma management has shown that occupational incumbents can distance themselves from the stigmatizing event or practice (Clark & Li, 2023), apologize for transgressions (Harrison et al., 2009), and change the practice (Pfarrer et al., 2008) to mitigate negative impacts of stigmatization. However, current research on practice-based stigmatization has overlooked potential implications of stigmatized targets' identities being misunderstood: What if the cause of others' fear is not the practice itself but rather the actors conducting the morally dubious practice?

Research on practice-based stigma management has touched upon the possibility for individuals to counter harm-based fears by emphasizing who conducts the morally dubious practices, rather than changing the practice itself. For instance, individuals in sex work occupations were found to manage their stigmatization by internally fragmenting individuals along a hierarchy of sex work practices and the moral rationales for engaging in the work (Toubiana & Ruebottom, 2022). In addition, customer-facing salespeople were found to effectively manage stigmatization by referring to social proofs, such as results of customer

satisfaction surveys, to convey that they were not "sleazy salespeople" (Mikolon et al., 2021, p. 1739). Another study on mixed martial arts (MMA) occupational incumbents explored how they elicited acceptance for their practices: Although outsiders to MMA organizations initially attributed morally devaluing labels to MMA fighting, such as "blood sport" and "human cockfighting", MMA practitioners viewed themselves as athletes engaged in a sport that was not more dangerous than other similar sports, and they actively worked to address outsiders' and newcomers' fears (Helms & Patterson, 2014, p. 1469). Thus, while fear can lead to stigmatizing an occupation's practices, this can also result in individuals' identities become stigmatized; instead of changing or distancing themselves from the practices, individuals may work on correcting misunderstandings around their identities.

In sum, as current research has focused only on identity-based or practice-based stigma management, how individuals specifically manage the relationships between their identities and practices remains an unanswered question. When fear over moral disruption or intentional harm is the main driver of stigmatization, audiences may misattribute their fear to both the identities and practices of occupational incumbents, exacerbating the negative impacts of stigmatization. How occupational incumbents perceive the root of stigmatizing audiences' fear bears important implications for how stigmatized targets may manage their stigma. It is therefore necessary for research to holistically examine how individuals in stigmatized occupations perceive the cause of others' fear and subsequently engage in managing the stigma associated with their identities, practices, or both. This can shed light on how misattributed fear informs individuals' stigma management. For example, it is not clear whether individuals manage stigma targeting their identities and practices in a sequential or simultaneous manner, yet it is valuable to understand the dynamics between both kinds of stigmatization as they are mutually reinforcing. In other words, research can move current

theory forward by exploring how managing one type of stigma may impact the other. This research thus sets out to answer the question: *How do individuals manage misattributed fear-based stigmatization?*

METHODOLOGY

Case Context

As organizations have moved their services, communication systems, and data storage to the internet, this has opened possibilities for malicious actors to find and exploit weak points in organizations' software or code. Cybercrime poses a formidable threat in today's digital society, with an estimated cost of $6 trillion in 2021, and CEOs are becoming increasingly concerned with cybersecurity (Huang et al., 2018). Hackers help prevent cybersecurity attacks by finding and reporting vulnerabilities before malicious actors can exploit them (Farsole et al., 2010). Since rather extensive probing is necessary to identify vulnerabilities, the work of hackers naturally lends itself to online crowdwork models of organizing. Client organizations can share which parts of their systems they want tested, how much they are willing to pay for identified vulnerabilities of varying degrees of severity (i.e., setting up a "bug bounty"), and the first hacker to identify a vulnerability receives the payment. The more critical the identified vulnerability, the higher the bounty. While some organizations directly offer their own bug bounty programs (such as Google and Apple), intermediating platform firms have been swiftly growing to connect many client organizations with the global community of hackers. These intermediating platforms have low barriers to entry and exit, as they do not establish a formal employment relationship with individual hackers, and along with the bounties and eventual solutions being publicly shared, the ratings and reputation of each hacker is posted on the platform. Thus, these intermediating

platforms facilitate hackers' autonomous reporting of identified vulnerabilities and subsequent remuneration.

Hacking represents a meaningful context for studying how occupational incumbents, namely hackers and platform employees, manage misattributed fear-based stigma because hacking bears significant negative connotations from being historically associated with criminal activity in public narratives. Moreover, hackers identify cybersecurity vulnerabilities by utilizing the same skills that a criminal would use to attack or threaten an organization. Public portrayals of hackers in mass media often cast hackers in a negative light (Vegh, 2005), although a positive transformation of the image of hackers is occurring in the 21st century (Pei et al., 2022). This suggests that the hacking occupation is gradually being destigmatized, but the growing prevalence of cyberattacks around the world sustains audiences' fears over malicious hacking practices, making this a fruitful context to analyze narrative strategies in correcting the attribution of fear-based stigma between the identities and practices of occupational incumbents.

Data Collection

Public narratives

As news stories from top news outlets are particularly likely to be seen by broader audiences (especially individuals outside of the hacking occupation), I analyzed recent news stories to assess how hackers were being currently portrayed to audiences around the world. I focused on news stories published in 2023 to capture a full year of news portrayals. I examined online reports from intermediating platforms to assess where hackers are located and found that most hackers engaging with these platforms were based in the USA, India, and China. I decided to focus on news published in the top three countries with the most hackers as these were most likely to have news stories about hackers due to the greater presence of

hackers or awareness about cybersecurity. I then identified top news outlets from each country that published news stories in English by searching in Statista and other online websites, and I chose the top two news outlets from each country to gather stories from more than one news source, resulting in a total of six news outlets: The Wall Street Journal and The New York Times in the USA, New Delhi Television and The Times of India in India, and People's Daily and Xinhua News Agency in China. I used Factiva to identify articles in each news outlet, searching for the keyword "hack*" in headlines to capture articles that spoke about hackers or hacking. I manually checked each news stories and removed irrelevant articles, such as those discussing life hacks, hackathons, and physical assaults of hacking someone with a weapon. This resulted in a total of 332 news stories.

To examine public narratives portrayed by occupational insiders, I searched for the websites of bug bounty hunting crowdwork platforms and other websites related to hacking. A comprehensive list of bug bounty hunting crowdwork platforms around the world is available on GitHub (GitHub, 2024), and I analyzed the "about" page of each platform (in the few websites where an "about" page was not provided, I analyzed the homepage) to explore how the platform portrayed hackers. This resulted in 57 webpages of bug bounty platforms. I also searched on Google for "websites about hackers" and "websites about hacking" to identify any other hacking-related websites that might publicly portray narratives about hackers. I excluded individual blog posts (because these belonged to websites about broader topics or specific individuals as opposed to an organization in the hacker community) and news stories (as I was interested in analyzing the "about" pages to systematically explore public narratives). In other words, I sought websites that seemed to offer something of value to hackers, as these were most likely to convey an insider's perspective to hackers. Once again, I analyzed the "about" page of each website (or the homepage if no "about" page was

provided). This resulted in 20 webpages from hacking-related websites, which included websites teaching hacking skills and providing information about the hacker community.

Interviews

Semi-structured interviews were conducted with individual hackers, employees from platform firms (including founders and community managers), and other members of the cybersecurity occupation such as programmers, resulting in 20 interviews that lasted 30-60 minutes each. I contacted participants through Twitter, LinkedIn, and email, and I utilized snowball sampling to reach more participants. I began with interviewing leaders and employees of hacking platforms to familiarize myself with the research context and understand key challenges for occupational incumbents from the perspective of individuals who worked with many hackers. As the problem of misattributed fear-based stigma emerged in this initial data collection and analysis, I then proceeded with theoretical sampling (Charmaz, 2006) to collect further data from individuals who were likely to experience and manage stigma, leading to interviews with individual hackers.

Informed consent was obtained from each participant, and the data was anonymized by using pseudonyms and omitting any identifying information (such as specific platforms or companies). The participants' roles are described in Table 1. A hacker specifically refers to individuals who work to identify cybersecurity vulnerabilities, which includes those who were formally employed in an organization and those who engaged in bug bounty hunting (i.e., reporting vulnerabilities through an intermediating platform). In addition, some interviewees were employed by intermediating platforms, but they did not personally engage in hacking to identify cybersecurity vulnerabilities. Many participants occupied multiple roles, such as those who were formally employed and hunted bug bounties through intermediating platforms on the side, or hackers who started with bug bounty hunting and

then proceeded to create their own businesses. These various roles thus illustrate the diverse profiles of people found in the occupational community of hacking, with many hackers engaging in bug bounty hunting in intermediating platforms alongside their studies or formal employment.

[INSERT TABLE 1 HERE]

The interview guide can be seen in the Appendix, and the questions were adapted to fit the flow of each interview. Each participant was asked to describe what they do in relation to hacking, how and why they got into hacking, how they narrate what they do (both within the interview but also when explaining what they do to others), their perceptions of the broader hacker community, and their personal and professional aspirations. As data collection and analysis proceed simultaneously, I adjusted interview questions to ask more about how interviewees perceived and managed the stigma around hackers until the main categories of the emerging model were sufficiently saturated (Charmaz, 2006; Miles et al., 2019). At the outset of this study, I sought to understand how this global online community was self-organized and what motivated individuals to contribute, but as the analysis progressed, I was puzzled by the emergent pattern of interviewees affirming that awareness of cybersecurity and appreciation for hackers was growing yet hackers still experienced stigmatization when introducing themselves as a hacker. I therefore focused my analysis on interviewees' narratives around this stigma to understand why hackers still experienced stigma and how they addressed it.

Data Analysis

First phase

As data collection and analysis were conducted simultaneously (Miles et al., 2019), I iterated between secondary data from news stories and websites and primary data from

individual interviews to construct my understanding of emerging insights. I first began familiarizing myself with the context of hacking by extensively reading websites about hacking, following prominent social media channels, and reading public news stories. I wrote descriptive notes and reflected on potential inquiries meriting further exploration in analytic memos, and this initial exploration was important for immersing myself in the field and familiarizing myself with public-facing narratives (Charmaz, 2006). Through this initial analysis, I learned how hacking through crowdwork platforms functions, and I noticed the prevalence of explaining what hacking really is and why hackers are important for improving cybersecurity. Thus, preliminary ideas concerning misattributed stigmatization emerged from this exploration of public narratives from occupational insiders and outsiders, which also informed my construction of the semi-structured interview guide and identification of potential participants I could interview.

All interviews were recorded, transcribed, and imported into ATLAS.ti for further coding and analysis. Data collection and analysis proceeded concurrently so that emerging insights could inform ongoing data collection (Miles et al., 2019). I followed the grounded theory methods set forth by Charmaz (2006) to inductively analyze interviewees' actions related to the stigma around hacking. First, I engaged in initial line-by-line coding and attached a code to each data segment that captured what the participant was doing or saying, with an emphasis on staying as close as possible to participants' words and perspectives. I also wrote analytic memos to reflect on emerging patterns that warranted further exploration. The primary aim of this initial coding was to identify individuals' narrative tactics, but as I reflected in analytic memos on how and why participants engaged in the distinct narrative practices, I realized that the tactics were temporally related (Langley, 1999), such that certain

narrative practices depended on the earlier occurrence of a different narrative practice. These emergent insights were then further probed as I continued collecting and analyzing data.

Second phase

After conducting initial line-by-line coding of several interviews, I engaged in focused coding by examining my inductive codes and analytic memos to synthesize the codes around the emerging temporal dynamics of individuals' narrative tactics. I began by merging similar codes together and creating second-order code categories that encapsulated key narrative tactics, with specific initial codes included as sub-codes within each category. I then elaborated conceptual and operational definitions for each code category and specific sub-code to delineate what each code captured and how it was distinct to other codes, engaging in constant comparison of data segments and codes. I also continued writing analytic memos to reflect on how the code categories were related and describe the temporal relationships among code categories. This revised code list was then used to code the rest of the interview data, though I continued iterating between generating new inductive codes and revising the coding structure to incorporate any additional insights that emerged in the rest of the data. The ongoing iteration between revising codes and developing analytic memos continued until the emerging narrative process model (Fachin & Langley, 2018) could sufficiently explain individuals' narrative tactics. However, in pursuit of theoretical sufficiency for my model (Charmaz, 2006), another important dimension necessitated further examination: A common pattern that emerged across interviewees was their consistent referral to public narratives, such as news stories, that tended to cast hackers in a negative light or portray hackers as criminals. I therefore revisited the public narratives to systematically analyze the public narratives and incorporate these into the emerging narrative process model.

Third phase

All public narratives were downloaded and imported into ATLAS.ti for coding and analysis. I read each news story and coded it for the main topic being discussed: a cyberattack, the hacker occupational community, or organizational cybersecurity. I then used text search to automatically code for any occurrences of the words "hacker(s)" or "hack(ing/ed)" to identify news stories that specifically used these words. I manually checked each news stories to categorize whether hackers were being referred to as criminals or the perpetrators of attacks were described with other terms, such as criminal or attacker. In addition, I coded for whether each news stories bore a positive or negative connotation towards hacking along with any other pieces of information that were included, such as advice for how readers can protect themselves against cyberattacks and information about the hacker community more broadly. This allowed me to analyze what news stories were saying about hackers and cyberattacks and how these narratives portrayed who was behind these attacks.

I followed a similar process to analyze the public narratives portrayed on bug bounty platform and hacking-related websites. I used text search to automatically code for any occurrences of the word "hacker" and then coded each segment of text according to whether the hacker word was used to refer to hackers as understood by occupational insiders or to refer to hackers as criminals or perpetrators of cyberattacks. I also manually read each webpage to inductively code for how hackers were presented on each webpage, thus identifying instances when other words were used to describe hackers (such as "researcher", "cybersecurity expert", and so on). After this initial coding of what words were used, I engaged in focused coding (Charmaz, 2006) to analyze whether any of these insider public narratives actively addressed the stigmatization of hackers, and at this point I utilized the coding structure elaborated from the interview data to further develop my understanding of

the narrative tactics utilized by occupational insiders and outsiders. For example, I analyzed if and how public narratives clearly explained who hackers "really" are or explicitly discussed the stigmatization of hackers. This allowed me to explore how occupational incumbents publicly portrayed narratives about hackers and subsequently compare this with patterns from the outsider public narratives present in stories from top news outlets. Finally, by integrating the analytic memos from the interview data and public narrative data, I incorporated the impact of public narratives into the narrative process model to construct a theoretically sufficient explanation (Charmaz, 2006) of how individuals managed misattributed fear-based stigma.

The resulting data structure is displayed in Figure 1, showing the initial codes, second-order code categories, and overarching theoretical dimensions related to narrative tactics of correcting misattributed fear-based stigma among occupational incumbents. The relations among these emergent categories and theoretical dimensions were visually mapped into the process model displayed in Figure 2. This resulting model thus displays the process of correcting misattributed fear-based stigma through temporally constructed narratives (Fachin & Langley, 2018).

[INSERT FIGURE 1 HERE]

FINDINGS

Public Narratives About Hackers

News stories about hackers largely focused on real-world occurrences of cyberattacks, while public narratives within the hacking occupational community discussed bug bounty hunting and how cybersecurity can be improved. Despite these different emphases on overarching topics, both outsider and insider narratives varied considerably in how they used the hacker word and potentially addressed, avoided, or perpetuated the fear-based stigma.

Table 2 displays an overview of how the hacker word was used across public narratives from occupational outsiders (i.e., top news outlets) and public narratives from occupational insiders (i.e., bug bounty platform websites and other hacking-related websites that shared news, training, or information of interest to hackers).

[INSERT TABLE 2 HERE]

Public narratives of occupational insiders most often used the hacker word correctly (i.e., to refer to individuals who engage in hacking practices but without attributing criminal or malicious intent). These narratives typically used the hacker word as a given, without explaining what they mean by hacker but rather highlighting the value of collaborating with hackers, such as "*We partner with the global hacker community to surface the most relevant security issues of our customers before they get exploited by others*." (Bugv). In addition, crowdwork platform websites often had clearly marked sections for client businesses and for "hackers" who wished to participate in bug bounty programs, and some platform websites described their values such as "*Think like a hacker*" (Bugcrowd). It was also common to add a qualifier word such as "ethical hacker" or "white-hat hacker" to distinguish individuals who report cybersecurity vulnerabilities from "malicious hackers" or "black-hat hackers". Thus, these kinds of narratives did not actively acknowledge the stigma but instead conveyed the occupation's manner of using the hacker word.

