A PSYCHOLOGICAL NEEDS FRAMEWORK FOR REFUGEE INTEGRATION IN THE WORKPLACE

by

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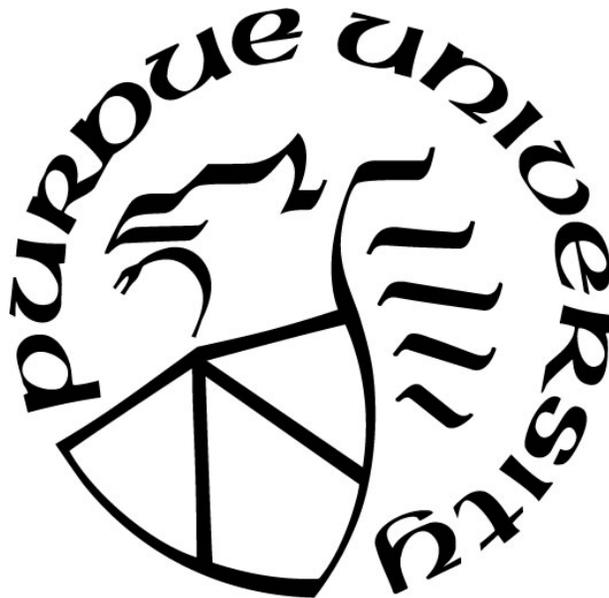
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ABSTRACT

In the face of an increasingly pressing refugee crisis, host organizations have become a key context for refugee integration (Bimrose & McNair, 2011). Successful integration is critical to refugees' well-being. However, our theoretical understanding of this process is still limited. This is partly because research centering on refugees is scarce, and the literature lacks a unifying framework to explain how varied integration practices could address refugee needs. To address this gap, the current study applies self-determination theory (SDT) to systematically understand how organizational practices may support refugees' autonomy, competence, and relatedness needs. To do so, I examine refugee (vs. non-refugee) perceptions of organizational support helpfulness and explore its underlying processes (e.g., needs deprivation, work centrality). Findings suggest that refugees tend to view autonomy and relatedness practices as especially helpful, and these relationships are mediated through higher work centrality. I conclude with a discussion of the theoretical and practical implications of the findings for refugee workplace integration.

INTRODUCTION

At present, the world faces the task of addressing an increasingly pressing refugee crisis, one that has forced approximately 70.8 million individuals to flee their homes due to persecution, war, or violence (UNHCR, 2019b). Many have little choice but to resettle in host countries; however, with limited local language abilities, social networks, and resources, this adjustment is often fraught with stressors and challenges. A lack of support to overcome such barriers may prevent refugees' full integration into societal entities, such as into organizations where refugees will seek employment. Successful integration (i.e., "the absorption of the immigrant within the social and cultural framework of the new society") is critical to refugees' well-being (Henry et al., 2019). As a crucial context for refugee integration (Bimrose & McNair, 2011), organizations are well-positioned to consider their role in supporting refugees by developing support practices that effectively facilitate refugee integration in the workplace.

Despite the importance of organizational efforts to support refugee integration, our knowledge of how organizations can best assist refugees is still quite limited (Morrice, 2011). Partly this is because research centered on refugees is scarce. Another significant reason is that the literature lacks a unifying framework to explain how varied integration practices could address refugee needs. We may know *what* organizations are doing to support refugees; however, we do not fully understand *how* these practices help. To address this knowledge gap, this paper aims to integrate the organizational and positive psychology literature on needs fulfillment to advance our understanding of organizational approaches in supporting refugees' needs.

It has been well-established that workers' well-being is essential for organizational functioning (Guest, 2017), and its achievement heavily depends on the fulfillment of core needs (León & Núñez, 2013). Borrowing insights from *self-determination theory* (SDT), the current research proposes a basic needs framework of refugee integration and examines refugee (vs. non-refugee) workers' *perceived helpfulness of practices*, that is, the extent to which recipients of the organizational support perceive it to be useful or beneficial in attaining their needs.

In this study, the "perceived helpfulness" of organizational practices is evaluated according to its perceived anticipated ability to facilitate the fulfillment of psychological needs that have been argued to be essential to well-being: autonomy, competence, and relatedness (Ryan & Deci, 2000). Perceived helpfulness of organizational support practices in the context of this study is

distinguished from *perceived organizational support* (POS)*,* which refers to employees' *generalized perceptions* involving the extent to which their organization cares about their well-being (Kurtessis et al., 2017). POS has been linked to the fulfillment of socioemotional needs and greater psychological well-being, outcomes of which could be of interest in determining refugee employees' integration success (Kurtessis et al., 2017). It is certainly possible that higher perceptions of the organizational support practice helpfulness are related to more POS overall; in fact, offering any access to organizational support practices may be enough to achieve greater POS. However, the current study focuses on and measures employee's evaluations and perceptions of specified forms of organizational support, that is, practices that have been intentionally designed to support the psychological needs and organizational integration of refugee employees. In other words, it more directly assesses how specific examples of organizational support are viewed as useful in facilitating particular outcomes (e.g., psychological needs), rather than a generalized perception of organizational support.

The current study represents a first step towards systematically understanding how organizational practices can support refugees' needs in the integration process, and aims to explore the following question: *How does refugee status impact the perceived helpfulness of organizational support practices in terms of fulfilling basic psychological needs?* Findings from this study will provide insights into: (1) How common integration practices are viewed as helpful in potentially fulfilling refugees' three basic psychological needs, (2) Whether refugees and non-refugee workers differ in their perceptions of organizational practice helpfulness, and (3) What mechanisms may explain differing helpfulness perceptions of practices between refugee and non-refugee workers. In the following, I will first discuss the importance of refugee integration for both refugees and organizations, introduce the SDT framework, then present the study design and analyses. I will conclude with a discussion on the findings and its theoretical and practical implications for refugee workplace integration.

Refugees, Organizations, and Workplace Integration

According to the United Nations High Commissioner for Refugees (UNHCR), a *refugee* is someone who has been forced to flee his or her country because of persecution, war, or violence (UNHCR, 2019b). There are roughly 26 million refugee-status individuals globally – the largest number in recorded history (Samber & HIAS.org, 2019). For a long time, the United States refugee

resettlement program was the largest globally, welcoming approximately three million refugees since 1975 (UNHCR, 2020). Upon resettling in the U.S., refugee individuals are provided with legal work authorization, and are expected to join the labor force as soon as possible – typically within 90 days of their arrival (Mathema, 2018). It is unsurprising, then, that a high percentage of refugees are active contributors and participants in the U.S. labor force. According to the 2016 Annual Survey of Refugees conducted by the Office of Refugee Resettlement, 67% of the refugees between the age of 16 and 64 were in the American labor force, a number that is comparable to the U.S. labor force participation rate (74%; Mathema, 2018).

Compared to locals and other traditional immigrant workers in organizations, refugee workers are commonly faced with additional workplace challenges. Unlike traditional immigrants, refugees relocate due to necessity rather than desire, often experience a mismatch in their skills and the local labor market's needs, and tend to arrive with fewer established social connections. Indeed, research has shown that refugees face many obstacles related to employment, such as facing higher standards from employers compared to local job candidates (Lundborg & Skedinger, 2016). In response, refugees have adopted various coping mechanisms, such as improving language skills, participation in assimilation and multicultural activities, and seeking social support from other refugees (Baranik et al., 2018). These coping strategies demonstrate refugees' desire and motivation to integrate into their workplaces and the local community. Altogether, these factors leave refugees in a uniquely challenging situation and call for organizations to step up and mobilize their efforts to integrate refugees smoothly into the workplace.