Conversely, a subset of insider public narratives did actively address the stigma associated with hackers, with statements such as, "*Don't be fooled by the stereotypes of ethical hackers working only at night, wearing hoodies. Check out Capture The Bug's researchers' portraits to learn more about their diverse backgrounds and unique skill set*." (Capture the Bug). This was most prevalent among hacking-related websites, with explicit clarifications regarding the stigmatization, including "*We are taking back the term 'Hacking'*

which has been soured in the public mind. Hacking is an art form that uses something in a way in which it was not originally intended." (Hackaday) and "*The word 'hacker' has an unfairly negative connotation from being portrayed in the media as a criminal person. But in reality, there is nothing immoral or unethical about hacking.*" (Black Hat Ethical Hacking). Famous within the hacker community are the "Hacker's Manifesto" and "Jargon Files" which clearly explain who hackers really are, with statements defining hackers such as, "*A person who delights in having an intimate understanding of the internal workings of a system, computers and computer networks in particular*." (The Jargon File) and "*We explore, and you call us criminals. We seek after knowledge, and you call us criminals. We exist without skin color, without nationality, without religious bias, and you call us criminals*." (The Hacker's Manifesto).

Interestingly, a notable subset of public narratives from occupational outsiders did not perpetuate stigmatization of hackers as they avoided using the hacker word and referred directly to "criminals" or "scammers", such as "*China's public security organs have cracked 2,430 hacking-related cases and apprehended 7,092 criminal suspects since 2022 in a campaign to clean up online environment, the Ministry of Public Security said on Thursday.*" (Xinhua News Agency) and "*Blockchain Capital's X (formerly known as Twitter) account was hacked by crypto scammers on Wednesday.*" (New Delhi Television). Thus, these news narratives did not incorrectly attribute the fear-based stigma to hackers per se but instead centered around the malicious application of hacking skills.

However, there were also clear patterns of using the hacker word to describe criminals or the perpetrators of cyberattacks, and this was especially prevalent among public news stories (i.e., occupational outsiders' narratives). The majority of public news stories discussed cyberattacks that occurred in various organizations, including businesses, banks, hospitals,

and governments. Using the words “hacker” and “criminal” together was common across news outlets in all three countries, such as, “*...The authority cracked down on a number of hacker criminal gangs that illegally obtained citizens' personal information through technical means and made profit through inquiries, and seized billions of pieces of various information and data.*” (People’s Daily). This can create or reinforce readers’ implicit associations of hackers with criminals, thus perpetuating stigmatization of the hacker occupational community. The fear-inducing practices of cyberattacks were presented as being conducted by individuals with criminal or malicious intent, and these individuals were referred to as hackers in the same news story, as illustrated in this extract:

> *The cybercriminals focused on exploiting collaboration tools used in work-from-home environments and targeted education institutions that shifted to online learning post-Covid-19. "Hackers like to target hospitals because they perceive them as short on cyber security resources with smaller hospitals particularly vulnerable, as they are underfunded and understaffed to handle a sophisticated cyberattack," said Omer Dembinsky, Data Group Manager at Check Point Software.* (Time Times of India)

Public narratives that directly referred to hackers as criminals likely contributed to the misattributed fear-based stigmatization of hackers, as these narratives implicitly blurred the practices of hacking with malicious intentions. Moreover, it was surprising that public narratives from within the hacker occupational community also sometimes used the hacker word to refer to criminals. For example, one platform website explained, “*In computing, a vulnerability represents a flaw of systems that allows hackers to penetrate illegally into a system and cause damage to the system itself.*” (WhiteHub), and another platform website stated, “*Millions keep getting hacked week after week in Web3. Investors and users keep shying away from the industry fearing they will lose their money to hackers.*” (The Saloon). While directly referring to criminals as hackers was present in only a minority of public narratives from organizations within the hacking occupation, this reaffirms the ease with

which the hacker word can be incorrectly used and blur the practices of hacking and the identities of hackers.

There was also evidence that occupational insiders were aware of potential stigmatization, because a sizeable portion of insider narratives avoided using the hacker word and instead referred to them as "researchers", "cybersecurity experts", "penetration testers", or "bug bounty hunters". In particular, it was quite common for bug bounty crowdwork platforms to use such alternative terms to describe the individuals hunting bug bounties, and even among those that used the hacker word, it was common to use multiple terms, with statements such as, "*With this platform, SMEs and large enterprises have easy and cost-effective access to bug bounty programs, vulnerability disclosure programs, and security testing conducted by ethical hackers and security researchers*." (GObugfree).

It seems that the variation in words used to describe hackers was due to the fear that was often associated with cyberattacks, which was particularly notable among the news stories. As most news stories discussed cyberattacks, including stolen data, money, or changes made to infiltrated systems, these narratives often conveyed fear, using words such as "attack", "threat", or "steal". For example, when presenting a cyberattack, news stories often conveyed strong negative connotations, using words such as "chaos" and "crippled", as in this extract, *"MGM Resorts International refused to pay hackers' ransom demand in a September cyberattack that threw its Las Vegas Strip resorts into chaos and crippled its properties and technology nationwide…"* (The Wall Street Journal) or "fear" and "prey", as mentioned here, "*…While earlier they deceived people by telling them their debit card had been blocked or bank account deactivated, now they have new tricks. 'They prey on people's fears, greed and insecurities'*" (The Times of India).

In sum, referring to cybercriminals as hackers may be contributing to the stigmatization of hackers as these public narratives perpetuate associations between engaging in hacking practices with having malicious intentions. While some public narratives seemed to facilitate de-stigmatization by using the stigmatized word correctly or even actively addressing the stigma, most public narratives seemed to perpetuate the stigma by incorrectly using the stigmatized word or actively attributing fear to this occupation without making any distinction between the different kinds of individuals who utilize hacking practices. To understand how individuals within the hacking occupational community perceive and manage this stigmatization, I next turn to the findings from my interviews.

Individual Narratives About Hackers

When presenting themselves to others, occupational incumbents decided whether they wanted to address or avoid potential stigmatization. This choice was made necessary due to fear associated with the hacking occupation, which was perpetuated by public narratives that incorrectly used the hacker word or even actively attributed fear without distinguishing between hackers and criminals. Individuals' process of correcting the misattributed fear associated with hacking unfolded through three narrative sub-processes: 1) individuals used or avoided the stigmatized word, 2) individuals made a clear distinction between the identities and practices of themselves or their occupational community, and 3) individuals built off the fear associated with these practices and the positive value of their identities. Individuals' efforts to convey positive value through the corrected base of fear was facilitated by public narratives that correctly used the hacker word or also actively corrected the misattributed fear. This process model is presented in Figure 2, and the three narrative sub-processes are explained below.

[INSERT FIGURE 2 HERE]

Deciding to address or avoid stigmatization

When introducing themselves or explaining what they did to others, all interviewees decided whether they wanted to address or avoid the stigma. This decision was shaped by how individuals perceived the other might understand hacking and the individual's desire to avoid inciting fear of getting attacked online. Almost all participants recognized that saying "hacker" often sparked fear in others, including family members, potential employers, or people the participant was meeting for the first time. As one hacker stated: "*Normally if you say directly that I'm a hacker, people start fearing*" (Hazeem). This led this hacker to "*introduce myself as a security researcher mainly and then cybersafety consultant, because I'm running a startup, so that's a good covering point for me as well"* (Hazeem). Indeed, occupational incumbents had many potential alternative identity labels, such as "security researcher" and "cybersafety consultant". Avoiding the hacker word thus represented individuals' choice to not address the stigma and simply circumvent potential fear-based stigmatization by drawing on other non-stigmatized identities that provided a "covering point". Thus, the first sub-process in correcting fear-based stigma, using or avoiding the stigmatized word, refers to hackers and platform workers actively using the word "hacker" or using different identity labels when they introduce themselves or explain who the people in this occupational community are, as summarized in Table 3.

In addition, it was also common to simply delay addressing the stigmatization, such that participants first avoided introducing themselves as a hacker until they sensed their audience would not associate being a hacker with being a criminal. This iteration between using and avoiding the hacker word (depending on others' potential fear) thus illustrated the inherent temporality of the destigmatization process, as individuals did not statically choose

one or the other but continuously adapted depending on their perceived potential to be stigmatized or correct potential stigmatization. Importantly, when individuals chose to use the hacker word, they implicitly decided to address the stigmatization. Interviewees explained that they chose to address the stigmatization when they cared enough about the other understanding their work as a hacker. As one hacker explained:

> *There's terminology I use depending on the crowd. I say to someone that I think will understand what I do that "I hack companies for living". Or "I work in security, I'm a security researcher". If it's someone that I don't care if they're going to understand, I go "I do things on the computer". Or I go "I have my own business". It's the sort of things that I've used, so it just depends on the people.* (Josh)

Indeed, most interviewees actively embraced the hacker word and used it in their narratives to correct others' misunderstandings and help audiences get used to this word. A common practice in the community was to add a qualifier word such as "ethical" or "white hat" to highlight that these are "ethical hackers", which is a narrative tactic already seen among public narratives of both occupational insiders and outsiders. Some hackers, however, felt frustrated about needing to add such a qualifier because it represented a misunderstanding of who hackers really are, which one hacker illustrated by comparing hacking to another occupation:

> *I don't like calling myself an ethical hacker. I think it's the most ridiculous thing ever. Because imagine being a pharmacist and not selling any illegal drugs, and then having to say 'Yeah but I'm an ethical pharmacist'. That just doesn't make sense.* (Stefan)

Using the hacker word was closely related to correcting others' fears, which many individuals did by drawing contrasts between hackers and cybercriminals. Using the hacker word represented a significant decision, as participants explained they never used this word to describe cybercriminals:

> *Those bad hackers we usually call them in fact black hat hackers. You will never see us refer to a cybercriminal as a hacker, we always say*

> *cybercriminal attacker, we always use that term. Then for example, an ethical hacker is a white hat hacker.* (Isabel)

Platform workers particularly embodied efforts to correct others' fears, especially as they also had to convince and build trust with client businesses who could join their platform and host bug bounty programs. One platform worker succinctly pointed out the importance of using the hacker word:

> *I'm gonna give you a Harry Potter reference, but like, if you give meaning to that word, and you can't say Voldemort, then you're giving Voldemort more meaning than it deserves, right?... You're letting this bad group of people have this word, and you're not letting it be just the word.* (Megan)

Another narrative tactic that emerged among individuals who used the hacker word was referring to social proofs, which was especially helpful for hackers to defend themselves. Across the interviews, hackers brought up various social proofs such as the recognition given by other platforms and client organizations, making money, getting hired, and having legal authorization. For example, one hacker explained that his family accepted him as a hacker once his work was recognized in a news story: "*No one actually cared or believed that it's going to be a career until I ended up being in the news. And then everyone's like, 'Okay, this is legit'. With this, it was a proof that people want it.*" (Josh).

Throughout this occupational community, it seemed that most individuals were comfortable with "switching hats" and interchangeably referring to individuals as hackers or researchers, depending on whom they were speaking with, such as clients or family. Importantly, using or avoiding the hacker word was not necessarily because individuals identified more or less strongly with the hacker identity. Instead, this reflected individuals' implicit decisions to avoid inciting fear in others or actively address the occupational stigmatization. When choosing to use the stigmatized hacker word, individuals acknowledged the fear associated with this word but recognized that the fear was incorrectly attributed.

Individuals then set out to mitigate this fear by clarifying that hackers are not criminals, effectively proceeding to the next narrative sub-process of addressing the stigmatization.

[INSERT TABLE 3 HERE]

Distinguishing identities and practices

Individuals that used the hacker word in their narratives were aware that this word often incited fear, because broader public narratives tended to attribute hacking to criminal behavior and malicious actors. However, occupational insiders knew that hackers and criminals were two very different groups of people. Thus, when using the stigmatized hacker word, a strong pattern emerged across the interviewees: They clearly distinguished between their identities and practices. Distinguishing between identities and practices refers to narrative practices that defined or explained who hackers "really" are and what hackers "really" do, with the ultimate goal of removing the fear targeting hackers' identities. For example, one platform founder explained early on in his interview that the original definition of hacker emerged in the 1970's in the Massachusetts Institute of Technology, such that hackers are "*those who use their ingenuity and creativity to get around obstacles*" (Andrew). Many other participants echoed this definition, which effectively conveyed that hacking per se is not bad, but how these skills are used determine whether an individual is a criminal or not, such as one platform worker who reflected, "*It's the action that can be good or bad. It's not that particular verb, it's how you do that verb.*" (Megan).

Most interviewees began by clarifying who hackers are and why hackers are not criminals, which often involved explaining what behaviors were considered right and wrong within the hacking occupational community. All participants explained that the clearest line demarcating when hacking was not a crime was having the legal authorization from (client) organizations to try hacking into their systems, as described by one hacker: "*Without asking*

the organisation, hacking is wrong. If you have the permission to hack the organisation, you can hack it." (Ricky). It is worth noting that interviewees spontaneously described these distinctions between right versus wrong even though they were not explicitly asked about this, suggesting that they were aware of the grey areas between illegal hacking and hacking to improve cybersecurity and integrated this into their narratives to address the audience's potential misattributed fear.

This practice of clarifying right versus wrong was also present in narratives among occupational incumbents: Several interviewees mentioned they often told other hackers about when hacking was appropriate (i.e., with legal authorization) and how to responsibly engage in hacking (i.e., sharing information with client organizations and other hackers). While sharing information was important for patching vulnerabilities and teaching others, how this information was shared was crucial, such that hackers "*would redact information about the company when they want to share the information of how they found the vulnerability*" (David). How instructional information and advice was shared online was also important, as one hacker explained an important caveat: "*It's not just the how to attack part that a lot of researchers share. It's also how to mitigate them or to stay safe or to be cautious. In that sense, it's good information what we're sharing*." (Sumit). Occupational incumbents were aware that the information they shared could potentially be used by criminals, and some influential hackers' YouTube channels were even blocked due to local authorities perceiving the information as potentially dangerous. Individuals thus took care in both when they applied their hacking skills and how they shared their hacking knowledge with others.

Participants' narratives also often conveyed hackers' values to describe who hackers really are, such as "*you like puzzles, you like to solve the mystery*" (Omar), "*the attitude to want to continue learning*" (Isabel), and feeling "*excitement to find an error and having fun*"

(Ignacio). As a whole, the narratives of hackers and platform workers distinguished and drew focus to hackers' identities by defining the hacker word, explicitly explaining their understanding of right vs wrong, and describing the kinds of values hackers have, as summarized in Table 4.

While explaining who hackers are, participants' narratives simultaneously clarified the practices of hacking. This involved explaining what hackers do in everyday terms, making contrasts with other occupations, and normalizing hacking, as displayed in Table 4. Using everyday terms was important to explain hacking in a way that audiences that are not familiar with cybersecurity could understand it, such as finding "*loopholes in things*" (Stefan), "*breaking things*" (Omar), or even simply focusing on reassuring others their work was good or safe, such as one hacker who said, "*All I can tell them is, I'm doing something good, so don't be afraid.*" (Sumit). Contrasts with other occupations were also often drawn to illustrate that identities, not skills, were important to distinguish between those whom should and should not be feared. One platform worker illustrated, "*You can be a great one of these and you can be a bad one of these – You can be a great politician, you can be a bad politician*" (Megan) and a platform founder explained:

> *It's all about hacking, which is the skill, and that's not attacking. To attack, you need to use hacker skills, but you're not a hacker, you're just a criminal. And it's different, like a locksmith has the skills, but it's not a burglar*. (Andrew)

The narratives of occupational incumbents also worked to normalize hacking by drawing attention to others who also use their creativity to find ways around obstacles, thus also fitting this definition of hacking. For example, one platform founder pointed out: "*Galileo was a hacker, and Leonardo Da Vinci. How did Einstein come up with what he came up with? …He was a hacker because he came up with that creativity and found a way*"

(Andrew). Another platform founder also stated: "*It's more about questioning things… And I think that's what scientists and academics in a way also do*" (Stefan).