Organizations as a Critical Context for Refugee Integration

In a variety of ways, organizations serve as critical contexts for successful refugee integration and psychological adjustment. Employment is generally regarded as a means by which to make major and meaningful contributions to society, and has long been considered vital for the successful settlement of refugees (McSpadden, 1987; Rydgren, 2004; Trewin, 2001; Valtonen, 1999). In a study of Ethiopian refugees in the US, employment was found to be seen as a hugely important factor for establishing life satisfaction (McSpadden, 1987). From the refugee perspective, organizational support may be greatly valued, as they tend to arrive in the host country with limited resources and social connections. Work thus becomes critical not only for financial survival but also for practicing the host country's language and connecting with locals to develop a sense of

belonging (Jackson & Bauder, 2013). Organizations may serve as an important environment for refugees to gain a sense of autonomy (e.g., re-establishing control over their lives), competence (e.g., acquiring new and relevant skills), and relatedness (e.g., socializing with colleagues) as they settle into their host country. Organizations that invest in the strategic integration of refugee employees can aid their broader integration into society. Research from Tent Partnership for Refugees shows that refugees "want to start rebuilding their lives and become self-reliant again. In addition to providing an income, work makes refugees feel valued and proud that they are giving something back" (Mehta et al., 2019). Thus, the workplace environment and access to supportive organizational integration practices may be an especially critical resource for refugee employees to re-establish a sense of stability and psychological well-being.

There is evidence to suggest that organizations are beginning to tackle the employment-related constraints that refugees face (Zetter & Ruaudel, 2018). For example, IKEA has launched a national refugee employment initiative to help refugees develop new skills and integrate into communities. Volkswagen supports refugees by providing language training, professional skills training, and internships (Tent, 2020). These examples suggest organizations recognizing their role and the value of providing support for the refugee population. However, in recent times the call for employers to mobilize their efforts to support refugees has grown even stronger. Zetter and Ruaudel (2018) suggest that employers share the responsibility with governmental bodies to promote equal rights and counter the negative stereotypes of refugees that limit their participation and integration. While hiring is an essential first step, employers should consider developing effective post-hiring workplace inclusion strategies that support refugee employees (Mehta et al., 2019).

Why Should Organizations Engage in Refugee Integration Efforts?

Refugees have much to offer organizations and society as a whole. Research has shown that refugees, over time, have high labor force participation rates and represent a net positive to the U.S. economy after living only eight years in the country (Mathema, 2018). Refugees are entrepreneurs, consumers and taxpayers, contributing to economic growth and creating jobs (IRC, 2020). Still, refugees face emotional and mental hardships (e.g., stress, anxiety, uncertainty caused by relocation, vulnerability to mental health issues) post-migration that necessitate greater

consideration and care from social institutions (Henry et al., 2019). Organizations specifically may be motivated to engage in thoughtful refugee integration efforts for numerous reasons.

From a strategic business perspective, refugee inclusion can accelerate talent development and organizational value (Mathema, 2018). There are at least two significant ways for a refugee workforce to add value to organizations: lower turnover rates and improved recruitment channels. A Fiscal Policy Institute's study found that refugees tend to stay with the same employer for longer than other hires – the majority of organizations surveyed reported that refugee employees had lower turnover rates than other employees (Kallick & Roldan, 2018). Notably, what seemed important to achieving lower refugee turnover was that the employer made at least *some effort to integrate refugees into the workplace* (e.g., addressing limited English language abilities, resolving transportation issues; Kallick & Roldan, 2018). Organizations may also benefit from improved recruitment channels as a result of hiring refugees. Once employers create a positive relationship with their initial refugee employees, it opens the door for the recruitment of others, which can serve as a source of easier future recruitment – refugee agencies recognize where refugees are thriving and subsequently channel their clients to those employers (Mehta et al., 2019). Employers noted that once they committed to hiring one refugee group, they generally became more adept at integrating new groups of refugees and other employees from different backgrounds (Kallick & Roldan, 2018). Thus, the gains from lower turnover and improved recruitment easily offset the costs of integrating refugees into the workplace.

To strategically augment the benefits stemming from the recruitment of refugees, organizations should demonstrate their support by investing time and resources in developing practices that can facilitate refugee well-being. According to *social exchange theory*, employment is viewed as the trade of effort and loyalty by the employee for tangible benefits and social resources from their organizations (Cropanzano & Mitchell, 2005). Employees who perceive that their organizations care about their well-being have been shown to reciprocate by engaging in greater in-role and extra-role job performance and behaviors that are helpful to the organization (Kurtessis et al., 2017). Thus, to better elicit greater organizational commitment, job satisfaction, and psychological thriving of refugee employees, organizations may be incentivized to engage in refugee integration efforts.

From a philanthropic and corporate social responsibility (CSR) perspective, organizations adopting prosocial values should be committed to maximizing long-term societal well-being

through their business practices, policies, and resources (Einwiller et al., 2019). Dedicating resources and providing support for vulnerable populations such as refugees may be a way for organizations to contribute to such goals, enhance their brand and reputation, and demonstrate their values to relevant stakeholders while conveying a positive image to the public (Mehta et al., 2019). It is worth noting that the question of whether organizations are "morally obligated" to fulfill refugee workers' psychological needs remains a separate philosophical issue. Still, the influx of refugees in recent crises may call for organizations to critically consider their participation in refugees' integration efforts in the workplace.

In sum, organizations have strong incentives to fulfill refugees' basic needs to ensure greater well-being and performance. However, we still have a limited understanding of *how* organizations can best focus their assistance to refugees in their adaptation process from the refugees' perspective (Newman et al., 2018). Without knowing how refugees perceive organizational integration efforts, it is difficult to decide how to best integrate and design support for refugee workers. In the following section, I propose that one way for organizations to evaluate the helpfulness of refugees' support is by employing a psychological needs framework to consider how their practices can fulfill refugees' fundamental needs while benefiting from all that refugees have to contribute to organizational effectiveness.

A Psychological Needs Framework: Self-Determination Theory

According to *self-determination theory* (SDT), needs are innate psychological nutriments essential for ongoing psychological growth, integrity, and well-being (Deci & Ryan, 2000). SDT illustrates three basic psychological needs: autonomy, competence, and relatedness. When satisfied, these needs enhance self-motivation and mental health, and when thwarted lead to diminished motivation and well-being (Ryan & Deci, 2000). A closer examination of each need reveals salient parallels with the challenges faced by refugees.

Autonomy refers to the desire to determine outcomes of one's behavior, to act from one's integrated sense of self, and to make one's own decisions (Deci & Ryan, 2000, 2002). Past studies show that perceived autonomy is correlated with well-being (Sheldon et al., 1996). The experience of relocating due to necessity and not choice may threaten refugees' sense of autonomy. Refugees do not voluntarily choose to leave their homeland or resettle in the United States – they arrive only after being interviewed and categorized as refugees by the United Nations and proceed through an

extensive (on average, two years) vetting process by different agencies and the U.S. government (IRC, 2020). Moreover, facing unemployment, underemployment, or dependency on public assistance may lead refugees to face a loss of voice and sense of agency (Hansen & Lofstrom, 2003; Krahn et al., 2000). Past research has suggested that refugees believe that autonomy-oriented help (i.e., support that allows them to become empowered and acquire needed skills) has greater potential to produce improvements to refugees' lives compared to dependency-oriented help (e.g., in-kind support such as food coupons and clothes) (Becker et al., 2018).

Competence refers to the need for optimal challenges, to develop new skills, feel efficacious in one's actions, and experience mastery over the environment (Deci & Ryan, 2000). Satisfying the need for competence allows individuals to better adapt to new challenges in changing contexts (Deci & Ryan, 2000). In organizations, employees must have the appropriate competencies and skills to achieve desired performance levels. Unlike skilled immigrants, who were admitted to a country based on a match between their skills and the needs of the local job market, refugees were admitted for alternative reasons, and thus often experience a mismatch in their skills and the needs of the local job market (Mehta et al., 2019). Refugees may have a skills deficit due to changing fields or may not have the experience or education a position calls for (Tent, 2018). A study of educated Iranian refugees in the Netherlands found that positive affect and life satisfaction were predicted by a sense of mastery, pointing to the importance of establishing and experiencing competence for refugee well-being (Werkuyten & Nekuee, 1999).