In sum, rather than trying to describe what exactly they do in technical terms, hackers largely focused on reassuring outsiders that what they are doing is "good" and there is no need for fear. Both individual hackers and platform workers distinguished between identities and practices to address audiences' misperceptions that hackers are criminals or will abuse the private information to which they can gain access. This narrative sub-process thus distinguished who hackers are from what they do to remove the fear from their identities. However, individual hackers and platform workers acknowledged that audiences' fear around hacking or being hacked were well-founded; having clarified that hackers are not criminals, this left an open space for individuals to correctly place the fear on the potential for hacking practices to cause harm and to convey the positive value of hackers' identities for protecting against this threat.

[INSERT TABLE 4 HERE]

Conveying value through corrected base of fear

The previous sub-process of distinguishing hackers' identities and practices represented a key step in addressing the occupational stigmatization because it allowed individuals to build off the fear surrounding the practice of hacking: No one denied the presence of fear around the potential to fall victim to a cyberattack, rather both hackers and platform workers shifted this fear to the problem of cyberattacks. They then presented hackers as a solution to this problem by conveying the positive value of their identities, effectively correcting the misattributed stigma. The feeling of fear was thus acknowledged and even emphasized, but it was specifically in reference to the practices of hacking, as opposed to the identities of hackers. The narrative practices involved giving real-world

examples of cybersecurity attacks, explaining that security is an attitude, and justifying the need for cybersecurity, as summarized in Table 5.

All interviewees mentioned real-world examples of cyberattacks by referring to stories seen in the news and online. While cyberattacks are an important origin of the stigma around hacking, occupational incumbents pointed to this news to highlight that cyberattacks are indeed a problem, mentioning for example, "*You'll see in the news huge companies are getting hacked all the time*" (Eduardo), "*the Twitter hack*" (Hazeem), and "*WhatsApp had a breach of 500 million users*" (Omar). When asked to explain how seeing real-world cyberattacks made them feel, interviewees did not perceive these events as somehow threatening their identities but rather saw these news stories as opportunities to learn, reaffirming the distinction between their identities and practices:

> *The first kind of thought that goes into my mind is, how did he do that?… I wouldn't say I'm scared or anything as such, because I know I'm not doing anything wrong, but I feel curious about what other people did. And then I try to understand why they got caught as well, and then how other folks are not getting caught doing the same thing. So it's more to do with your research curiosity, than to put them into a good or bad sort of bucket.* (Sumit)

Bringing up real-world cyberattacks was used to emphasize the importance of investing in preventing cyberattacks to avoid "*paying the consequences – like everything else, we think it will not affect me, until they enter your house. It never happens, until it happens. And the day it happens, it leaves the organization in shambles.*" (Ignacio). A platform worker shared a story of a company to which they had reported a vulnerability, but the company unfortunately never addressed the vulnerability:

> *Unfortunately actually there was a case this morning, it's all over the news. We reached out to them a half a year ago, maybe less, we found this huge vulnerability, exposing everything… They told us back then "Oh, thank you very much" and that's it, they didn't do anything. This is a huge data leak, records, usernames, everything. Now they need to deal with the press first, it's all over the news.* (Seb)

Both individual hackers and platform employees often also explained why cybersecurity vulnerabilities exist in the first place, and these narratives coalesced around an emergent theme of security being an attitude. This refers to the notion that maintaining security is both an ongoing practice that individuals and organizations need to engage in and that vulnerabilities are simply an inherent part of our increasingly digital world with rapid rates of technological change, as illustrated by one hacker:

> *We don't have a society yet where customers or just the regular public will understand that having vulnerabilities is not necessarily a bad thing… People would act really surprised, like "Oh, this company has vulnerabilities, it must be a shady company". It doesn't work like that, every company has vulnerabilities, this is just a company that is dealing with them.* (Stefan)

Many interviewees often explained that "*security is an attitude, not a state*" (Andrew) because of constant changes to technology that open new potential vulnerabilities. For example, one hacker explained that installing updates or patches released for products and services is always important to maintain security, but "*even in new technology, a new bug can lead to data breaches or hacking. But you just do what you can, and the hackers do what they can.*" (Karim).

Finally, all interviewees also justified why cybersecurity is important by explaining that the attack surface is bigger than ever as the world is increasingly online and technology is a central part of our society, thus indicating that the need for cybersecurity will only continue to grow. As illustrated by one hacker and platform founder:

> *If you close your eyes, and you imagine the future, we'll see these cities where there'll be flying cars, right? That is a technologically advanced future. That future cannot happen if security is broken… There's like two to three million companies that create internet connected products or services. Those products and services are then reachable through the internet by attackers.* (Andrew)

In addition to the importance of technology, organizations are facing greater demands to comply with cybersecurity regulations. Another hacker and platform founder reflected on how both legislations and the broader public have become more demanding:

> *People are demanding more from their government. If a government were to be hacked, like where I live got hacked 20 years ago, and people were like "Oh, that's unfortunate. Let's get these criminals right away". And now the mentality is more like, "Wait a minute, were you secure? What about your security posture? And what did you do to prevent this? And can you be more transparent?" So people demand more, I think they want more answers.* (Stefan)

Upon explaining that fears around having cybersecurity vulnerabilities exploited are warranted, individuals' narratives effectively placed fear on the use of these practices by malicious actors. Given the existence of these malicious actors and the real threats they pose, individuals' narratives then transitioned to conveying the positive value of hackers' identities by presenting hackers as the ideal or best available solution: Hackers have the skills needed to identify cybersecurity vulnerabilities, but they are driven to use their skills to improve, not threaten, cybersecurity. The narrative practices around conveying the positive value of hackers' identities included highlighting hackers' mission to protect everyone, conveying the value of leveraging this community, and explaining the need to contract hackers as specialists in cybersecurity, as displayed in Table 5. Thus, this final sub-process in correcting the misattributed fear-based stigma involved bringing together the fear-inducing skills of hackers with the positive identities of hackers to convey that hackers are not only "not criminals" but they are fulfilling a real need and helping make everyone safer.

In presenting hackers as a solution to cybersecurity vulnerabilities, participants' narrative practices often highlighted this community's mission to protect everyone. One hacker pointed out that "*[Businesses] have to value bug hunters because they choose to be white hat hackers not black hat hackers*" (Karim), reflecting that these hackers are driven to

protect by reporting, not exploiting, vulnerabilities. Another hacker relayed a story of when someone reacted negatively to his hacking work, and he immediately pointed out that cyberattacks are the real problem while his work effectively neutralized these threats:

> *I was on a date one time when I was like, "Oh, I hack companies for a living". I explained what that means, and she goes, "Oh, that sucks, that's not cool". I'm like, "What do you mean that sucks, that's not cool? I have literally for sure prevented a company that you have on your phone from a breach before".* (Josh)

In addition, many hackers and all platform workers conveyed the value of leveraging a global community of hackers to address cybersecurity, highlighting that hosting bug bounty programs is a worthwhile investment for organizations. Many participants explained that security teams in organizations are faced with a difficult undertaking, as one hacker and platform founder described, "*Now it gets harder and harder for security teams to really know the attack surface. I can't even begin to plan for how many people do I need to hire to track all of this, to manage all of this.*" (David). Being able to crowdsource vulnerability detection thus represents an ideal model for organizations, as the hacker community "*outperforms anything else in terms of return on investment*" (Andrew). Thus, dedicating a budget for hosting bug bounty programs was often mentioned as a worthwhile investment in comparison to getting attacked, as one hacker pointed out, "*Bug bounty programs pay from $200 to $10,000, which is better than paying millions for hackers that breach your data. Daily we have new technologies, and new technologies equal new bugs.*" (Karim).

Finally, both individual hackers and platform workers explained that hackers possess a unique skillset that organizations can contract to improve their cybersecurity: Hackers can get into the mindset of criminals and realize work that extends beyond the capabilities of any single organization or automated tools. This is the central idea behind bug bounty platforms, as one hacker and platform founder succinctly put it:

> *The only way to be strong against attackers is to invite the good guys, to statistically outnumber the bad guys. And so get into the mindset of an attacker and see what they would do. It's like that scan of the human ingenuity and creativity that can find everything.* (Andrew)

Thus, the final step in correcting the misattributed fear-based stigma coalesced in bringing together the fear-inducing skills of hackers with the positive value of their identities: Identifying vulnerabilities requires finding creative ways to apply one's skills and get into the mindset of an attacker to find "loopholes" or "unlocked doors" and report these vulnerabilities to prevent any breaches. As one hacker reflected: "*We are different from other people, we know something unique. They need us, they should do something with us."* (Ricky).

[INSERT TABLE 5 HERE]

DISCUSSION

This research extends stigma management theorization by putting forth a process model of individuals' narrative tactics for managing misattributed fear-based stigma, highlighting the importance of clearly distinguishing the identities and practices of stigmatized individuals. By analyzing both occupational incumbents' narratives and outsiders' narratives, these findings tease apart stigmatization processes related to identity-based and practice-based stigma. Previous research has focused on analyzing either identity-based core stigma (Hudson, 2008; Hudson & Okhuysen, 2009) or practice-based event stigma (Clark & Li, 2023), but the present study illustrated how occupational outsiders' narratives blurred the identities and practices of the targeted occupation and exacerbated the negative effects of stigmatization. Thus, by exploring both types of stigmatization together, the present research sheds light on how identity-based and practice-based stigma are mutually related and the process through which individuals managed both to correct misattributed stigma and facilitate positive outcomes.

Distinguishing Identities and Practices in Stigma Management

Stigma management research has explored how individuals actively manage the meaning of stigma (Goffman, 1963; Kreiner et al., 2022) in response to audiences' moralizing (Ashforth, 2019) and emotionally laden evaluations (Zhang et al., 2021). Decades of research has focused on how individuals can manage stigma targeting the core identities of occupational incumbents (Hudson, 2008) or the event-based practices of the targeted occupation (Clark & Li, 2023); however, by only focusing on one type of stigmatization, these studies have overlooked potentially mutually reinforcing relationships between both types of stigma management. The present research thus extends current theorization by suggesting that identity-based stigmatization does not always incite identity threats and subsequent identity work tactics, and practice-based stigmatization can implicate *who* is conducting these practices above and beyond simply *what* these practices are. Thus, rather than accepting audiences' stigmatization at face value, this research foregrounds how individuals interpreted audiences' potential misunderstandings of who occupational incumbents are and what their work comprises, which was essential to how individuals managed their stigma.

The potential for stigmatizing audiences to blur the identities and practices of a targeted occupation emerged as a salient phenomenon within the context of fear-based stigmatization. While previous research has considered how emotions such as shame, anger, and disgust impact stigmatization (Kvåle & Murdoch, 2022; Ritvala et al., 2021), the present study focused on the emotion of fear, which highlighted that audiences' fears were well-placed but misattributed to targets' identities as opposed to their practices, which can be used for morally positive or negative purposes. These findings thus build on previous research that examined stigmatizing audiences' fears of a broader moral code being disrupted (Hampel &

Tracey, 2017) or intentional harm being caused (Helms & Patterson, 2014) by suggesting that these fears can stem from misunderstandings of the occupation's practices and lead to attributing morally dubious intentions to the identities of individuals engaging in this work. This is a valuable insight because how occupational incumbents perceived the root of stigmatizing audiences' fear bore important implications for how stigmatized targets engaged in managing the stigma: Individuals acknowledged audiences' fears but disagreed with where it was placed, which effectively informed how they sought to correct the misattributed fear and transform the stigma into a positive source of value for the occupation.

This research thus illustrated how fear-based stigma was managed not by simply accepting or avoiding stigma but rather by acknowledging the sources of others' fear and shifting the stigma from the occupational core (i.e., removing stigma from identities) to the occupational practices (i.e., stigmatizing fear-inducing events). This is a hitherto unstudied destigmatization process, as it does not imply removing a stigma altogether but rather using the fear around the stigma to convey the positive social value of the stigmatized occupation. This extends the scholarly conversation about stigmatization by highlighting the value of analyzing both identity-based and practice-based stigma management tactics and how individuals can embrace fear-based stigma to facilitate positive outcomes.

Facilitating Positive Outcomes from Misattributed Stigma

The present study contributes to the burgeoning research on how stigma can be embraced to facilitate positive outcomes (Cha & Roberts, 2019; Cowden et al., 2022; Helms & Patterson, 2014; Kreiner et al., 2022). This body of work has studied potential positive outcomes of stigma management, such as individuals belonging to racial minorities embracing their stigmatized identity to build relationships, construct a positive image, and produce quality work (Cha & Roberts, 2019). By internalizing and actively portraying the

practices of a stigmatized group, as studied among drag queens, previous research has also illustrated how stigmatized individuals can normalize their practices (Campana et al., 2022). Another key insight from this stream of research is that stigmatized individuals do not always aim to remove stigma, which was the focus of previous studies (Aranda et al., 2023; Hampel & Tracey, 2017; Siltaoja et al., 2020); instead, the stigma can be strategically coopted (Helms & Patterson, 2014) to generate awareness and acceptance. The present findings build on this stream of research by exploring how individuals managed audiences' fears that misattributed stigma from their practices to their identities, illustrating key dynamics of how individuals conveyed who they are, what they do, and why their work is valuable.

Exploring how individuals in a stigmatized occupation perceived the cause of others' fear was integral to how these individuals managed the meaning of the stigma associated with both their identities and practices. Occupational incumbents were acutely aware of the fear associated with their occupation, and whenever presenting narratives about themselves, individuals implicitly chose whether they wanted to actively address this stigmatization or avoid inciting fear in others by not using the stigmatized word. This was facilitated by the fact that the occupational community had a variety of commonly used labels from which they could draw to describe themselves. In today's world of protean careers stretching across organizational and even occupational boundaries (Spreitzer et al., 2017), individuals can exercise more flexibility in how they present themselves to suit their goals or needs depending on a given interaction. For example, individuals may describe their work in distinct ways depending on whether they are in a job interview or speaking with family and friends. This is supportive of previous research on the surface-level meaning of identity labels, because stigmatized individuals can flexibly interchange the words they use to present themselves without altering their underlying identification with their work (Corley & Gioia,

2004). This finding also contributes to understanding of individuals' disclosure of invisible stigma (Ragins, 2008) by suggesting that individuals' word choices are key decisions that imply their desire to disclose and address the stigmatization or avoid it.

When individuals chose to use the stigmatized word in their narratives, they began the process of addressing the stigma by clearly distinguishing their identities and practices. Individuals using the stigmatized word first acknowledged the fear and therefore addressed the practice-based stigma: This included explaining when and why the practice can cause harm or disrupt social orders, which inherently involved foregrounding that the practice itself is not problematic per se but rather who applies that practice. Rather than wholly disagreeing with the stigma and avoiding apologizing for it (Hampel & Tracey, 2017) or making changes to the stigmatized practices (Helms & Patterson, 2014) as previous studies have found, the present research illustrated how acknowledging the fear-inducing nature of an occupation's practices paved the way for individuals to also remove the stigma from their identities by conveying that engaging in these practices does not necessarily imply a person has morally dubious intentions. Thus, distinguishing and explaining both the practices and identities of the occupational community in a single narrative was mutually reinforcing and integral to assuaging audiences' fears.

Finally, individuals' distinction between their identities and practices opened space for individuals to correctly place audiences' fears on malicious actors conducting these practices and subsequently convey the positive value of their occupation. As individuals acknowledged audiences' fears, it was important to help audiences understand where this fear comes from, which typically involved pointing to real-world examples of when the practices did pose serious problems. The final step in effectively managing the fear-based stigma was then to foreground the identities of individuals in the stigmatized occupation to present them as a

solution to these real-world problems. Thus, facilitating positive outcomes through identity-based narrative tactics depended on the practice-based narrative tactics that laid a foundation from which individuals could convey the positive value of their occupation. These dynamics between practice-based and identity-based stigma management provide a novel perspective to mitigating core identity stigmatization as individuals did not experience identity threats and focus on infusing their work identity with positive meaning (Ashforth et al., 2007; Ashforth & Kreiner, 1999). Instead, this narrative process reflected how tactics of individuals distinguishing themselves from "bad apples" or malicious actors (Frandsen & Morsing, 2022; Mikolon et al., 2021) and coopting the stigma (Helms & Patterson, 2014) interacted to facilitate positive outcomes. These findings provide a more nuanced understanding to processes of coopting stigma by illustrating that this can be used to not only attract other potentially supportive audiences but to actively use the fear-inducing nature of the practices to reinforce the positive value these individuals can uniquely provide. In sum, both distinguishing between stigmatized identities and practices and subsequently re-connecting the practices and identities were central to managing the misattributed fear-based stigma.