Relatedness refers to the need to feel connected with others – to love and to care, and to be loved and cared for. It refers to the need to establish mutually caring bonds and positive alliances with others (Baumeister & Leary, 1995; Deci & Ryan, 2000). The tendency to cohere with one's group and feel connection and care has proven to be directly linked to one's well-being (Deci & Ryan, 2000). While fleeing their home country, refugees may be forced to leave behind their valued social networks, such as friends and family members (Ahmed, 2017). Upon arrival in the new host country, refugees may experience acculturation stress, owing to language barriers, unfamiliarity with the local culture, and lack of social networks in the new host country (Berry et al., 1987). For refugees, these threats to relatedness and belonging can exacerbate the highly stressful resettlement process.

In sum, the psychological need framework highlights that refugees are likely to face threatened losses of all three needs and that each need is independently critical for optimal

integration. In the organizational literature, previous work has shown the link between the fulfillment of SDT needs and positive work outcomes, such as well-being, intrinsic motivation, personal growth, better performance in the workplace, and employees' optimal functioning (e.g., Baard et al., 2004; Deci & Ryan, 2000; Ryan, 1995). As such, organizations that fail to attend to workers' needs may suffer consequences such as lower levels of task performance, persistence, job satisfaction, and poorer psychological adjustment (Ilardi et al., 1993; Kasser et al., 1992). Thus, in order to maximize a refugee worker's well-being and ability to contribute optimally to organizational success, organizations may benefit from critically considering the fulfillment of refugee needs when designing their support strategies.

While alternative theories to understand organizational refugee support may exist, I chose SDT based on two major reasons. First, the content of the framework mirrors and systematically organizes common refugee challenges (e.g., loss of volition, mismatch in their skills and the needs of the market, reduced social community). It illustrates how the core of the challenges differs. Second, although SDT has not been previously used to understand refugees, it is highly applicable because the satisfaction of the needs is argued to be universally beneficial (Ryan & Deci, 2000). A study by Tay and Diener (2011) provided evidence for this universality by demonstrating that across a sample of 123 countries, the fulfillment of basic psychological needs were associated with greater subjective well-being (SWB). Understanding the refugees' level of fulfillment is one way to critically investigate the potential effectiveness of organizational efforts to integrate refugees. Because refugees' needs may be *especially* threatened compared to a typical worker due to their extreme circumstances, support for needs fulfillment may lead to especially pronounced benefits in outcomes such as well-being, job satisfaction, and job commitment for refugees compared to non-refugees. Uncovering any discrepancies in needs fulfillment between refugee and non-refugee workers will highlight the areas in which refugees are in need of greater support:

> *Hypothesis 1:* Worker status predicts perceived helpfulness of practices, such that refugee workers (vs. non-refugee workers) will report autonomy, competence, and relatedness practices as more helpful.

The Potential Roles of Needs Deprivation and Work Centrality

While investigating refugees' perceptions of organizational support practices, it is worthwhile to consider and explore the mechanistic variables that may explain why refugees may view organizational support differently (e.g., especially helpful) compared to non-refugees. Firstly, since refugees tend to arrive in the host country with limited resources and connections, it is to be expected that their basic psychological needs are more threatened and deprived compared to local individuals. For instance, forced migration, lack of local recognized professional credentials, and loss of reliable social networks may deeply threaten autonomy, competence, and relatedness needs, respectively. SDT argues that the satisfaction of three basic psychological needs is essential for individuals to achieve psychological growth, internalization, and well-being (Deci & Ryan, 2000) – all outcomes which are intrinsically motivating to achieve. As such, the threat that is experienced to these needs should necessitate a motivated desire to replenish needs that are deprived. Thus, the first mechanistic variable was selected on the basis that refugees are more likely to experience greater *deprived autonomy, competence, and relatedness needs* compared to non-refugee workers. By consequence, refugees may be more likely to perceive opportunities for needs fulfillment provided by the workplace as more helpful.

Secondly, as newcomers to the host society, refugees may have fewer contexts in which to build their new lives. *Work centrality* is defined as the extent to which individuals believe that their work plays an important role in their life (Bagger & Li, 2012). For refugees, the work environment serves as a critical context to achieve a host of goals, including financial survival, interpersonal connection, and professional development; thus, work becomes an important and likely focal context for refugees to derive their basic psychological needs. Moreover, refugees may be under particular time pressure to become self-reliant and establish financial/career security, and as a result, may allocate more time and energy into prioritizing work. Thus, the second mechanistic variable was selected on the basis that refugees may have fewer environments and contexts in which to rely upon in their newly established life and thus experience *stronger work centrality*. Through higher work centrality, it is expected that refugees will perceive organizational support practices as especially helpful, as the workplace is predicted to be an especially important part of their lives and, therefore, an important context from which to derive their needs.

Hypothesis 2(a & b): Worker status predicts the level of (a) needs deprivation and (b) work centrality, such that refugee status workers (vs. non-refugee workers) will report higher levels of both (a) and (b).

Hypothesis 3(a & b): (a) Needs deprivation and (b) work centrality positively predict the perceived level of helpfulness of practices supporting: i. autonomy; ii. competence; iii. relatedness, respectively.

Hypothesis 4(a & b): (a) Needs deprivation and (b) work centrality mediate the relationship between worker status (refugee vs. non-refugees) and perceived helpfulness of practices supporting: i. autonomy; ii. competence; iii. relatedness, respectively.

Current Study

Based on my review of the literature, I have made several hypotheses (see Figure 1 for a schematic representation of the hypothesized model). Specifically, due to the copious hardships experienced by refugees during resettlement, I expect refugees (who rely more on these integration practices) will view them as more helpful compared to non-refugees (H1). To explore its underlying processes, I hypothesize that refugees as newcomers to society would report a higher *needs deprivation* and view work as a more critical context to derive basic needs: higher *work centrality* (H2). These two factors may explain why refugees (compared to non-refugees) view integration practices as more helpful (H3; H4: mediations). To test these hypotheses, this study will attempt to examine differences between these groups that may affect their perceptions of organizational practice helpfulness. This question will be explored by considering the impact of potential mechanistic variables (e.g., needs deprivation and work centrality) on the perceived helpfulness of organizational support practices. In the current study, I use a refugee sample to explore the perceived helpfulness of organizational practices in fulfilling basic psychological needs.
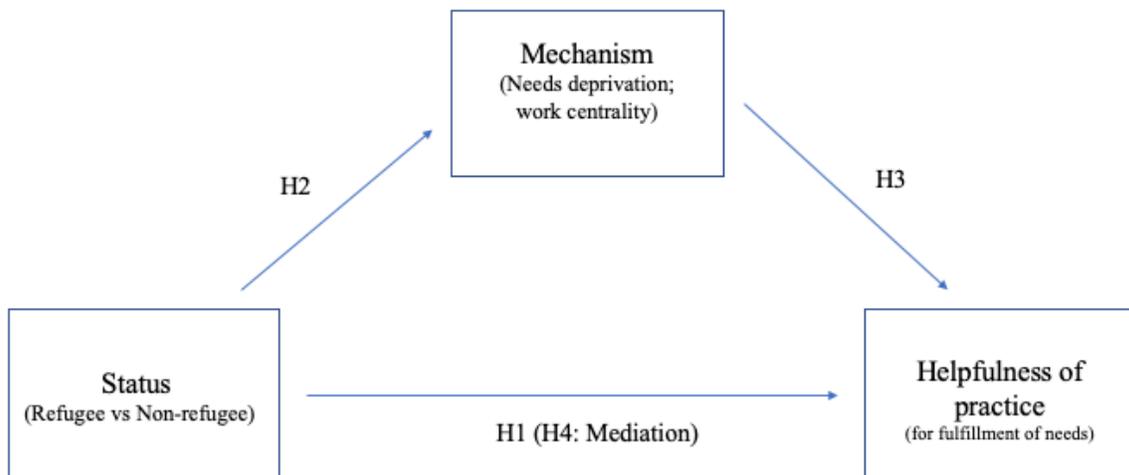
Figure 1. How does refugee status impact the perceived helpfulness of organizational support practices?