Transferability and Suggestions for Further Research

These findings suggest that fear-based stigmatization can involve discrepancies in how occupational insiders and outsiders interpret the identities and practices of the stigmatized occupational community. While stigma research has considered how emotions such as disgust impact stigma management, the present study highlights the value in studying the role of additional emotions to extend our understanding of why stigmatization occurs and whether individuals' identities or practices are the root cause of the emotion. This opens new avenues for future research which can explore discrepancies between occupational insiders and outsiders in other fear-based stigmatized occupations, such as police or lawyers who

work closely with criminals (Zhang et al., 2021), or relatively new occupations such as medical cannabis distributors (Khessina et al., 2021).

In addition, the present study explored how stigmatized individuals managed their stigma, and although suggestive evidence of de-stigmatization was present in the public narratives, these findings cannot definitively explain to what extent individuals' efforts led to removing the stigma. A fruitful area for future research is therefore to study the outcomes of individuals' efforts to correct misattributed stigma by more systematically analyzing audience perceptions over time. This would provide important insights into whether misattributed stigma is indeed eventually corrected, reduced, and/or removed. Along these lines, there is rich potential for stigmatization research to address cross-level effects (Zhang et al., 2021), which is particularly valuable for understanding occupational stigmatization that impacts both individuals and organizations. For example, interesting cross-level dynamics further research could address are how organizations may exert a strong influence on public narratives or how potential misalignments between organizations' and individuals' use of the stigmatized word may impact individuals' experience of stigmatization.

Finally, there is also potential for further research to focus more on potential positive outcomes of stigma management, as noted in burgeoning research on individuals drawing on their stigmatized identities to facilitate their work performance (Cha & Roberts, 2019), entrepreneurs harnessing opportunities from stigma (Ruebottom & Toubiana, 2021), and organizations coopting stigma (Helms & Patterson, 2014). The present study contributes a novel process for fostering positive outcomes through distinguishing between identities and practices and building off the positive value of each, and further research can verify whether similar narrative tactics are present in other cases of stigma management being related to positive outcomes. For example, the narrative tactics described in the present study may be

also beneficial for individuals with invisible stigma as they craft when and how to disclose their stigma, such as disclosing one's sexual orientation or criminal record (Ragins, 2008). There is great potential for further research to consider the implications of the interrelationships between targets' stigmatized identities and practices to deepen our theoretical and practice insights into how stigma can be shifted between individuals' identities and practices to foster positive outcomes.

CONCLUSION

Stigmatization poses significant challenges as it discredits targets through moralizing judgments, which can result in the entire occupation and its members being stigmatized, whether based on core identities or discrete practices. By considering the potential for fear to incite misattributed stigma, where stigma is wrongly assigned to the identities rather than the practices of occupational incumbents, this research sheds new light on destigmatization processes. By analyzing both occupational incumbents' and outsiders' narratives, this study teases apart stigma management processes related to identity-based and practice-based stigmatization. This research highlights how fear-based stigma can be coopted to persuade others of the necessity and positive value of one's occupation, rather than merely aiming to cope with the negative impacts of stigmatization. By exploring how both identity-based and practice-based stigma are interrelated, this research contributes to scholarly converstion around how stigma can be effectively managed to not only help individuals survive with the negative impacts of stigmatization but to also thrive and enjoy contributing positive value through their particular identities and practices.

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TABLES AND FIGURES

Table 1. Participants' pseudonyms and roles within the hacker occupational community

Pseudonym	Role	Years in hacking occupational community	Age	Sex	Region
Hugo	Platform leader	35+ years	60-65 years old	Male	Northern Europe
Antoni	Platform founder/leader	20+ years	45-50 years old	Male	Central Europe
Megan	Platform employee	10+ years	30-35 years old	Female	USA
Seb	Platform employee	20+ years	45-50 years old	Male	USA
Rebecca	Platform employee	3+ years	30-35 years old	Female	USA
Andrew	Hacker and platform founder/leader	20+ years	45-50 years old	Male	Western Europe
David	Hacker and platform founder/leader	20+ years	40-45 years old	Male	USA
Stefan	Hacker, bug bounty hunter, and platform founder/leader	10+ years	25-30 years old	Male	Western Europe
Ignacio	Programmer	20+ years	35-40 years old	Male	Southern Europe
Oscar	Hacker	5+ years	30-35 years old	Male	Southern Europe
Isabel	Hacker	5+ years	20-25 years old	Female	Southern Europe
Omar	Hacker and bug bounty hunter	5+ years	15-20 years old	Male	Southern Asia
Hazeem	Hacker and bug bounty hunter	5+ years	15-20 years old	Male	Southern Asia
Josh	Hacker and bug bounty hunter	10+ years	25-30 years old	Male	USA
Eduardo	Hacker and bug bounty hunter	5+ years	25-30 years old	Male	Latin America
Amir	Hacker and bug bounty hunter	2+ years	15-20 years old	Male	Southern Asia
Vikram	Hacker and bug bounty hunter	5+ years	15-20 years old	Male	Southern Asia
Karim	Hacker and bug bounty hunter	2+ years	20-25 years old	Male	Northern Africa
Ricky	Hacker and bug bounty hunter	4+ years	25-30 years old	Male	Southern Asia
Sumit	Hacker and bug bounty hunter	5+ years	25-30 years old	Male	Southern Asia

Table 2. Use of hacker word across public narratives

		Public narratives from occupational outsiders			**Public narratives from occupational insiders**	
		USA news *The Wall Street Journal & The New York Times* (N=156)	India news *New Delhi Television & The Times of India* (N=164)	China news *People's Daily & Xinhua News Agency* (N=12)	Crowdwork platform websites (N=57)	Hacking-related websites (N=20)
Talking about perpetrators of cyberattacks	Using hacker word when describing criminals	74% (n=116)	61% (n=100)	50% (n=6)	14% (n=8)	0
	Avoiding hacker word when describing criminals	21% (n=32)	39% (n=64)	50% (n=6)	0	0
Talking about hackers	Avoiding hacker word when describing hackers	0	0	0	39% (n=22)	15% (n=3)
	Using hacker word when describing hackers	5% (n=8)	0	0	47% (n=27)	85% (n=17)
	Totals	100% (n=156)	100% (n=164)	100% (n=12)	100% (n=57)	100% (n=20)

Table 3. Narrative tactics associated with deciding to address or avoid stigmatization

Main sub-process	Specific narrative tactics	Illustrative quotations
Using stigmatized word	Correcting misunderstandings	*I sought [my dad] out one day over the phone, I was like, "Listen, we either don't talk about what I do, or you call it what I do". Because he was like, "Oh you're debugging things", and I'm like, "No, it's not debugging, it's not code. I'm hacking things."* (Josh) *Some people use that term negatively, and we have been fighting against that. We have been embracing the term. We actually celebrate our hacker community, it's not like, "Oh, we celebrate our ethical hacker community", it is "our hacker community". (Eduardo)*
	Correcting fear	*Nobody trusts ethical hackers when they first hear the words. You need to hear the word ethical hacker maybe 20 times before you start thinking, "Hey, these people may be up to something good."* (Stefan) *We cybersecurity people are the ones who really call ourselves hackers. The others are cybercriminals.* (Oscar)
	Referring to social proofs	*Sometimes I tell my friends that I'm a hacker, that you can search for me on Google. They start searching and get my pictures, they get my name on Hall of Fames like NASA Tiktok, IBM. They are so excited to learn what I work for, they told me to teach them.* (Karim) *I'm proud to say I'm a hacker. Companies like Microsoft and Apple are saying I'm a hacker. Now I proved myself.* (Ricky)
Avoiding stigmatized word	Avoiding fear	*With the movies and everything, [hacker] got associated with something bad. So this is why we always tend to use the word researcher.* (Seb) *Because the hacker term was feared so much in the public, we normally are very careful in different areas.* (Hazeem)
	Drawing on non-stigmatized identities	*We avoid saying hacker. We use bug bounty hunter or pentester.* (Amir) *I prefer to simply call myself a security analyst.* (Omar)
	Adjusting according to audiences	*Once they get to know us, then we can say that "Yeah, I'm a hacker."* (Hazeem) *It's very hard for me to explain to [my family], that's why mostly I remain silent.* (Sumit)

Table 4. Narrative tactics associated with acknowledging and mitigating fear

Main sub-process	Specific narrative tactics	Illustrative quotations
Distinguishing identities	Defining the hacker word	*If you check the definition or you try to understand what a hacker means, it's basically someone who thinks differently and finds creative solutions for different problems* (Eduardo) *Anybody who, who bypasses a path to do something… If you have the right intuitions and creativity, that would be a hacker.* (Sumit)
	Explaining right vs wrong	*For example, I have a knife and I am cutting vegetables. But it's enough to have a knife, and they can murder. What I'm saying is, if you have a tool, you only know how to use it. If you use it in a wrong way, that is very wrong. You should use it in the right way.* (Ricky) *When we're doing bug bounty hunting, they have a defined scope in which we have to hunt… But oftentimes, I've had people who've asked me things like, 'Hey, this is not in scope, but it's critical info, should I be checking this?' …And then I'm very happy when people ask these questions, because it's not something that you have to do. Going beyond the scope doesn't protect you under the law, so don't do that… The kind of questions that I've been receiving are very mature.* (Sumit)
	Conveying hacker values	*The ultimate objective of cybersecurity is to protect data and prevent attacks* (Isabel) *I think independent thinkers naturally are passionate about doing the right thing, and about also effecting change in the world. And so if you see something that's broken, and can be fixed, and a lot of users depend on that, you want the company to change it, you want that to work.* (Andrew)
Distinguishing practices	Explaining hacking in everyday terms	*Unfortunately, while we are trying to improve the level of information security, the word hacker has become bad in people's minds, but I tried to explain "hacker" in real terms to my family and that hackers are not as scary as they think.* (Vikram) *My family I think they can't understand this, but I try to make it as simple as I can to let them know what I work in* (Karim)
	Drawing contrasts with other occupations	*It's continuous learning, maybe like the medical profession, there are professions where you have to be very updated because what you knew yesterday doesn't work anymore* (Ignacio) *It's what entrepreneurs do as well, it depends a little bit on what do you follow as an entrepreneur, you can follow power and money, or you can follow fixing something* (Andrew)
	Normalizing hacking	*These are just people like you and me who are excited about knowing one or two things* (Seb) *There's much more hackers out there than people actually define or know that they're hackers* (Stefan)

Table 5. Narrative tactics associated with conveying value through corrected base of fear

Main sub-process	Specific narrative tactics	Illustrative quotations
Placing fear on practices	Mentioning real-world cyberattacks	*We're talking thousands, and hundreds of thousands of companies across the globe that get attacked every day.* (Seb) *For example governments, China, 250 times a day use automatic tools to go to all the doorknobs and locks and pull them, to see if somebody has left the door open… The advantage with technical tools is you can cover a lot of doors. You go in, see if there is anything, and if there is something, then you attack and gather information, put in the Trojan, put in the worm, the cryptolocker, whatever.* (Igancio)
	Explaining security is an attitude	*We need more companies realising that they can't just do one penetration test a year and think they are going to be secure. They need constant security testing to actually recognise those flaws and fix those fast.* (Eduardo) *There is no such thing as absolute security, there can always be someone smarter, someone who gets there first, or someone who discovers something by chance that no one knew about.* (Ignacio)
	Justifying need for cybersecurity	*Another aspect, of course, is tech is the future. So everyone is doing everything online. We have Internet of Things, you have the mobile apps… I hate to say that but in a way the pandemic helped the community big time.* (Seb) *Compliance is a very important part of cybersecurity. We take some standards or regulations to meet… for example if it is a company that has an online store or that handles very sensitive data, such as credit cards and so on, then logically that company… has to comply to the letter, if not, it cannot [work].* (Isabel)
Conveying positive value of identities	Protecting everyone	*We are constantly talking about making the world and internet a safer place.* (Megan) *Big companies and all companies that store people's data should work for data security and welcome hackers and security researchers who report bugs to them.* (Vikram)
	Leveraging the hacker community	*Once we get engaged, we have this interesting constellation that there are customers who come to us because we have access to the best ethical hackers. At the same time, they may not always want to deal immediately with them. So we sort of bring them slowly together and show that actually, it is valuable to have a direct connection to the hackers because they can bring so much insight and information.* (Hugo) *Companies can have hundreds of people pentesting or trying to secure the applications, and they normally don't have the budget, they normally don't have the team. So using the community for that is a great benefit.* (Eduardo)
	Counting on specialists	*We actually know how a hacker thinks.* (Hazeem) *People ask me if AI [artificial intelligence] will reduce our community, but I think of it in a different way. The AI only does what you tell it to do. As a hacker, I can bypass it anytime. Even AI was made by a human, and if a developer used AI, he might think that the security is high, but as a hacker I can bypass it anyway. The AI has a limit.* (Karim)

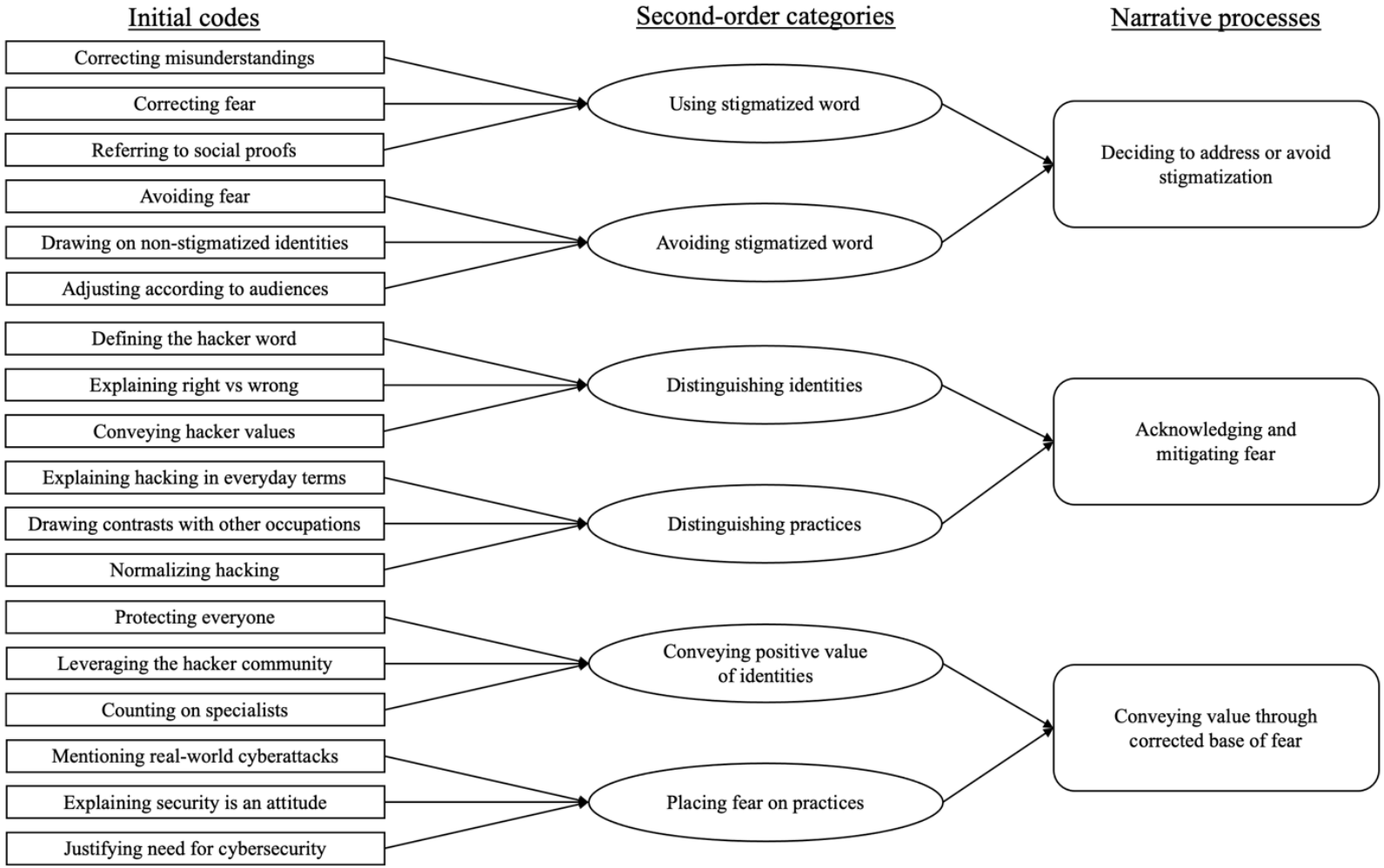

Figure 1. Data structure displaying how initial codes were categorized and related to specific narrative processes

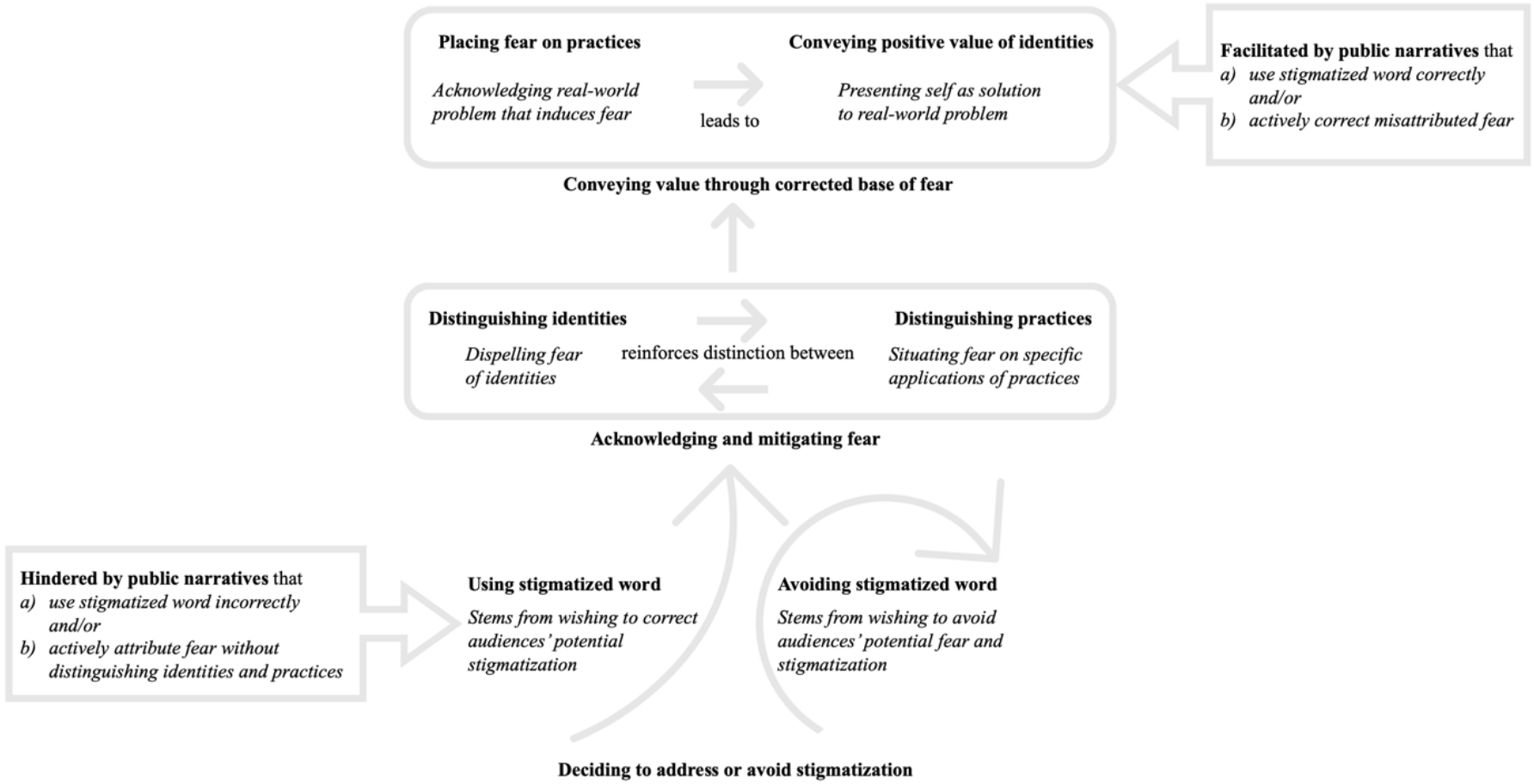

Figure 2. Narrative process model of correcting misattributed fear-based stigma

APPENDIX

Interview Guide

- What do you do? Please tell me about your work and what a regular working day or week looks like for you.
- Why did you get into this work? Was there something in particular that motivated you to start working in bug bounties?
- How do you explain what you do to other people (such as family, friends, or potential employers)? Do you usually introduce yourself as a hacker? Why or why not?
- How do you react when you see news stories about cyberattacks or criminal hackers?
- What do you think of the broader community of hackers? Do you see yourself as an "active part" of this community, or do you feel you can rely on this community for (personal or professional) support?
- Are you satisfied with this work? Why or why not? (Are you able to sustain yourself well with the work from this platform? Or do you ever worry about making enough money or completing enough bounties?)
- Where do you see yourself going in your work or career?

Chapter 3: Sustaining mutual engagement between platforms and workers in the gig economy

ABSTRACT

The gig economy depends on gig workers' engagement in both completing paid tasks requested by client organizations in intermediating platforms and dedicating time and energy to learning, building an online signal, and seeking sources of support. The lack of formal employment relationships between gig workers and platforms distributes important human resource management (HRM) processes across workers, clients, and platforms, making gig workers' engagement uniquely challenging. While research on standard employment relationships has developed theorization of HRM configurations organizations implement for different profiles of employees, the gig economy challenges the underlying assumption that organizations recruit and allocate workers into static HRM configurations. In this conceptual paper, we analyze platforms' HRM configurations as inherently processual, effectively funneling the large pool of gig workers based on the strategic value and uniqueness of gig workers' contributions and supporting gig workers' varying levels of engagement, including sporadic engagement, deepening engagement, and exiting the gig economy. We adopt signaling theory to theorize how gig workers convey their strategic value or uniqueness to platforms and how platforms' algorithmic and human management convey countersignals concerning value contributions. We thus develop a processual model explaining gig workers' and platforms' mutual engagement and discuss implications for research on HRM configurations in the gig economy and responsible sustainment of gig workers' engagement. We provide suggestions for further research on gig workers' potential career crafting pathways and the role of human management in platforms. With these conceptual insights, we strive to support mutually beneficial arrangements between platforms and gig workers.

Keywords: Engagement, gig economy, gig workers, intermediating platforms, HRM configurations, process theory

INTRODUCTION

The experience of gig workers can range from feeling overly controlled to enjoying high flexibility in carrying out one's work (Spreitzer et al., 2017), making understanding engagement in the gig economy an important concern. Intermediating platforms that connect individual workers with client organizations depend on a steady stream of engagement from gig workers (Meijerink et al., 2021), but the highly transactional nature of the relationship between gig workers and platforms can dampen gig workers' engagement (Cropanzano et al., 2023).

Platform algorithms are designed to facilitate gig workers' completion of paid tasks, but the lack of a formal employment relationship between platforms and gig workers disperses many human resource management (HRM) practices between platforms, clients, and workers, leaving gig workers to pursue learning and support by themselves (Kost et al., 2020). On the one hand, platforms are highly efficient in managing gig workers' engagement in completing paid tasks, because algorithmic management can effectively captures signals of gig workers' performance and quality (Lehdonvirta et al., 2019). On the other hand, gig workers also often engage in making unpaid contributions (Pulignano et al., 2023) and extra-role behaviors such as helping other workers or providing extraordinary service to clients (Moorman et al., 2024). Even though engaging with other gig workers or clients is not always formally recognized in platform's algorithmic management, the gig economy also depends on these unpaid contributions to sustain the distributed HRM within the gig economy (Kost et al., 2020).

Gig workers' engagement in the gig economy is important because they provide necessary labor for client organizations and platforms depend on continuous engagement from the vast pool of talent of gig workers. Current research has explained that experiencing gig work as more or less positive tends to vary between individuals conducting high-skilled

versus low-skilled work (Spreitzer et al., 2017), yet research on what drives gig workers' engagement has also pointed out that all gig workers can become extrinsically controlled through algorithmic management (Gagné et al., 2022).

Therefore, to shed light on the experience of engagement between gig workers and platforms, we take a step back to consider gig workers' broader desires and how these can be met or reshaped as they engage in the gig economy. The gig economy presents technological disruptions that profoundly shape individuals' engagement in work, as the complex socio-technical systems of platforms can restrict gig workers' autonomy and drive them to engage in unpaid labor in addition to completing paid tasks in the platform (Pulignano et al., 2023). Gig workers may engage in platforms to pursue their motivations for flexibility (Spreitzer et al., 2017), pay (Kuhn & Maleki, 2017), or professional growth (Petriglieri et al., 2019), and platforms bear little directive control over these workers (Cappelli & Keller, 2013; Spreitzer et al., 2017). Instead of platforms selecting gig workers into static HRM configurations, it is important to consider how gig workers self-select into platforms. We thus address the research question: *How do individual workers and digital intermediaries mutually engage in the gig economy?*

In this conceptual paper, we analyze how platforms structure gig workers' engagement and how gig workers engage in the gig economy. We review relevant literature to explain how platforms structure gig workers through algorithmic and human management in their HRM configurations and how gig workers engage in the gig economy by making paid and unpaid contributions towards fulfilling their individual goals. We then theorize how platforms' and gig workers' engagement interact through signaling mechanisms, with gig workers signaling their strategic or unique value to platforms and platforms capturing signals of varying strength to offer desirable opportunities to gig workers and facilitate continuous engagement. We present a processual model explaining how platforms and gig workers mutually engage

through a series of funneling structures with a mix of HRM practices that support gig workers' various levels of engagement and convey to workers how they can pursue their desired outcomes related to flexibility, pay, and/or professional growth.

This paper contributes to understanding of engagement in the gig economy by introducing the notion of *engagement funnels* as a novel conceptualization of HRM configurations (Lepak & Snell, 2002) in gig work platforms. We explain how gig workers and platforms mutually engage with one another through funnels of varying engagement. By identifying pathways through which platforms can support gig workers' engagement in fulfilling individual motivations, we contribute to scholarly understanding of gig workers' engagement and provide practical suggestions for platforms to effectively manage engagement. In addition, we shed light on gig workers' engagement by extending signaling theory to the gig economy to explain patterns of signals workers send to platforms and how platforms can capture and interpret these signals through their HRM practices to manage engagement. We thus strive to illustrate how engagement can be in concordance between platforms and workers with ongoing renegotiations occurring (Cornelius et al., 2022) to support platforms' need for continuous engagement and workers' pursuits of their individual goals.

This paper is structured as follows. We first review why engagement in the gig economy is challenging and what the key concerns are for platforms and gig workers. Then, we conceptualize HRM configurations in the gig economy by considering how core assumptions undergirding the relationship between platforms and gig workers are different to standard work arrangements. We discuss key theoretical concepts that explain how platforms' HRM practices structure gig workers' engagement. Based on this, we analyze and develop a processual explanation of how gig workers mutually engage with platforms in the gig economy. We finally discuss theoretical and practical implications of gig workers'

engagement and provide suggestions for further research to develop insights into mutually beneficial engagement processes and outcomes in the gig economy.

ENGAGEMENT IN THE GIG ECONOMY

Gig work refers to "externalized paid work organized around 'gigs' (i.e., projects or tasks) that workers engage in on a term-limited basis without a formal appointment within a particular organization" (Caza et al., 2022, p. 4). This definition thus includes gig workers conducting physically located work (e.g., delivery drivers and independent consultants) and online work (e.g., microtask workers and IT programmers). Gig workers vary in how financially dependent they are on a given platform, with some engaging in gig work as a side hustle to their standard employment (Sessions et al., 2021) and others using the platform to secure their primary source of income (Kuhn & Maleki, 2017). In this paper, we focus on gig workers who complete work tasks through a digital intermediary, such as a mobile app-based or online crowdwork-based intermediary, which we refer to as platforms. In the gig economy, platforms host discrete work tasks on behalf of client organizations and provide payments to workers for completed tasks. Gig work can consist of low-skilled work, such as ride hailing (Cameron, 2022) and making deliveries (Duggan et al., 2023), or high-skilled tasks, such as IT programming (Gegenhuber et al., 2021) and creative work (Rahman, 2021), with varying degrees of autonomy afforded through algorithmic control. However, maintaining engagement in the gig economy presents novel challenges for platforms and gig workers.

Key Concerns for Platforms

Platforms depend on a steady stream of activity from gig workers (Meijerink et al., 2021), yet they do not have formal employment relationships with gig workers that allow platforms to select, retain, support, and develop workers (Bush & Balven, 2021). Moreover, many platforms actively avoid providing such human resource management (HRM) services to gig workers precisely because they do not want to risk gig workers becoming classified as

employees, which would incur significant costs for platforms (Meijerink & Keegan, 2019). Thus, platforms may attempt to encourage gig workers' engagement through other means, such as showcasing participation (Reischauer & Mair, 2018) or providing suggestions for when and how to complete tasks (Cameron, 2022) to nudge desired behaviors, but these can be perceived as overly controlling and spur resistance from gig workers (Cameron & Rahman, 2022). In addition, as platforms have low barriers to entry (Cropanzano et al., 2023), they often have to manage a very large pool of gig workers. To keep HRM costs at a minimum, platforms rely on algorithmic management (Kuhn et al., 2021).

To theorize how platforms engage with gig workers and how gig workers engage in the gig economy, we begin by considering HRM configurations that organizations utilize with employees in standard work arrangements. The seminal work of Lepak and Snell (2002) described four HRM configurations related to four profiles of employees by distinguishing employees' strategic value, which refers to an employee's potential to impact the effectiveness of the organization, and uniqueness for the organization, which reflects the degree to which an individual's human capital is rare, specialized, and firm-specific (Barney, 1991). Knowledge-based employees bear both high strategic value to the organization and high uniqueness within the pool of potential workers. As a result, organizations can adopt commitment-based HRM configurations to support knowledge-based employees and facilitate these employees' subsequent engagement in the organization.

Job-based employees are characterized by low strategic value to the organization but high uniqueness within the pool of potential workers, due to their idiosyncratic knowledge of the organization, leading to productivity-based HRM configurations being a good fit. Alliances or partnerships tend to have low strategic value to the organization but high uniqueness, making collaborative-based HRM configurations ideal. Finally, contractual work arrangements represent low strategic value and low uniqueness, resulting in compliance-based

HRM configurations. An important insight from this typology of HRM configurations is that an organization's workforce is not homogeneous and HRM practices can manage different groups of employees based on the strategic value and uniqueness of each subset of individuals (Lepak & Snell, 2002).

However, the nature of the gig economy challenges the underlying assumptions regarding how HRM practices can be implemented to select and retain individuals. The low barriers to entry and exit render most traditional recruitment and selection practices inadequate for platforms (Bush & Balven, 2021). While contractual work arrangements were positioned as having low strategic value and uniqueness to a hiring organization (Lepak & Snell, 2002), platforms in the gig economy depend entirely on this alternative work arrangement, making gig workers highly valuable to platform organizations despite platforms' lack of directive control over workers (Cappelli & Keller, 2013; Spreitzer et al., 2017). Yet the lack of a formal employment contract can result in flexible and fluid commitment from gig workers towards platforms or clients in the gig economy (Cropanzano et al., 2023).

A platform's strategic value could stem from the speed with which tasks are completed, such as delivery platforms allowing restaurants to meet their customers' demand (Meijerink et al., 2021), or the quality of the tasks completed, such as online platforms matching graphic designers with clients who have specific project needs (Rahman, 2021). In contrast, as the low barriers to entry of platforms permit a very large number of gig workers to participate in the platform, ensuring the uniqueness of gig workers' human capital is more likely to be a secondary concern for platforms (Keegan & Meijerink, 2022). The nature of the gig economy thus suggests that platforms may be primarily concerned with securing contributions from workers that are of strategic value, since that is how platforms can continue growing their base of client organizations (Keegan & Meijerink, 2022).

Key Concerns for Gig Workers

Managing engagement is also challenging for gig workers themselves, as the high autonomy and flexibility can be a double-edged sword (Spreitzer et al., 2017). Gig workers can be confronted with income volatility, lack of organizational support, threats to their identities, career uncertainty, and social isolation (Caza et al., 2022). Gig workers have to engage in career-related behaviors, relational behaviors, and develop cognitive and emotional capabilities to thrive, as opposed to merely survive, in the gig economy (Ashford et al., 2018). In addition, gig workers can face restrictions, frustrations, and precarity from the pervasive yet opaque control of algorithms (Kellogg et al., 2020). Thus, while the gig economy offers potential for gig workers to fulfil their desires for flexibility, pay, or professional growth, their engagement is continuously shaped by algorithmic management and instability in the gig economy.