METHOD

Sample and Procedure

Refugee Sample

An a priori power analysis using G*Power version 3.1 software suggested a sample size of $n = 82$ to detect a medium effect size ($r = .50$) of a simple slope (correlation) with 80% power (Faul et al., 2007, 2009). This targeted effect size is consistent with past quantitative research measuring refugee's perceptions of organizationally-related variables (e.g., Newman et al., 2018). One-hundred twenty (120) full-time working refugee-status participants in the U.S. were recruited from Qualtrics online research panels. Twenty-one participants were excluded from the analysis because they did not pass the embedded attention checks within the survey (Kung et al., 2018). The final sample included 99 participants (81.8% Male, 15.2% Female; Mean age = 37.13; 56.6% Caucasian/White, 20.2% Black/African, 10.1% Latino/Hispanic, 8.1% Middle Eastern, 2% South/Southeast Asian).

On average, participants have lived in the U.S. for 15.45 years (SD = 9.32 years; median = 12 years; mode = 10 years; range: 0-46 years). Within this sample, participants had attained citizenship status (1%), permanent resident status (2%), work permit status (2%). Participants reported a range of nationalities, including American (60.5%), Mexican (7%), Syrian (6%), Liberian (2%), Chinese (2%), Bhutanese (1%), Afghanistan (1%), Iraq (1%). Prior to moving to the U.S., participants came from African countries (e.g., Bhutan, Ethiopia, Sudan; 35.2%), Middle Eastern countries (e.g., Iraq, Syria, Israel; 33.2%), North America (e.g., Mexico; 11.1%); European countries (e.g., Spain, Italy, U.K.; 10%), Asian countries (e.g., Afghanistan, Nepal, Bhutan; 6%), South American countries (e.g., Brazil, Cuba; 2%), and Caribbean countries (e.g., Haiti; 1%). The majority of participants moved to the U.S. with their families (84.5%). The majority reported English as their first language (75.8%), with others reporting Arabic (10.1%), Spanish (9.1%), Bhutanese, Italian, Nepali, Pakistani (1% respectively) as their first language.

Participants reported working in a range of industries, such as finance/bank/insurance (23.3%), manufacturing (12.1%), computer technology (12.1%), accounting (8.1%), agriculture (8.1%), and construction (6.1%). On average, participants worked in their organizations for 7.12 years (range: 0-21 years).

Non-Refugee Sample

To statistically compensate for a smaller and difficult to recruit refugee sample, I oversampled the non-refugee worker sample at a 5:1 ratio (Hennes et al., 2019). Additionally, I collected data from 500 full-time working non-refugee participants in the U.S. Participants were recruited from CloudResearch online panels. One hundred fifty-five participants were excluded from the analysis because they did not pass the embedded attention checks within the survey. The final sample included 345 participants (67.2% Male, 32.8% Female; Mean age = 36.06; 72.8% Caucasian/White, 16.2% Black/African, 4.9% Latino/Hispanic, 4.3% East Asian, 4.1% Aboriginal/Native). The majority of participants reported having American citizenship (94.6%). Participants reported working in a range of industries, such as computer technology (14.5%), finance (13%), manufacturing (9.6%), retail (6.4%), education (4.9%). On average, participants worked in their organization for 6.34 years (range: 0-32 years).

Participants completed an online survey via Qualtrics. To be eligible, participants had to be 18 years of age or older, with an MTurk approval rating of 90% or higher, consistent with best practices (Peer et al., 2014).

Measures

Work Centrality

Work centrality was measured using Matthijs Bal and Kooij's (2011) 3-item scale. Work centrality refers to "individual beliefs regarding the degree of importance that work plays in their lives" (Walsh & Gordon, 2008). Because refugees tend to arrive in the host country with limited connections and communities to rely on, it is hypothesized that refugees may view work as an especially central context for their identity and lives. Participants were asked to indicate their agreement to the statements on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree) (Cronbach's α = .73).[1]

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[1] To examine whether the work centrality scale functions similarly for refugee vs non-refugee groups, measurement invariance testing was conducted. The test supported that the scale operates in the same manner for refugees and non-refugees (i.e., measurement invariance was supported). See Table 1.

Current Needs Deprivation

Current needs fulfillment was measured using Van den Broeck et al.'s (2010) 16-item Work-related Basic Need Satisfaction scale (W-BNS). This scale includes a 6-item subscale for autonomy, a 4-item subscale for competence, and a 6-item subscale for relatedness needs fulfillment at work. Participants were asked to indicate their current level of agreement for each of the items on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree) (Cronbach's $\alpha_{overall}$ = .86; $\alpha_{autonomy}$ = .67; $\alpha_{competence}$ = .76; $\alpha_{relatedness}$ = .79).

Following data collection, a confirmatory factor analysis (CFA) was conducted to check the three-factor structure of the scale. According to the fit indices cutoff recommendations specified by Hu & Bentler (1999), the results showed poor fit: χ^2 = 1240.77, $p < .001$, CFI = .66, RMSEA = .16, SRMR = .17 (see Table 1). With concern for the psychometric validity of the scale, I explored using an alternative version of the scale by removing the six reverse-worded items from the scale, as these items have been shown to negatively affect the factor structures of scales (Zhang et al., 2016). Using this shortened version, I found a better fitting model: χ^2 = 63.76, $p < .001$, CFI = .97, RMSEA = .06, SRMR = .04 (see Table 2). Reliability of the scale was strong (Cronbach's $\alpha_{overall}$ = .89; $\alpha_{autonomy}$ = .78; $\alpha_{competence}$ = .82; $\alpha_{relatedness}$ = .78). A measurement invariance test revealed that the shortened version of the current needs scale demonstrated invariance between refugees and non-refugees at the metric model level (see Table 2). Thus, for a more valid test I opted to use the shortened version of the scale to test the hypotheses.

Ideal Needs Fulfillment

Ideal needs fulfillment was measured by using Van den Broeck et al.'s (2010) 16-item W-BNS scale. Participants were provided with instructions to indicate their ideal level of agreement to each item on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree) (Cronbach's $\alpha_{overall}$ = .90; $\alpha_{autonomy}$ = .65; $\alpha_{competence}$ = .82; $\alpha_{relatedness}$ = .83).

Table 1. CFA and Measurement Invariance Testing of Current and Ideal Needs Scales, and Work Centrality Scale

Scale	Model	χ^2	Df	CFI	RMSEA	SRMR
Original Current Needs Scale (3-Factor Model)	Baseline model	1240.77	101	.66	.16	.17
	Refugee Model	387.51	101	.55	.17	.18
	Non-refugee Model	968.17	101	.68	.16	.15
	Configural Model	1355.68	202	.65	.16	.16
	Metric Model	1471.81	215	.62	.16	.18
	Scalar Model	1545.20	228	.60	.16	.19
	Strict Error Model	1594.09	244	.59	.16	.19
Original Ideal Needs Scale (3-Factor Model)	Baseline model	1159.12	101	.76	.15	.12
	Refugee Model	418.94	101	.41	.18	.22
	Non-refugee Model	960.76	101	.77	.16	.11
	Configural Model	1379.70	202	.77	.16	.11
	Metric Model	1403.69	215	.72	.16	.13
	Scalar Model	1438.93	228	.72	.16	.14
	Strict Error Model	1496.87	244	.71	.15	.15
Work Centrality (1-Factor Model)	Baseline model	0	0	1	0	0
	Refugee Model	0	0	1	0	0
	Non-refugee Model	0	0	1	0	0
	Configural Model	0	0	1	0	0
	Metric Model	11.84	2	.98	.15	.04

Table 1 continues

Scale	Model	χ^2	Df	CFI	RMSEA	SRMR
Work Centrality (1-Factor Model)	Scalar Model	12.06	4	.98	.10	.04
	Strict Error Model	17.56	7	.98	.08	.05

Note. Measurement invariance tests between refugee and non-refugee groups. Cheung and Rensvold (2002) recommendation to comparing the CFI value between models to establish measurement invariance; the change in CFI should be less than or equal to -0.01 to demonstrate measurement invariance. Results do not support full measurement invariance for current and ideal needs.