To understand the nature of gig workers' engagement, it is important to consider individuals' underlying fundamental drives. Previous research has illuminated that gig workers have diverse motivations, such as money (Kuhn & Maleki, 2017), flexibility (Spreitzer et al., 2017), and professional development (Petriglieri et al., 2019). Some individuals engage in gig work to pursue flexibility and autonomy that is not typically found in standard employment, while other individuals defer to gig work because they have no other better alternatives (Spreitzer et al., 2017). While gig workers can vary in how intrinsically or extrinsically motivated they are to enter gig work, all workers are likely to experience greater controlled motivation as they undergo algorithmic management (Gagné et al., 2022). Moreover, even instrumentally motivated activities in the gig economy can lead to higher engagement, such as going above and beyond with clients or helping other workers (Moorman et al., 2024).

An emergent insight across the literature on individuals' motivations to engage in gig work realized through online crowdwork or app-mediated platforms, including low-skilled

and high-skilled tasks, is that gig workers experience both autonomous and controlled motivation, albeit to different degrees depending on the nature of the platform. For example, even though Uber and Amazon Mechanical Turk are among the most extrinsically controlling platforms studied in previous literature (Duggan et al., 2023), a sizable portion of individuals engage in these platforms because they value the flexibility and opportunity to earn extra money, usually because they engage in gig work as a side hustle to their high-skilled standard employment (Keith et al., 2019; Sessions et al., 2021). Similarly, while high-skilled gig work such as graphic design and program engineering tends to afford workers greater autonomy, here too gig workers often experience high extrinsic control that dampens their autonomy and intrinsic drivers (Rahman, 2021). Thus, we examine what drives gig workers' different levels of engagement by considering their drives for potential positive or desirable outcomes of gig work: flexibility, financial growth, and/or professional growth.

HOW PLATFORMS STRUCTURE GIG WORKERS' ENGAGEMENT

Effectively managing gig workers necessitates overcoming information asymmetries between platforms and the quality, or strategic value, of gig workers, as each party has access to information from which the other could somehow benefit. Thus, signaling theory provides a useful lens for describing how gig workers might communicate, or signal, information about themselves to platforms, the receivers, who then interpret these signals (Meijerink et al., 2024). In this context, a signal refers to private positive information about oneself that the gig worker wishes to transmit to platforms to reduce information asymmetries, and the strength of a signal depends on how observable it is to the platform and how costly it is for the gig worker to convey that signal (Connelly et al., 2011). For example, gig workers can signal their ability to provide strategic value to a platform by consistently completing tasks or securing high ratings from clients (Lehdonvirta et al., 2019). Countersignals refer to responsive signaling from the platform to improve the interpretation of signals between gig workers and

platforms (Connelly et al., 2011), such as platform algorithms that define pre-programmed paths of activity towards providing valued contributions to the platform (Duggan et al., 2023).

Algorithmic Management in Platforms

Instead of relying on standard HRM practices based on directive control, platforms utilize algorithmic management and human management. Algorithmic management refers to using computer programmed procedures to transform input data from workers into desired outputs of workers' activities (Kellogg et al., 2020). Algorithmic management plays a key role in how platforms interact with gig workers, as algorithms can receive a large number of signals, such as gig workers' activity in the platform, and algorithms can send countersignals to gig workers about the desired strategic value of the platform (Kuhn et al., 2021). Any tasks completed by gig workers are processed through algorithmic management, and previously completed tasks can be combined with client ratings to generate overall reputation scores for gig workers in the platform (Kuhn & Maleki, 2017). Algorithmic management can thus effectively distinguish between gig workers who contribute greater or less strategic value by involving clients as a third party that evaluates the quality of the individuals' work (Bergh et al., 2014).

In addition, algorithmic management can convey penalty costs, or provide negative feedback to mitigate false signaling from workers (Connelly et al., 2011). Indeed, gig workers are often penalized for bad ratings, as seen among microtask workers (Fieseler et al., 2019) and software engineers (Rahman, 2021). However, algorithmic management has also been found to penalize gig workers if they did not meet the platform's demands, such as ride-hailing drivers rejecting lower paid work rides in favor of higher paid rides (Rosenblat & Stark, 2016). Although algorithms can convey clear pathways or expectations for gig workers to contribute strategic value (Duggan et al., 2023), the controlling and opaque nature of algorithms, especially when doling out penalty costs, makes this one of the most problematic

aspects of platforms' engagement with gig workers (Kellogg et al., 2020; Rahman, 2021; Wood et al., 2019), with negative impacts on gig workers' autonomy (Meijerink & Bondarouk, 2023), motivation (Gagné et al., 2022), and ability to understand and respond to factors that determine their success (Rahman, 2021).

Human Management in Platforms

Platforms also utilize human management, or the intervention of platform managers to evaluate or assign tasks works in lieu of the algorithm (Pulignano et al., 2023). While algorithmic management offers platforms an efficient means to channel strategically valuable contributions, human management can provide platforms with greater flexibility for managers to intervene in algorithmic decisions and recognize gig workers' tacit, non-codifiable contributions or human capital (Holford, 2019). Although human management of gig workers in platforms is not as pervasive as algorithmic management, human managers are another important receiver of gig workers' signals. In particular, human managers are more capable of detecting and interpreting potentially noisy signals from gig workers that algorithmic management may miss if it is not pre-programmed to capture such signals (Holford, 2019), such as workers' behaviors that are open to multiple interpretations (Gal et al., 2020).

The ability to receive unstructured or unexpected signals seems particularly relevant for platforms' identification of gig workers who can offer unique, in addition to strategic, value. This is because algorithmic management tends towards homogenizing gig workers' contributions to a platform, such that all gig workers can complete the same types of tasks and can largely only be distinguished by their client ratings or the frequency of their activity (Lehdonvirta et al., 2019). While quantitative client ratings can easily be processed by algorithms, qualitative client comments can contain nuances or convey sentiments that algorithms might not be programmed to capture. In addition, human managers can convey countersignals through active communication with gig workers (Gegenhuber et al., 2021) and

sending invitations to higher paying or more interesting work tasks (Meijerink et al., 2024). Gig workers also often value receiving input from human managers beyond only algorithmic control (Kellogg et al., 2020; Pulignano et al., 2023). This additional layer of human management is important to expand a platforms' ability to detect relevant signals and encourage higher engagement from gig workers who have high strategic value and uniqueness. We display a summary of the key points arising from HRM configurations of platforms and signaling theory that inform how platforms structure gig workers' engagement in Table 1.

[INSERT TABLE 1 HERE]

Understanding Engagement as a Process

Considering that platforms do not bear formal directive control over gig workers (Cappelli & Keller, 2013; Spreitzer et al., 2017), yet they depend on workers' contributions and engagement, platforms do not use standard practices for recruiting and onboarding individuals into distinct, static HRM configurations. Instead, platforms interact with a large, potentially global, pool of talent from which they identify which workers are of strategic value to the platform and engage with these workers in differential ways (Meijerink et al., 2024). It thus becomes important to conceptualize HRM configurations of platforms as inherently processual: For a gig worker to gain the attention of the platform, they would first need to send sufficiently strong signals that can be received by the algorithmic management, at which point the human management can then search among the reduced pool of relatively high quality workers to offer additional support (i.e., the human manager can intervene in the algorithmic management) and foster higher engagement from gig workers with high strategic value and uniqueness.

To develop a processual theorization of how platforms and gig workers engage with one another, we conceptualize the HRM configurations of platforms as funnels through which

workers can progress as they increase their engagement with gig work. We explain how gig workers progress through these funnels of engagement by considering the signal mechanisms that allow platforms to identify valued workers. Conceptualizing HRM configurations in the gig economy as processes of funneling extends current theorization by challenging the assumption that HR managers select and sort workers into specific configurations that elicit desired contributions. Instead, we posit that platforms utilize a combination of HRM configurations (Keegan & Meijerink, 2022) that are sequentially structured such that workers can progress through each configuration as they increase their engagement. The work of Keegan and Meijerink (2022) described the hybrid nature of platforms' HRM practices, such that platforms utilize commitment- , compliance- , and productivity-based configurations with gig workers, which provides an important cross-sectional view of how platforms may structure gig workers' engagement. Building from this conceptualization, we consider the process through which gig workers engage with platforms and potentially move through the different simultaneously existing HRM configurations. We present our conceptual process model of how gig workers and platforms mutually engage in Figure 1. Next, we discuss how engagement between gig workers and platforms can be sustained in the gig economy.

[INSERT FIGURE 1 HERE]

HOW GIG WORKERS ENGAGE IN THE GIG ECONOMY

The First Funnel of Baseline Engagement

Sending initial signals to a platform

Gig workers primarily engage with platforms by completing tasks offered in the platform, such as realizing deliveries or client projects, and gig workers then receive pay for making these contributions to the platform. Gig workers' paid contributions are facilitated by algorithmic management, resulting in workers sending highly observable and costly signals of their strategic value. Due to the low barriers to entry and exit in the gig economy, this first

funnel of engagement in the gig economy has the highest number of workers. To process information received from a large pool of workers, algorithmic management is a highly efficient means for channeling gig workers through the initial setup of their profiles and showing gig workers how they can complete paid tasks (Duggan et al., 2020). While platforms differ in how much autonomy they afford gig workers in choosing their tasks (Pulignano et al., 2023), all gig workers face algorithmic management upon initially engaging with a platform. Individuals who seek flexibility (Spreitzer et al., 2017), financial gains (Kuhn & Maleki, 2017), or professional gains (Petriglieri et al., 2019), can create a profile in their chosen platform and begin completing paid tasks.

A gig workers' activity in a platform, or the frequency of their successfully completed tasks (i.e., paid contributions), is an important signal received by a platform's algorithmic management (Lehdonvirta et al., 2019; Meijerink et al., 2024). In addition, a gig workers' history of previously completed jobs can signal the individual's competence or skills (Leung, 2014; O'Mahony & Bechky, 2006). While some platforms do enforce some initial vetting of gig workers, the requirements to join these platforms is usually not too costly for individuals to absorb, such as Uber drivers having to undergo a background check (Rosenblat, 2018) or nursing platforms that require relevant certification (Meijerink et al., 2024), in which case any individual joining such a specialized platform is likely to already possess the relevant certification. With low entry and exit barriers, this is also where the highest level of turnover can be expected, as gig workers can easily enter and exit as some begin trying out gig work to see if they wish to continue with it or others only sporadically engage in gig work as a side hustle to their other income-generating work (Sessions et al., 2021). Thus, a gig workers' initial engagement in a platform consists of completing tasks and making paid contributions, which represents the baseline level of gig workers' engagement.

Sending strong signals of one's strategic value

Paid contributions convey strong signals to platforms, as completing work tasks is highly observable to the platform's algorithmic functioning and necessitates workers' time and effort in adhering to a platform's rules and algorithmic management. For example, research on freelancers in a platform found that the pattern of previously completed work tasks effectively signaled the worker's commitment to prospective clients, which was important for securing desired work tasks that satisfied workers' financial or professional goals (Leung, 2014). Moreover, the algorithmic functioning of the platform ensures completed tasks convey an honest signal (Connelly et al., 2011; Durcikova & Gray, 2009) since it is difficult for workers to falsely signal having completed a task, such as completing a ride or submitting a project. Indeed, previous research has found that "out of the different signaling options available, platform-generated signals are the strongest predictors of earnings" (Lehdonvirta et al., 2019, p. 569).

When considering how costly completing different kinds of paid tasks are for gig workers, current research often distinguishes between tasks requiring knowledge-intensive or creative work and tasks that are routine or standardized, requiring little or no prior knowledge (Gegenhuber et al., 2021). Signaling theory is based on an assumption that completing higher-skilled work sends a stronger signal of a worker's latent quality (Leung, 2014), because investing in the requisite prior knowledge is a cost absorbed by the worker (Spence, 1973). However, platforms in the gig economy inherently depend on the completion of work tasks they host, rendering both high-skilled and low-skilled tasks strategically valuable. For instance, platforms that host relatively low-skilled work tasks, such as Uber and Amazon Mechanical Turk, can equally depend on gig workers who are motivated to secure the majority of their income through the platform (Berg, 2015) as well as gig workers who already have high-skilled standard employment but engage in the platform to make additional money or flexibly craft their careers (Keith et al., 2019; Sessions et al., 2021). As the

completion of work tasks is a key input in each gig workers' ratings or performance statistics in the platform (Lehdonvirta et al., 2019; Meijerink et al., 2024), we conceptualize workers' paid contributions as a strong signals to a platform of that gig worker's strategic value.

Within this first funnel of engagement, all gig workers are completing paid tasks and hence sending similar signals of their strategic value to the platform. For a gig worker to become distinguished among the whole pool of talent, they can vary their signal strength through the frequency of signals (i.e., paid contributions) they send to grow their algorithmically managed reputation (Lehdonvirta et al., 2019). Thus, the frequency of a gig worker's task completion can vary considerably depending on how intrinsically or extrinsically motivated they are to engage in gig work.

Individuals who depend on a platform as their primary source of income are more likely to feel extrinsically controlled to frequently complete paid tasks, including behaviors such as not rejecting any tasks (Cameron & Rahman, 2022) or staying logged in to the platform for as long as possible (Pulignano et al., 2023). Thus, gig workers who seek to grow their income or their professional opportunities, such as stretching their skills (O'Mahony & Bechky, 2006) or completing more interesting work (Fieseler et al., 2019; Lehdonvirta et al., 2019), are likely to engage relatively more to send stronger signals to the algorithmic management of the platform.

In contrast, individuals who do not depend on the earnings they gain from a platform may engage sporadically, for instance as a side hustle to their standard employment (Sessions et al., 2021) to gain extra money or to learn new skills and knowledge (Keith et al., 2019). In other words, gig workers who are driven by the flexibility offered in the gig economy or the potential to make additional money alongside their other sources of income may be satisfied with maintaining a baseline of engagement.

Thus, regardless of whether an individual feels more extrinsically or intrinsically motivated, we posit that gig workers who wish to grow financially and/or professionally need to send stronger signals of their strategic value by completing a higher frequency of tasks, relative to the others gig workers in the platform who may be primarily driven by the flexibility offered in the gig economy.

The Second Funnel of Growing Engagement

Building a sufficiently strong signal

This second funnel of engagement encompasses platforms' efforts to encourage high quality contributions from gig workers, and algorithmic management is the key mechanism through which platforms can sort gig workers by their reputational scores (Kellogg et al., 2020). A clear signal of a gig worker's strategic value is the quantity and/or quality of paid tasks an individual completes, such as a driver who consistently meets periods of high demand (Duggan et al., 2023) or a programmer who effectively completes challenging tasks (Rahman, 2021). Gig workers receive countersignals from the platform's algorithmic management conveying what contributions are considered strategically valuable: Algorithmic management can push gig workers to meet clients' demands (such as Uber's surge pricing; Rosenblat & Stark, 2016) and offer incentives such as higher pay or more interesting work based on a gig worker's history of completed tasks (Leung, 2014), reputation in the platform (Xu et al., 2023), and compliance with the platform's rules (Veen et al., 2020). Platforms can also offer rewards such as access to premium areas of the platform that confer exclusive badges of recognition (Xu et al., 2023) or free training in additional skills (Meijerink et al., 2024). Gig workers may also become engaged in online forums to learn strategies from other gig workers for building their reputational score (Waldkirch et al., 2021). In other words, "as these workers become engaged on the platform for longer periods of time, they wish more for opportunities of advancement or perks that come with seniority, such as primary access to

tasks" (Fieseler et al., 2019, p. 998), and we posit this is where a gig worker's reputation in a platform becomes paramount.

Gig workers who successfully gain access to desired tasks may maintain their level of engagement and stay within this funnel. For example, MTurk workers who secure a high reputational score can be filtered by clients requesting tasks, such that these workers receive invitations to tasks that are not visible to the entire pool of workers (Jabagi et al., 2019). Other gig workers manage to achieve some sense of stability in the amount of work and pay they receive, thus reaching a level of engagement with which they are satisfied (Keith et al., 2019).

In pursuit of growing their reputational score in a platform, this funnel of engagement is where gig workers may begin to also make unpaid contributions. As the subset of gig workers in this second funnel of engagement are making similar paid contributions, an individual can strengthen their signal to platforms by also making unpaid contributions, such as proactively contacting platform managers to provide feedback (Gegenhuber et al., 2021), cultivating good relationships with clients to foster repeated collaboration (Pulignano et al., 2023), and offering other organizational citizenship behaviors (OCBs) to signal they possess desirable qualities (Moorman et al., 2024). Unpaid contributions can send strong signals to platforms when they are high in observability and cost. For example, providing extraordinary service to clients can lead to a gig worker receiving higher ratings, which is observable by the platform (Cameron, 2022; Moorman et al., 2024). Another example is when a gig worker hosts or creates online content to share their knowledge with other workers (Schwartz, 2018) or engages in proactively helping, teaching, or supporting other workers through platform-hosted online spaces (Reischauer & Mair, 2018)

Despite the highly transactional relationship between platforms and gig workers, individuals participating in open online platforms actually can and do still engage in a range of discretionary activities that are not directly remunerated or extend beyond the basic role of

participation (Yen et al., 2011), leading scholars to develop a novel conceptualization of gig worker citizenship behaviors (Moorman et al., 2024). For example, gig workers may go beyond the minimum requirements of a given task, such as Uber drivers decorating their cars to spark conversations and connections with customers (Cameron, 2022). Gig workers may also engage in online communities (Anicich, 2022) and helping other workers, such as coaching newcomers (Fieseler et al., 2019; Wong et al., 2021) or hosting online forums (Keith et al., 2019) and WhatsApp groups (Idowu & Elbanna, 2021). In addition, gig workers may invest considerable time and effort into developing their knowledge and skills (Cropanzano et al., 2023) and engaging with other workers to identify career paths (Schwartz, 2018). Even when gig workers are motivated by financial goals, they may engage in unpaid contributions to construct meaning in their work (Cameron, 2022) and instrumentally signal their engagement to platforms to improve their access to further work tasks (Moorman et al., 2024).

However, this funnel of engagement is also where gig workers face greater sources of stress from opaque algorithmic management, penalty costs, and potentially high competition for access to attractive tasks or premium areas of the platform (Gagné et al., 2022). Therefore, a crucial inflection point can occur in this second funnel of engagement as gig workers may adjust their motivations in response to the demands they now face. For instance, gig workers may begin to feel frustrated by the opacity of algorithmic evaluations that dole out relatively high penalty costs to an individual's reputation score for seemingly minor "infractions" such as rejecting a task (Fieseler et al., 2019) or logging out of the platform (Pulignano et al., 2023).

Gig workers may also engage in "gaming" the system to manipulate the variables entered in the algorithm to obtain or secure their desired reputational scores (Cameron & Rahman, 2022). For example, Uber drivers may turn off their availability when in particular

neighborhoods (Kellogg et al., 2020) or ignore the algorithmic suggestions altogether (Cameron, 2022), and gig workers may speak directly with clients to request specific kinds of ratings or avoid requesting ratings from clients with whom they had a negative interaction (Bucher et al., 2021; Rahman, 2021). In addition, gig workers may organize against the platform and engage in protests or legal action (Kellogg et al., 2020). Even gig workers who successfully gained access to higher-paying tasks may still face high competition or demands to continue increasing their paid or unpaid contributions, such as having to accept long wait times for deliveries (Pulignano et al., 2023) or working off the clock to satisfy a client's demands (Rahman, 2021). Importantly, gig workers may begin targeting their unpaid contributions towards not only platforms but also potential employers or other gig workers, as these unpaid contributions can help the gig workers develop their portfolio of work experience or open new pathways to craft their career within or beyond the gig economy.

Perceiving human countersignals from platforms

Gig workers may begin to place greater importance on achieving financial stability or work-life balance and pay attention to potential opportunities for fulfilling these motivations. We posit that gig workers' perceptions of platform countersignals and other opportunities in the gig economy explain why gig workers may decide to increase their engagement towards a platform, the gig economy more broadly, or preparing to exit the gig economy. Gig workers may exit the gig economy by pursuing standard employment (Kost et al., 2020) or entrepreneurship, which could involve starting their own company or even making a business related to the gig economy, such as managing other gig workers (Idowu & Elbanna, 2021) or founding associations to facilitate gig workers' collective action against platforms (Gray & Suri, 2019). Therefore, gig workers may become driven to increase or change the nature of their unpaid contributions to signal not only their strategic value but also the uniqueness of their knowledge and skills (O'Mahony & Bechky, 2006) or their capabilities in being a

proactive or collaborative worker (Moorman et al., 2024), which can potentially be leveraged to secure desired career outcomes from the platform or an employer outside of the gig economy.

If a gig worker receives countersignals from a platform that they can continue growing, for example by being invited to a premium program (Meijerink et al., 2024) or receiving personalized support for their career path (Bush & Balven, 2021), the gig worker is likely to increase their engagement towards the platform. In the first funnel, there are too many gig workers for managers to feasibly pay attention to and invite into more attractive opportunities (Kuhn et al., 2021), such as those that offer greater financial stability or paths for crafting one's career. The initial funneling of gig workers now makes it possible for human managers to intervene and make targeted efforts towards facilitating the engagement of gig workers who convey high strategic and unique value, for example by proactively communicating with a worker (Gegenhuber et al., 2021), designing opportunities such as access to a premium program (Meijerink et al., 2024), receiving personalized support (Pulignano et al., 2023), and career guidance (Kost et al., 2020). Thus, human managers can begin sending novel countersignals through their active engagement and help ensure that the platform will not lose these valued workers.

Conversely, if the gig worker does not receive any such countersignals from platforms, such as their messages to platform managers going unanswered (Gegenhuber et al., 2021) or not seeing any premium programs in the platform, then the worker is likely to increase their engagement towards clients or other gig workers to build signals of their quality targeting potential employers (Lehdonvirta et al., 2019) or other opportunities for growth (Schwartz, 2018). For instance, gig workers may focus on building their signal within the broader gig economy by proactively helping other workers (Wong et al., 2021), contributing to online communities (Gerber, 2021), and becoming recognized by other workers as someone who can

give expert advice (Waldkirch et al., 2021). While platforms can still indirectly benefit from gig workers' unpaid contributions targeting clients or other gig workers, for example since these contributions may involve training other workers (Kost et al., 2020), the individual may eventually disengage from the gig economy once they secure their desired work.

Thus, gig workers seeking further growth may begin strategically signaling their unique qualities, which can be done by increasing the variety of signals sent, such as paid contributions as well as unpaid contributions. In addition, gig workers can supplement contributions that are not very costly for workers, such as posting comments in online communities (Rullani & Haefliger, 2013), discretionally providing additional information in their online platform profile (Moorman et al., 2024), or reporting task-related issues through the platform's communication channels (Gegenhuber et al., 2021), with other signals that are more costly. Overall, since unpaid contributions are less observable to platforms, it is important that gig workers perceive someone is receiving these signals of their uniqueness, which could be platform managers, clients, and/or other gig workers.

The Third Funnel of Deep Engagement

If gig workers are pursuing financial stability and/or further crafting of their careers, they are likely to continue making high quality paid contributions to sustain their platform reputational score. In addition, these gig workers may increase their unpaid contributions, such as proactively helping other workers, clients, and/or the platform, depending on opportunities the individual perceives. Many platforms have an expansive reach of gig workers, such as app-based intermediaries operating in multiple cities or platform-based intermediaries connecting with global workers online, and to pursue growth, platforms stand to benefit greatly from having some gig workers actively helping the platform as an official partner or even employee.

Platform managers may consider hiring a gig worker to work for the platform if they perceive the worker to be a good fit or have potential to contribute value from within the platform organization. For example, if a gig worker could demonstrate their strategically valuable and unique qualities to the platform, such as programming skills, the platform could hire that individual to work on developing the platform's algorithmic management. It is important to recognize that making such a category shift is difficult, but gig workers can pursue such "stretchwork" by acquiring referrals or framing and bluffing about their capabilities to gain access to new kinds of work and learn on the job (O'Mahony & Bechky, 2006). While convincing a platform to hire a gig worker may be difficult for an individual gig worker, the individual's history of strong signals that were captured by the algorithmic management in combination with the weak signals perceived by human managers can arguably help the worker make this transition.

Alternatively, platforms may establish an official partnership with a gig worker and make them a manager of the community of gig workers, acting as an ambassador or someone who can encourage others to become engaged with the platform. For instance, platforms managers may invite a gig worker to exclusive work tasks or events (Meijerink et al., 2024) or offer other opportunities the worker may find fulfilling, such as managing the community of gig workers as an official partner of the platform. Gig workers may be able to persuade the platform to hire or officially partner with them by conveying a combination of signals, such as less observable soft skills or relevant skills from other areas, which can contribute to an overall stronger signaling effect in combination with the gig workers' previous contributions and platform reputation. At the same, the gig worker can continue making paid contributions to the platform to receive pay, or they may also pursue financial stability by seeking standard employment. However, this subset of gig workers are likely to continue engaging with the platform in their official partner roles if they find it intrinsically valuable (Wong et al., 2021).

In other words, as platform managers are motivated to craft mutually satisfying solutions, they may now perceive that the individual can offer contributions of greater strategic and unique value by enacting their official partner role, for example as a community manager, as opposed to focusing on completing paid tasks in the platform.

As a whole, this processual explanation of engagement between platforms and gig workers depicts how platforms may channel and identify valuable gig workers as well as how gig workers can send different signals to fulfil their motivations in the gig economy. Rather than selecting gig workers into static HRM configurations, this process model illustrates how mutual engagement can be sustained as gig workers self-select into platforms' dynamic HRM configurations.

DISCUSSION

Gig workers' engagement in making both paid and unpaid contributions is crucial for upholding the gig economy as HRM practices, such as providing support for learning and navigating work activities, is dispersed among intermediating platforms, client organizations, and gig workers (Kost et al., 2020). On the one hand, platforms cannot obligate gig workers to increase their engagement because they do not have a formal employment contract, and more importantly, such strategies spur problematic exploitation of gig workers. On the other hand, gig workers often engage in learning, helping others, and going above and beyond with clients because they want to grow financially or professionally. It is therefore important to understand how platforms and gig workers can mutually engage to fulfill their goals: Platforms can maintain ongoing engagement by funneling gig workers by their preferred level of engagement, and gig workers can adjust their engagement to pursue their goals. By understanding the process of mutual engagement between platforms and gig workers, we extend theorization about HRM configurations in the gig economy and provide practical suggestions for platforms to manage gig workers' engagement.

Theoretical Contributions

We contribute to theorization of platforms' HRM configurations by explaining the underlying mechanisms that shape the process of engagement between platforms and gig workers. As platforms do not utilize selection and development practices that form the foundation of current understanding of HRM practices in standard employment arrangements (Bush & Balven, 2021; Duggan et al., 2023), we argue that viewing HRM configurations as static structures for organizing workers does not apply to platforms (Keegan & Meijerink, 2022). Instead, platforms' HRM configurations are inherently processual, permitting individuals to self-select into a platform and allowing platforms to funnel workers by their varying levels of engagement to support ongoing contributions that provide value to the platform. This presents a novel conceptualization of HRM configurations in the gig economy that is applicable to both high-skilled and low-skilled gig work and can provide a foundation for further empirical research adopting important theoretical lenses such as the nature of employment relationships (Duggan et al., 2020) and psychological contracts (Cropanzano et al., 2023).

As individuals can engage in gig work with diverse motives and contributions, we also illustrate how signaling theory can provide a helpful lens for researchers to understand gig workers' engagement. While previous research has primarily relied on social exchange theory to explain notions of unpaid contributions such as OCBs (Moorman et al., 2024), it has also been recognized that most exchanges in the gig economy are likely to be transactional in nature (Cropanzano et al., 2023). Yet, this is not to say that gig workers do not deeply engage in providing OCBs nor that meaningfulness cannot be derived from these OCBs, both for the worker providing them as well as the recipients of these unpaid contributions. In other words, these transactional relationships seem to bear fewer negative connotations than what is seen among research in standard work arrangements (Moorman et al., 2024). Instead,

instrumentally motivated exchanges may be prevalent across gig workers, but signaling theory can help explain what kind of information individuals' different contributions may convey as well as how an individual's repertoire of contributions may combine to strengthen the signals they send.

At the same time, platforms send countersignals through algorithmic management to indicate to gig workers what kinds of contributions are considered strategically valuable. The funneling process of algorithmic management then provides platform managers with a reduced pool of talent on which they can focus their attention to interpret other noisier signals, such as those stemming from gig workers' unpaid contributions. If a platform also aims to facilitate engagement from gig workers possessing unique knowledge or capabilities, the intervention of human managers can effectively identify gig workers who are both strategically valuable and unique, as these kinds of workers can be more difficult to identify through algorithmic management alone. These insights thus extend current theorization of platform's HRM strategies by more explicitly considering the role of human managers.

Current research has largely focused on the algorithmic management of platforms, explaining how algorithms reshape HRM processes (Duggan et al., 2023; Keegan & Meijerink, 2022), impact gig workers' experiences (Rahman, 2021; Wood et al., 2019), and introduce complex problems of excessive control (Kellogg et al., 2020). The burgeoning literature has provided valuable insights into how platforms can responsibly harness algorithmic management, but research has only begun to touch on considerations of human management in platforms (Pulignano et al., 2023). Platform managers are better suited to interpreting a broader range of signals from gig workers (Gal et al., 2020; Holford, 2019), such as unpaid contributions that are crucial for sustaining the gig economy but do not directly contribute to the worker's algorithmic reputational score. Therefore, we posit that platforms can effectively capitalize on their human managers to engage with gig workers who

have already been funneled through the algorithmic management and developed a reputational score as a high-quality worker. Not only can this help platforms identify gig workers of high strategic and unique value, but intervention from human managers can also send strong and valuable countersignals to gig workers (Gegenhuber et al., 2021; Meijerink et al., 2024), effectively motivating them to deepen their engagement with the platform.

Finally, this research also sheds new light on how gig workers can craft their careers in the gig economy. By paying attention to platforms' countersignals and making both paid and unpaid contributions, gig workers can progress through the HRM funnels of a platform and develop their knowledge and experience as they gain access to more demanding or interesting work tasks. In addition, the online portfolio a gig worker gradually builds can be harnessed as a signal to other potential employers of the individuals' skills and capabilities (Lehdonvirta et al., 2019). While the transferability of reputations across platforms can be limited, we also suggest that gig workers can convey signals outside of the platform through their varied unpaid contributions (such as an individual's influence in an online community or social media). Moreover, gig workers can engage in career crafting by strategically targeting their signals towards different receivers, such as clients who could provide referrals or potential employers who may pay attention to a gig worker's overall portfolio of experience or CV, as opposed to only looking at their reputational score in a platform. In sum, we see great potential in moving research on gig workers' career crafting forward by considering the signals sent by gig workers' paid and unpaid contributions that may fluidly traverse the boundaries between the gig economy and other communities or organizations.

Practical Implications

This process model of engagement between platforms and gig workers can serve as a helpful framework for platforms to consider how they can tailor their HRM practices to manage their pool of gig workers and pursue their strategic goals. In the first

place, this process model of engagement funnels foregrounds the fact that gig workers have diverse motivations for engaging in gig work, such as seeking flexibility, financial growth, or professional development. Rather than implying that platforms should aim to increase engagement of all gig workers, this model illustrates how all levels of engagement can be strategically valuable to platforms. On the one hand, gig workers who complete tasks only sporadically and are not motivated to move beyond a baseline level of engagement can stay within the first funnel and contribute ongoing activity in the platform. On the other hand, gig workers who are motivated to grow in the platform are likely to be receptive of countersignals sent by the platform and thus increase their engagement to provide valuable contributions.

Therefore, platforms can consider what kinds of countersignals they want to convey, especially through their algorithmic management. Moreover, in light of burgeoning research on the negative consequences of overly controlling and opaque algorithmic management (Gagné et al., 2022; Kellogg et al., 2020), we suggest that platforms reflect on what kinds of countersignals are central to maintaining valued contributions and which countersignals may be counterproductive to encouraging gig workers' engagement. One configuration of countersignals that bear particularly strong potential is the use of premium programs (Meijerink et al., 2024) or offering other valued opportunities for highly engaged gig workers, such as personalized support (Pulignano et al., 2023) and career guidance (Kost et al., 2020). While this implies increasing the platform's investment in gig workers, the process of funneling gig workers can help platforms secure a high return on their investment by targeting the most valued workers who will then be more likely to deepen their engagement with the platform.