Table 2. Measurement Invariance Test Results for Shortened Current Needs Scale: Fit Indices

Model	Chi-Square (*df*)	CFI	RMSEA	SRMR
Shortened Current Needs Model	63.757 (24); $p < .001$	.971	.061	.037
Refugee Model	67.769 (24) $p < .001$	.962	.073	.048
Non-refugee Model	39.66 (24); $p = .023$	.942	.081	.057
Configural Model	107.429 (48); $p < .001$	.958	.075	.05
Metric Model	117.921 (54); $p < .001$	.955	.073	.058
Scalar Model	146.046 (60); $p < .001$	.939	.08	.062
Strict Model	177.748 (69); $p < .001$	.923	.084	.069

Note: The shortened Current Needs model is invariant at the metric model level.

Following data collection, a confirmatory factor analysis (CFA) was conducted to check the three-factor structure of the scale. According to the fit indices cutoff recommendations specified by Hu & Bentler (1999), the results showed poor fit: $\chi^2 = 1159.12$, $p < .001$, CFI = .76, RMSEA = .15, SRMR = .12 (see Table 1). With concern for the psychometric validity of the scale, I explored using an alternative version of the scale by removing the six reverse-worded items from the scale (Zhang et al., 2016), finding support for a better fitting model using this shortened version: $\chi^2 = 135.25$, $p < .001$, CFI = .94, RMSEA = .10, SRMR = .04 (see Table 3). A measurement invariance test revealed that the shortened version of the current needs scale demonstrated invariance between refugees and non-refugees at the scalar model level (see Table 3). Thus, the shortened version of the ideal needs scale is used to test the hypotheses.

Table 3. Measurement Invariance Test Results for Shortened Ideal Needs Scale: Fit Indices

Model	Chi-Square (df)	CFI	RMSEA	SRMR
Shortened Current Needs Model	135.252 (24); $p < .001$	.938	.102	04
Refugee Model	117.252 (24) $p < .001$	.939	.106	.042
Non-refugee Model	56.115 (24); $p < .001$	.872	.116	.067
Configural Model	173.367 (48); $p < .001$	.929	.108	.048
Metric Model	185.436 (54); $p < .001$	.926	.105	.053
Scalar Model	189.55 (60); $p < .001$	.927	.099	.054
Strict Model	223.04 (69); $p < .001$	.913	.01	.061

Note: The shortened Ideal Needs model is invariant at the scalar model level.

Needs Deprivation

To determine participants' level of needs deprivation, I calculated the difference between participants' average ideal and current needs level for each need (e.g., ideal level of autonomy fulfillment – current level of autonomy fulfillment = autonomy needs deprivation). Larger difference scores suggest higher levels of deprivation.[23]

Perceived Helpfulness of Practice

To create a list of organizational support practices geared towards refugee employees, I sought to identify the "best practices" that are already existent or implemented in the global business community. Tent is a United Nations-endorsed coalition that has rallied support for refugees from over 100 businesses worldwide (www.tent.org; Martinez, 2018). It serves as a platform for companies to share information and best practices, increase private sector coordination, and forge innovative solutions to deliver greater impact in response to the global refugee crisis (Tent, 2020). Each Tent organization provides a profile of their organizational practices and initiatives designed to support refugees. At the time of the coding exercise (February 2019), there were a total of 101 organizations participating within Tent.

Three coders (two undergraduate research assistants and one graduate student) independently read the 101 organizational profiles and coded organizational practices that were offered. First, the coders were provided with definitions and examples of organizational practices pertaining to autonomy, competence, and relatedness needs. As a practice round, they read practices from 10 sample companies independently, identified the needs of each practice, and discussed their classifications as a group to reach consensus. In the actual coding, the coders

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[2] In the past, scholars have debated over whether difference scores suffer from methodological issues. Difference scores have been criticized for being non-reliable measures (Cronbach & Furgy, 1970; Edwards, 2001; Lord, 1956). However, other scholars have argued that difference scores should not be discredited. The arguments typically used to criticize the reliability of difference scores are operating under the assumption that (1) the measurements share equal standard deviations (i.e., no variability) and (2) exhibit equal reliabilities at both measurement occasions – two assumptions that are likely to be violated (Gollwitzer et al., 2014). For instance, in the current dataset, the *SD*s and reliabilities between the current and ideal needs scores are not identical. Thus, some scholars have counter-argued that difference scores are not generally as unreliable as many people think, and "whenever it is reasonable to assume that intraindividual differences vary between persons, difference scores are useful and often sufficiently reliable" (Gollwitzer et al., 2014; Thomas & Zumbo, 2012).

[3] An alternative operationalization of needs deprivation was explored, using the shortened current needs scale (reverse-coded), such that higher values indicate more needs deprivation. Changes to the patterns of the results using this operationalization are reported in the footnotes.

independently read the profiles of the 101 Tent organizations. Some examples include support for entrepreneurs (i.e., autonomy), internships (i.e., competence), and support for social integration (i.e., relatedness). Coders identified whether the organization included any organizational practice(s) that would support refugees based on the three needs: (1) autonomy, (2) competence, (3) relatedness (0 = *organizational practice does not exist*; 1 = *organizational practice exists*). If the coders identified the existence of a practice, they provided written notes to identify the practice content. Organizational practices that lack concrete purposes were not included in the analysis. For instance, donating financial means to refugee causes was not coded as there was uncertainty on what the donation would be used for specifically. Following the completion of the independent coding task, inter-rater reliability was assessed. The three categories of organizational practices yielded acceptable interrater agreement exceeding the .60 threshold (range: .74-.85; Landis & Koch, 1977). Discrepancy in coding was resolved by discussion and all coders reached a consensus on each coding.

In total, 53 organizational support practices were identified. The list was narrowed down to 19 practices to limit redundancy and that which exhibited clear, direct benefit to refugee individuals (i.e., monetary donations to third party refugee-supporting organizations were omitted) for the subsequent study (see Appendix for the final list of practices and illustrative examples provided to participants).

Participants were presented with each of the 19 organizational support practices, with definitions and examples of each organizational practice, and definitions of each basic psychological need for reference. The order of presentation was randomized across participants. Participants were asked to indicate the extent to which each organizational practice would be helpful in fulfilling their psychological needs for (a) autonomy, (b) competence, and (c) relatedness, if it were offered by their organization, on a 7-point Likert scale (1 = not helpful at all, 7 = extremely helpful) ($\alpha_{autonomy}$ = .96 for autonomy ratings; $\alpha_{competence}$ = .94 for competence ratings; $\alpha_{relatedness}$ = .95 for relatedness ratings).

Categorizing organizational support practices. Because not all practices are necessarily helpful for addressing all needs, upon collecting data I sought to condense the analysis by systematically identifying, categorizing, and grouping the organizational practices that were most helpful for each need. I examined the data to see whether certain practices were perceived to be most helpful for certain needs, to eventually examine whether the corresponding deprived need would be predictive of whether that set of practices would be viewed as helpful for addressing that need (e.g., does deprived autonomy predict the perceived helpfulness of autonomy-supporting practices?). Factorial ANOVAs were conducted to examine whether there existed differences among refugee status in perceptions of organizational practice helpfulness. Across 57 ratings (19 practices x 3 needs = 57), refugees and non-refugees differed significantly in 41 of their ratings (71.93%), providing preliminary evidence to suggest that refugee status affects perceptions of practice helpfulness.