In addition to carefully considering the countersignals conveyed by their algorithmic management, we see great potential for platforms in strategically harnessing their human managers and bringing these managers into a more observable or central role within their gig

worker management processes. Platforms can certainly manage their vast pool of gig workers with algorithmic management, but this seems most appropriate within the first funnel of engagement and for channeling gig workers into the second funnel of engagement. Once a gig worker has developed a sufficiently high reputation score, however, we suggest that the intervention of human managers can have a strong positive influence on both gig workers' engagement and the value captured by the platform. By harnessing the reputational scores of gig workers, managers can capitalize on the platform's algorithmic management to focus their efforts on gig workers who can contribute not only strategic but also unique value to the platform. Managers can interpret noisy signals from gig workers and convey strong countersignals (Gegenhuber et al., 2021; Meijerink et al., 2024). In addition, gig workers tend to be appreciative of human managers' interventions in algorithmic management (Pulignano et al., 2023), and our research suggests that high quality gig workers in this second funnel are likely to exit the gig economy if they do not perceive any countersignals from human managers. If platforms miss these gig workers' signals indicating their interest in increasing their engagement with the platform, the platform can potentially lose valuable gig workers who then choose to exit the gig economy.

Finally, a key insight from this research is that platforms can also implement the third funnel of engagement, whereby gig workers may be invited to become official partners of the platform or even hired into the platform organization. Our review of current research suggests this third funnel does not exist in all platforms, but we argue that this can provide valuable opportunities for platforms to encourage deep engagement from gig workers of high strategic and unique value and thus provide contributions that can greatly contribute to a platform's growth or competitive advantage. In particular, these gig workers have intimate familiarity with the nature of gig work and the community of gig workers, thus possessing highly valuable tacit knowledge that can help the platform learn and continue developing novel

strategies for growing and maintaining a competitive edge. Even if a platform does not have the space or resources to hire additional employees, appointing gig workers as an official partner can confer valuable status and meaningfulness to these workers without necessarily having to enter a standard employment arrangement. Instead, these gig workers can gain nonpecuniary benefits from their distinguished role and potentially leverage this to gain standard employment while engaging as an official partner on the side. Platforms can certainly structure this third funnel in myriad ways, and we hope our suggestions help platforms consider the value of focusing on identifying unique gig workers (beyond only strategically valuable gig workers) and crafting arrangements that can be mutually satisfying for both the platform and the gig worker.

Suggestions for Further Research

Our research opens multiple pathways for research to build understanding of platforms' and gig workers' engagement in the gig economy. This process model can serve as a foundation for further research to conceptualize engagement, including how gig workers with diverse motivations may engage in the gig economy and how platforms may implement HRM configurations to structure gig workers.

One area of research for which this process model may be particularly helpful is gig workers' career crafting. Current research has identified a range of gig workers' behaviors related to career crafting, such as developing resilience and being proactive (Ashford et al., 2018) and engaging in online communities to discern the next steps in their career (Schwartz, 2018). In addition, platforms engage in processes of identifying and differentiating talent among gig workers, and further research can analyze to what extent gig workers seek career progression and how they realize their goals in the gig economy (Meijerink et al., 2024). By considering platforms' HRM configuration as a processual series of funnels, scholars can

explore when specific career crafting behaviors can lead to different outcomes, such as growing in the gig economy or exiting into standard employment.

In particular, we see great potential in studying the role of human managers, as this has received markedly less attention than algorithmic management. The nature of algorithmic management presents important concerns regarding control (Cameron & Rahman, 2022), privacy (Kellogg et al., 2020), and fairness (Fieseler et al., 2019) that are important for future research to address. We suggest that dedicating more attention to the role of human management can provide important insights for counterbalancing some of the contentious aspects of algorithmic management, such as gig workers' struggles with opacity (Pulignano et al., 2023) or perceived unfairness in the exchange relationship between gig workers and platforms (Cropanzano et al., 2023). Further research on how platforms can effectively facilitate human intervention in algorithmic control and offer mutually satisfying opportunities to gig workers could help platforms develop effective and responsible strategies for encouraging gig workers' engagement.

CONCLUSION

Platforms depend on continuous engagement from gig workers, but encouraging further engagement from gig workers can become highly problematic if workers' autonomy is overly restricted or the platform exploits workers by demanding higher engagement without offering any benefits in return (Cropanzano et al., 2023). Moreover, as HRM practices are dispersed in the gig economy across intermediating platforms, client organizations, and individual workers (Kost et al., 2020), the gig economy also depends on workers' unpaid contributions, such as extra-role behaviors or OCBs that can include proactively helping others and developing relevant knowledge (Moorman et al., 2024). By framing how engagement between gig workers and platforms can result in sending different kinds of signals, we develop a processual model explaining how algorithmic and human management

of platforms can structure gig workers' varying levels of engagement as they strive to achieve their goals. This conceptualization of engagement in the gig economy can extend scholarly conversation and provide practical insights regarding mutually beneficial platform strategies for supporting gig workers' engagement.

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TABLES AND FIGURES

Table 1. Theoretical foundations of platforms' and gig workers' mutual engagement

	Platforms	**Gig workers**
Key drivers behind sending/receiving signals	Strategic value of gig workers' engagement with platform is more important than uniqueness of gig workers' engagement	Flexibility, financial gains, professional gains
Signaling relationship	Receive signals from gig workers	Send signals on the platforms
How engage in sending/receiving signals	Algorithmic management ascribes penalty costs, both algorithmic and human management send countersignals of how gig workers' signals are interpreted	Gig workers adjust their behaviors related to making paid and unpaid contributions to platforms and gig economy in response to experience with platform

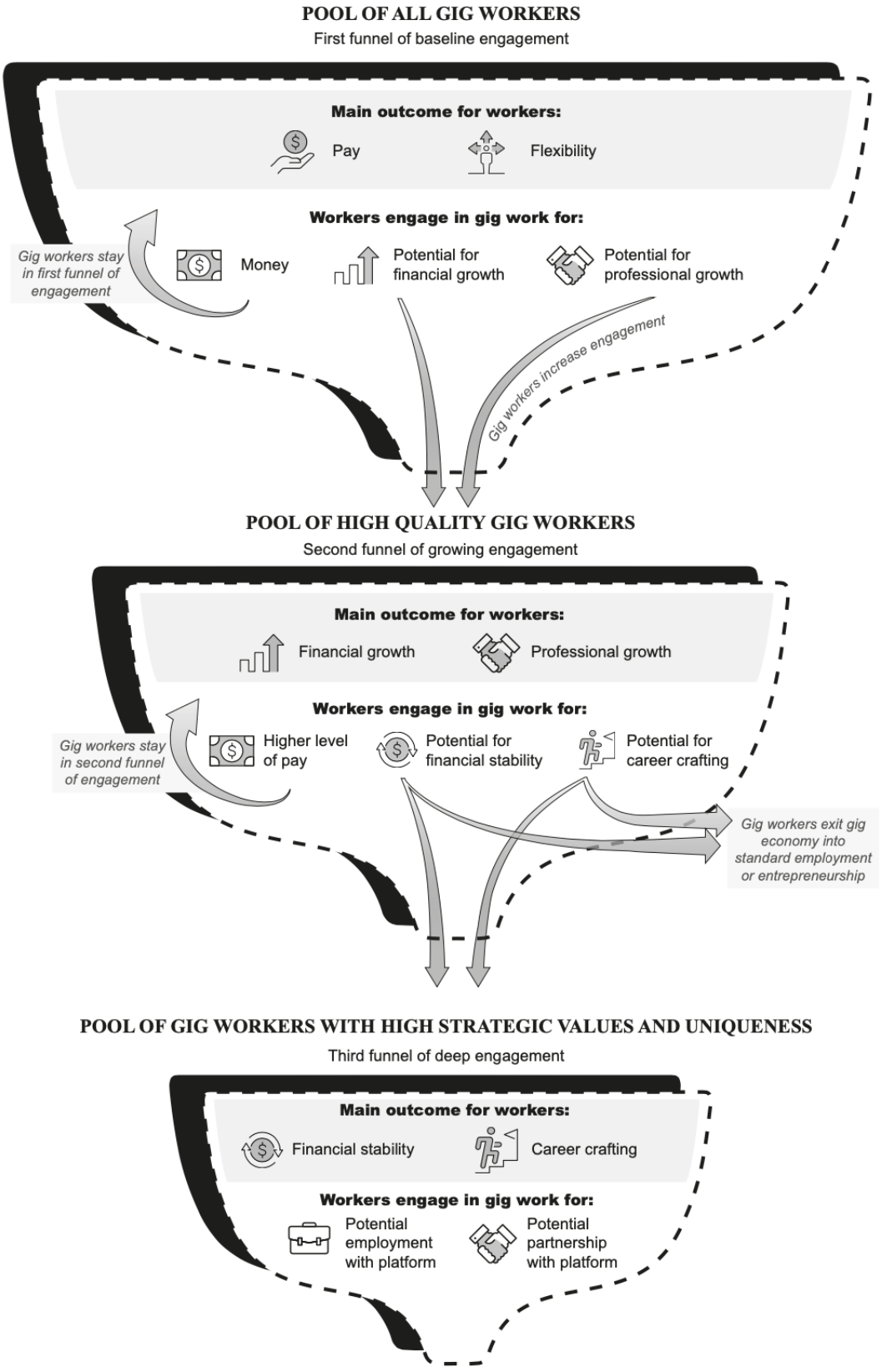

Figure 1. Process model of platforms' and gig workers' mutual engagement

CONCLUSION

Community forms of organizing are taking on renewed importance in the new world of work. Employee-driven learning is becoming more prevalent across organizations, especially as technology makes it more feasible than ever before to allow employees to create learning contents and engage in peer-to-peer development. This phenomenon stretches beyond current conceptualizations of employee development models because learning content providers are no longer the human resources managers or other managers in the organization (Bell et al., 2017; Dachner et al., 2021; Noe et al., 2014), and employees can choose to invest in different kinds of human or social capital (Becker, 1962; Campbell et al., 2012). The findings from this first study shed light on how individuals accrue returns from investing in developing themselves or their peers, and we hope to spur further research on this phenomenon.

Stigmatization poses significant challenges as it discredits targets through moralizing judgments, which can result in the entire occupation and its members being stigmatized, whether based on core identities or discrete practices. By considering the potential for fear to incite misattributed stigma, where stigma is wrongly assigned to the identities rather than the practices of occupational incumbents, this research sheds new light on destigmatization processes. By analyzing both occupational incumbents' and outsiders' narratives, this study teases apart stigma management processes related to identity-based (Hudson, 2008; Hudson & Okhuysen, 2009) and practice-based (Clark & Li, 2023) stigmatization. This research highlights how fear-based stigma can be coopted to persuade others of the necessity and positive value of one's occupation (Helms & Patterson, 2014), rather than merely aiming to cope with the negative impacts of stigmatization. By exploring how both identity-based and practice-based stigma are interrelated, the findings from the second study contribute to scholarly converstion around how stigma can be effectively managed to not only help

individuals survive with the negative impacts of stigmatization but to also thrive and enjoy contributing positive value through their particular identities and practices.

Platforms depend on continuous engagement from gig workers, but encouraging further engagement from gig workers can become highly problematic if workers' autonomy is overly restricted or the platform exploits workers by demanding higher engagement without offering any benefits in return (Cropanzano et al., 2023). Moreover, as HRM practices are dispersed in the gig economy across intermediating platforms, client organizations, and individual workers (Kost et al., 2020), the gig economy also depends on workers' unpaid contributions, such as extra-role behaviors or OCBs that can include proactively helping others and developing relevant knowledge (Moorman et al., 2024). By framing how engagement between gig workers and platforms can result in sending different kinds of signals, the third study develops a processual model explaining how algorithmic and human management of platforms can structure gig workers' varying levels of engagement as they strive to achieve their goals. This conceptualization of engagement in the gig economy can extend scholarly conversation and provide practical insights regarding mutually beneficial platform strategies for supporting gig workers' engagement. As a whole, this dissertation strives to build understanding of how communities can be sustained within and across organizations.

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CONCLUSIÓN

Las formas comunitarias de organización están adquiriendo una importancia renovada en el nuevo mundo del trabajo. El aprendizaje impulsado por los empleados es cada vez más frecuente en las organizaciones, sobre todo porque la tecnología hace más factible que nunca que los empleados creen contenidos de aprendizaje y participen en el desarrollo de empleado a empleado. Este fenómeno va más allá de las conceptualizaciones actuales de los modelos de desarrollo de los empleados, porque los proveedores de contenidos de aprendizaje ya no son los directores de recursos humanos u otros directivos de la organización (Bell et al., 2017; Dachner et al., 2021; Noe et al., 2014), y los empleados pueden optar por invertir en diferentes tipos de capital humano o social (Becker, 1962; Campbell et al., 2012). Las conclusiones de este primer estudio arrojan luz sobre el modo en que los individuos obtienen beneficios al invertir en su propio desarrollo o en el de sus compañeros, y esperamos estimular nuevas investigaciones sobre este fenómeno.

La estigmatización plantea retos importantes, ya que desacredita a los objetivos a través de juicios moralizantes, lo que puede dar lugar a que toda la ocupación y sus miembros sean estigmatizados, ya sea basándose en identidades básicas o en prácticas discretas. Esta investigación arroja nueva luz sobre los procesos de desestigmatización al tener en cuenta la posibilidad de que el miedo incite a atribuir erróneamente el estigma a las identidades y no a las prácticas de los titulares de las ocupaciones. Mediante el análisis de los relatos tanto de los titulares de las ocupaciones como de las personas ajenas a ellas, este estudio desmenuza los procesos de gestión del estigma relacionados con la estigmatización basada en la identidad (Hudson, 2008; Hudson y Okhuysen, 2009) y la estigmatización basada en la práctica (Clark y Li, 2023). Esta investigación pone de relieve cómo el estigma basado en el miedo puede ser cooptado para persuadir a otros de la necesidad y el valor positivo de la propia ocupación

(Helms y Patterson, 2014), en lugar de simplemente tratar de hacer frente a los impactos negativos de la estigmatización. Al explorar cómo el estigma basado en la identidad y el estigma basado en la práctica están interrelacionados, los resultados del segundo estudio contribuyen a la conversación académica sobre cómo el estigma puede gestionarse eficazmente no solo para ayudar a las personas a sobrevivir con los impactos negativos de la estigmatización, sino también para prosperar y disfrutar aportando valor positivo a través de sus identidades y prácticas particulares.

Las plataformas dependen de la participación continua de los trabajadores gig, pero fomentar una mayor participación de los trabajadores gig puede resultar muy problemático si la autonomía de los trabajadores está excesivamente restringida o si la plataforma explota a los trabajadores exigiéndoles una mayor participación sin ofrecerles ningún beneficio a cambio (Cropanzano et al., 2023). Además, dado que las prácticas de gestión de recursos humanos están dispersas en la economía colaborativa entre las plataformas intermediarias, las organizaciones clientes y los trabajadores individuales (Kost et al., 2020), la gigeconomía también depende de las contribuciones no remuneradas de los trabajadores, como los comportamientos extra-rol o OCB que pueden incluir la ayuda proactiva a los demás y el desarrollo de conocimientos relevantes (Moorman et al., 2024). Al enmarcar cómo el involucramiento entre los trabajadores gig y las plataformas puede resultar en el envío de diferentes tipos de señales, el tercer estudio desarrolla un modelo procesual que explica cómo la gestión algorítmica y humana de las plataformas puede estructurar los diferentes niveles de involucramiento de los trabajadores gig a medida que se esfuerzan por alcanzar sus objetivos. Esta conceptualización del involucramiento en la gigeconomía puede ampliar la conversación académica y proporcionar ideas prácticas sobre estrategias de plataformas mutuamente beneficiosas para apoyar el involucramiento de los trabajadores gig. En conjunto, esta tesis se

esfuerza por comprender cómo se pueden mantener las comunidades dentro de las organizaciones y entre ellas.

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