In selecting categorizing the support practices, I aimed to balance two goals: (1) Prioritizing what is perceived as most helpful to refugees, and (2) Selecting practices that are viewed as helpful for fulfilling a particular need across both refugee and non-refugee workers to enable systematic comparison across the two groups. To achieve maximal utility in this tradeoff, I used the following principles:

i. To determine the level of helpfulness of each organizational practice in fulfilling needs compared to other practices, I double standardized the helpfulness scores by running the following calculation both within-person and within each need: (Helpfulness score of a given organizational practice to fulfill [need] $- M_{\text{[need] helpfulness across all practices}}$) / $SD_{\text{[need] helpfulness across all practices}}$. This within-person standardization procedure transforms the data such that each participants' set of item responses has the same mean and standard deviation; this controls for individual differences in responding tendencies (e.g., acquiescent and/or extreme responding) (e.g., McCrae et al., 2001; Ashton et al., 2004; Fisher, 2008). The resulting scores represent the extent to which a practice represents "above average helpfulness" in fulfilling a need; scores above 0 indicate that a practice is rated as above average in fulfilling a particular need compared to all other practices. Within the ratings for each need, there was approximately 0.04% missing data; since this represents a small proportion of the data, it is unlikely to have affected the standardization results in a meaningful manner.

ii. Then, I considered all the practices with scores above 0. Out of the three needs, relatedness-supporting practices yielded a total of five practices that were rated as above average in helpfulness for both refugees and non-refugees after the standardization process. With this boundary in mind, I selected the *top 5 most helpful* practices as rated by refugees that were simultaneously rated as above average in helpfulness by non-refugee workers for all three needs (as underlined in Table 4) to maintain consistency. In addition, I aimed to also select *unique* (i.e., non-overlapping) practices for the three need categories. In a couple instances where practices were found to be rated as helpful for more than one need by both groups (i.e., job-relevant skills training and financial/business literacy training), I prioritized the refugee's perspective, placing those practices under the need category that the practice was rated as more helpful in addressing according to refugee participants. Using these two principles, I was able to prioritize and select for practices that refugees found most helpful for each need, while at the same time are perceived as above average for all workers, irrespective of status.

The above process allowed for the identification and selection of the top 5 practices in each need category. The most helpful practices for *autonomy* included: (1) job-relevant skills training, (2) physical health and safety, (3) entrepreneurial support, (4) financial/business literacy training, (5) financial services. Practices most helpful for *competence* included: (1) internships, (2) education opportunities, (3) language training, (4) career guidance, and (5) guidance from professionals with similar cultural backgrounds. Practices most helpful for *relatedness* included: (1) cultural skills development, (2) cultural experiences, (3) apprenticeships, (4) mentorship, (5) networking. To simplify the subsequent analyses, I created an average score of perceived helpfulness *within each need category*, resulting in three helpfulness scores: average helpfulness of autonomy-supporting organizational practices (α = .87; *intercorrelations of organizational practices r's* = .39 - .65), competence-supporting practices (α = .87; *intercorrelations of organizational practices r's* = .40 - .64), and relatedness-supporting practices (α = .83; *intercorrelations of organizational practices r's* = .35 - .68). Because the SDT needs have been argued and shown to provide independent contributions to well-being (Deci & Ryan, 2000), the three categories of practices identified as most helpful for fulfilling each need will be investigated independently from one another.

Table 4. Categorization and Standardized Helpfulness Scores for Organizational Practices

Organizational Practice	Autonomy		Competence		Relatedness	
	Refugee	Domestic	Refugee	Domestic	Refugee	Domestic
Job relevant skills training	0.13	0.19	0.02	0.47	0.13	
Internships	0.10		0.01*	0.21	0.22	
Cultural skills development	0.10		0.08		0.07	0.54
Physical health and safety	0.08	0.12			0.04	
Entrepreneurial support	0.07	0.33		0.09	0.03	
Financial/business literacy	0.07	0.20	0.03	0.21	0.01	
Cultural experiences	0.07				0.003	0.48
Financial services	0.04	0.15				
Education opportunities	0.03	0.27	0.10	0.47		
Digital literacy	0.02	0.07		0.35	0.05	
Language training	0.02		0.08	0.14		0.10
Apprenticeships				0.23	0.02	0.01
Mentorship				0.11	0.17	0.27
Community integration						0.5492
Technological tools		0.16		0.14		
Networking					0.03	0.45
Career guidance		0.10	0.12	0.27	0.06	
Transportation						
Guidance from professional with similar cultural background			0.14	0.03		0.32

Note. Only values above 0 are presented. Shaded pairs indicate consensus between refugee and non-refugee participants that the practice is above average in helpfulness for fulfilling the need. Underlined values indicate the top 5 most helpful practices for refugee participants within each need that were simultaneously viewed as above average helpful to non-refugee workers.

* Under Competence, "Internships" was selected as a helpful practice for over "Financial/business literacy" and "Job relevant skills training" because those practices were rated as more helpful for Autonomy needs.

RESULTS

Hypothesis 1: Do Refugees Perceive Organizational Support Practices as More Helpful?

To test H1, I conducted independent-samples t-tests to determine whether refugee and non-refugee workers viewed the integration practices differently in terms of helpfulness for autonomy, competence, and relatedness needs. All descriptive and inferential statistics are reported in Table 5.

As presented in Figure 2, the results provided partial support for H1: Compared to non-refugees, refugees reported greater perceived helpfulness for autonomy practices $t(441) = -2.37$, $p = .018$. However, contrary to the hypothesis, refugees reported less helpfulness for competence practices $t(441) = 2.28$, $p = .023$. There were no significant differences between groups for the perceived helpfulness of relatedness practices, $t(441) = -.22$, $p = .827$ (see Table 5 for t-test statistics). In sum, refugees perceived organizational autonomy-supporting practices to be especially helpful in fulfilling autonomy needs compared to non-refugees.[4]

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[4] Since the perceived helpfulness scores for autonomy, competence, and relatedness were correlated with one another (i.e., .60-.72), an alternative analysis was conducted: A one-way MANOVA was used to test the hypothesis that there would be at least one mean difference between participant refugee status (refugee, non-refugee) and perceived helpfulness scores. A statistically significant MANOVA was obtained, Hotelling's Trace = .07, $F(3, 439) = 9.83$, $p < .001$. The multivariate effect size was estimated at .063, suggesting that 6.3% of the variance of the dependent variables was accounted for by participant refugee status. Echoing the original results reported for H1, the between-subjects test yielded significant differences between refugees vs. non-refugees for autonomy-supporting practices $F(1, 441) = 5.62$, $p = .02$, $\eta^2 = .013$; competence-supporting practices $F(1, 441) = 5.05$, $p = .03$, $\eta^2 = .011$; but not for relatedness-supporting practices $F(1, 441) = .07$, $p = .79$, $\eta^2 < .001$.

Table 5. Results of *t*-Tests and Descriptive Statistics for Practice Helpfulness (H1), Work Centrality, Current Needs, Ideal Needs, and Deprived Needs (H2) by Worker Status

| | Group | | | | | | | |
| Outcome | Refugees | | Non-Refugees | | | | | |
	M	*SD*	*M*	*SD*	Mean Difference	95% CI for Mean Difference	*t*	*df*
Hypothesis 1								
Autonomy Practice Helpfulness	69.02	14.84	63.82	20.24	-5.20	.89, 9.52	2.37*	441
Competence Practice Helpfulness	68.71	14.96	72.18	16.86	4.28	-7.97, -.60	-2.28*	442
Relatedness Practice Helpfulness	72.18	13.41	71.77	17.45	-.42	-3.31, 4.15	.22	442
Hypothesis 2								
Work Centrality	4.54	.66	3.59	1.36	-.95	-1.23, -.67	-6.72***	441
Autonomy (current)	5.31	.86	5.13	1.15	-.19	-.43, .06	-1.49	442
Competence (current)	5.44	.77	5.70	.92	.26	.06, .46	2.54*	442
Relatedness (current)	5.23	.95	5.09	1.26	-.13	-.40, .14	-.97	442
Autonomy (ideal)	5.40	.78	5.95	.96	.55	.34, .76	5.21***	441
Competence (ideal)	5.61	.66	6.05	.93	.44	.24, 64	4.39***	442
Relatedness (ideal)	5.47	.82	5.61	1.10	.14	-.09, .38	1.02	442
Autonomy (deprived)	.08	.98	.82	1.43	.74	.43, 1.04	4.80***	441
Competence (deprived)	.17	.74	.35	.81	.18	-.001, .37	1.95	442
Relatedness (deprived)	.25	.94	.52	1.25	.28	.01, .54	2.04*	442

Note. Within groups *df* = 442. $N_{refugees}$ = 99; $N_{non\text{-}refugees}$ = 345.

p < .05. **p* < .01. ***p* < .001.
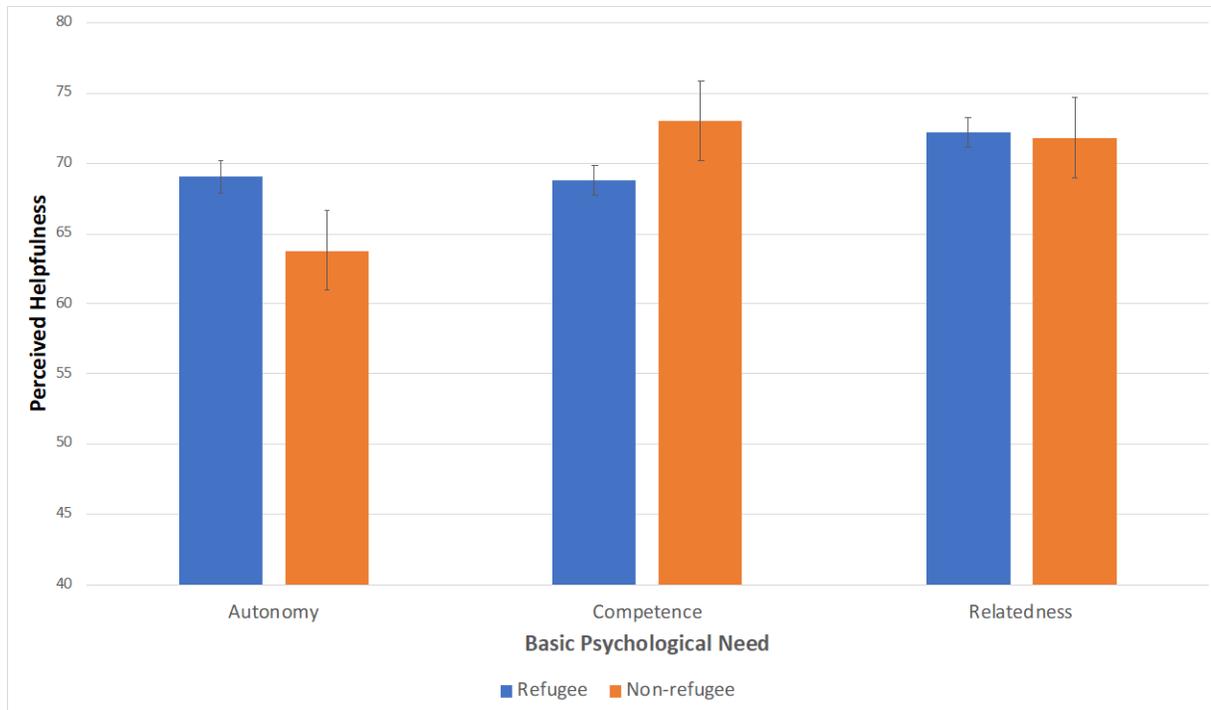
Note. $N = 444$ ($N_{refugees} = 99$; $N_{non\text{-}refugees} = 345$). Refugees reported greater perceived helpfulness for autonomy practices $t(441) = -2.37$, $p = .018$. Non-refugees reported greater perceived helpfulness for competence practices $t(441) = 2.28$, $p = .023$. No signficiant differences were found between groups for perceptions of relatedness practices.

Figure 2. Independent samples *t*-test of perceived helpfulness of organizational practices by worker status (H1).

Supplementary Analysis

As a supplemental analysis, I examined which organizational practices were viewed as most helpful for each group of participants separately (without comparing between-groups). I conducted paired-sample t-tests for each respective group by using three pairs of comparisons to examine the differences *between each possible pairing of the needs*. For refugee respondents, practices addressing relatedness needs ($M = 72.27$; $SD = 13.45$) were viewed as the most helpful; there were no significant differences between autonomy ($M = 69.02$; $SD = 14.84$) and competence practices ($M = 68.76$; $SD = 15.03$). For non-refugee respondents, practices addressing competence and relatedness needs were viewed as the most and equally helpful; autonomy practices were viewed as least helpful in comparison. These findings shed light on which needs are most valued by each group: For both groups, organizational support for relatedness is especially useful; in addition, non-refugee groups also value organizational support for competence needs.

Hypothesis 2: Do Refugees Experience Higher Levels of (a) Needs Deprivation and (b) Work Centrality?

To test H2a, I conducted independent-samples t-tests to examine whether refugee and non-refugee workers differed in their levels of need deprivation. All descriptive and inferential statistics are reported in Table 5. Contrary to the predictions made in H2a, refugees reported *lower* levels of needs deprivation for autonomy $t(442) = 4.80$, $p < .001$, and relatedness $t(442) = 2.04$, $p = .04$, but no difference for competence deprivation $t(442) = 1.95$, $p = .05$. Thus, although significant differences were found between groups for needs deprivation, the patterns were opposite to what was expected. Thus, H2a was not supported.[5]

Then I examined whether refugee and non-refugee workers differed in their levels of work centrality (H2b). Results of a t-test showed that refugee workers reported significantly higher work centrality compared to non-refugees, $t(441) = 6.72$, $p < .001$. Consistent with the hypothesis, findings support that refugee workers ascribe a higher degree of importance to work in their lives compared to non-refugee workers.

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[5] Using the alternative operationalization of needs deprivation, refugees showed higher levels of needs deprivation for competence $t(442) = -2.49$, $p = .01$, but no difference for autonomy $t(442) = 1.49$, $p = .14$, or relatedness deprivation $t(442) = .97$, $p = .33$.

Hypothesis 3: Do Needs Deprivation and Work Centrality Correlate With Perceived Helpfulness of Organizational Support?

To test H3, I examined whether significant relationships existed between needs deprivation (H3a) and level of work centrality (H3b) with the perceived helpfulness of organizational support practices of each need. To do so, I conducted a linear regression analysis to test the amount of variance of organizational practice helpfulness explained by the predictor variables (e.g., needs deprivation and work centrality). All descriptive and inferential statistics are reported in Table 6.

As presented in Tables 7-8, I regressed the perceived helpfulness of autonomy, competence, and relatedness-supporting organizational practices on its matched needs deprivation (autonomy, competence, and relatedness deprivation, respectively). To control for within-person differences in responding tendencies, I controlled for the within-person average of ideal and current needs fulfillment [i.e., (current need level average – ideal need level average) / 2] (Judd et al., 2001; Montoya & Hayes, 2017). In partial support of H3a, deprived relatedness explained significant variance of perceived helpfulness of relatedness-supporting practices ($\beta = .12$, $p = .01$). However, the results did not reveal any significant associations between autonomy/competence deprivation and the perceived helpfulness of practices supporting those needs.[6]

Next, I examined whether work centrality was significantly associated with the perceived helpfulness of practices (H3b). Consistent with the hypothesis, work centrality explained significant variance of the perceived helpfulness of autonomy-supporting practices ($\beta = .19$, $p < .001$), and relatedness-supporting practices ($\beta = .13$, $p = .01$). No significant association was found between work centrality and perceived helpfulness of competence-supporting practices ($\beta = -.02$, $p = .65$). Thus, partially in line with my prediction, those with higher levels of work centrality tended to view autonomy and relatedness practices as helpful.

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[6] Using the alternative operationalization of needs deprivation, the results revealed a negative significant associations between autonomy deprivation and perceived helpfulness of autonomy practices ($\beta = -.28$, $p = .01$), and competence deprivation and perceived helpfulness of competence practices ($\beta = -.22$, $p = .04$). These findngs ran counter to expectations, as more needs fulfillment was expected to be more associated with greater perceived helpfulness for practices designed to meet those needs. No significant association was found between relatedness needs deprivation and the perceived helpfulness of relatedness practices.

Table 6. Correlations for Work Centrality, Current, Ideal, and Deprived Needs Fulfillment

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Work centrality	1												
(2) Autonomy (current)	.41**	1											
(3) Competence (current)	-.06	.39**	1										
(4) Relatedness (current)	.31**	.64**	.40**	1									
(5) Autonomy (ideal)	-.29**	.10*	.49**	.12*	1								
(6) Competence (ideal)	-.30**	.10*	.57**	.09	.74**	1							
(7) Relatedness (ideal)	-.02	.24**	.47**	.44**	.54**	.57**	1						
(8) Autonomy (deprived)	-.53**	-.73**	.03	-.42**	.61**	.43**	.18*	1					
(9) Competence (deprived)	-.26**	-.31**	-.46**	-.33	.28**	.47**	.11*	.44**	1				
(10) Relatedness (deprived)	-.33**	-.43**	.01	-.62**	.35**	.41**	.43**	.58**	.43**	1			
(11) Autonomy practices helpfulness	.19**	.21**	.22**	.20**	.12*	.13**	.16**	-.09	-.10*	-.06	1		
(12) Competence practices helpfulness	-.02	.24**	.43**	.25**	.36**	.38**	.35**	.06	-.05	.06	.60**	1	
(13) Relatedness practices helpfulness	.13**	.28**	.33**	.29**	.27*	.28**	.40**	-.04	-.05	.06	.60**	.72**	1

Note. $N = 444$.

*$p < .05$. **$p < .01$.

Table 7. Linear Regression of Perceived Helpfulness of Organizational Practices on Needs Deprivation

	Perceived Helpfulness of Autonomy Practices			Perceived Helpfulness of Competence Practices			Perceived Helpfulness of Related Practices	
Variable(s) Entered	β	ΔR^2	Variable(s) Entered	β	ΔR^2	Variable(s) Entered	β	ΔR^2
1 Average of current and ideal autonomy	.22***		1 Average of current and ideal competence	.45***		2 Average of current and ideal relatedness	.42***	
Deprived Autonomy	-.06	.06***	Deprived Competence	-.06	.21***	Deprived Relatedness	.12**	.17***
Model R^2	.05***		Model R^2	.20***		Model R^2	.17***	

Note. N = 444. Standardized regression coefficients are reported.

*p < .05. **p < .01. ***p < .001.

Table 8. Linear Regression of Perceived Helpfulness of Organizational Practices on Work Centrality

Variable(s) Entered	Perceived Helpfulness of Autonomy Practices		Perceived Helpfulness of Competence Practices		Perceived Helpfulness of Relatedness Practice	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
1 Work centrality	.19***	.04***	-.02	.00	.13**	.02**
Model R^2	.03***		-.002		.01**	

Note. $N = 443$. Standardized regression coefficients are reported.

*$p < .05$. **$p < .01$. ***$p < .001$.

Hypothesis 4: Do Needs Deprivation and Work Centrality Mediate the Relationship Between Worker Status and Perceived Helpfulness of Organizational Support?

Finally, to test Hypothesis 4, I conducted mediation procedures using Model 4 of the SPSS macro PROCESS (Hayes, 2013) to separately analyze whether needs deprivation (H4a), and work centrality (H4b) mediated the effects of worker status (coded as 0 = non-refugee, 1 = refugee) on the perceived helpfulness of practices. The models included the covariates of participant age, gender, and education level, as these variables showed associations with current needs fulfillment, and/or work centrality. Unstandardized indirect effects were computed for each of 5,000 bootstrapped samples. The significance of a mediated effect, or indirect effect, with this analysis is determined by bias-corrected confidence intervals, such that if the intervals do not include 0, mediation can be inferred (Preacher and Hayes, 2004; Preacher, Rucker, and Hayes, 2007). Full statistics of each mediation model are reported in its respective table, as indicated below.

Needs Deprivation

To control for within-person differences in ideal needs fulfillment, I included the within-person mean of current and ideal needs as an additional covariate in the model. The results showed a significant indirect effect of relatedness deprivation on the relationship between worker status and perceived helpfulness of relatedness practices, $b = -.49$, 95% CI [-1.19, -.02], such that refugees tended to view relatedness practices as less helpful through less deprived relatedness needs. No significant indirect effects of autonomy or competence deprivation were found on the

relationship between worker status and perceived helpfulness of autonomy/competence practices.[7] Hence, Hypothesis 4a was not supported (see Tables 9-11).

Work Centrality

There was a statistically significant indirect effect of worker status on perceived helpfulness of autonomy practices through work centrality, $b = 2.33$, 95% CI [.78, 3.92]. The mediator accounted for roughly half of the total effect, $P_M = .45$. As Figure 5 illustrates, there was a statistically significant indirect effect of worker status on perceived helpfulness of relatedness practices through work centrality, $b = 1.67$, 95% CI [.39, 3.04]. The mediator accounted for more than all of the total effect, $P_M = 2.46$. In support of Hypothesis 4b, these findings suggest that refugee workers tend to perceive autonomy and relatedness practices as more helpful through higher work centrality (see Tables 12-14).

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[7] Using the alternative operationalization of needs deprivation, I included ideal needs as a covariate in the model to adjust for differences in ideal needs levels. The results showed a significant indirect effect of autonomy deprivation on the relationship between worker status and perceived helpfulness of autonomy practices, $b = .88$, 95% CI [.21, 1.76]. No significant indirect effects of competence or relatedness deprivation were found on the relationship between worker status and perceived helpfulness of competence/relatedness practices.

Table 9. Results of the Mediation Analyses – Indirect Effect of Deprived Autonomy

						R^2
Model 1: Mediator Variable Model	Outcome: Deprived Autonomy					.12
					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	-.82	.15	-5.42	< .001	-1.12	-.52
Mean avg. current/ideal autonomy	-.30	.15	-3.64	.0003	-.46	-.14
Gender	.07	.13	.50	.617	-.19	.32
Age	.01	.01	1.35	.177	-.004	.02
Education level	-.25	.05	-4.74	< .001	-.35	-.15
Model 2: Outcome Variable Model	Outcome: Autonomy Practices Helpfulness					.08
					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	6.18	2.33	2.77	.01	1.79	10.57
Deprived autonomy	-.16	.69	-.23	.81	-1.51	1.18
Mean avg. current/ideal autonomy	5.72	1.20	4.77	< .001	3.36	8.08
Gender	-.89	1.86	-.48	.63	-4.55	2.77
Age	.17	.10	1.74	.08	-.02	.37
Education level	1.24	.78	1.59	.11	-.29	2.77
Total and Indirect Effect (via Deprived Autonomy)						
					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	6.31	2.16	2.92	.004	2.06	10.55
Indirect effect	.13	.58			-1.03	1.28

Note. $N = 441$; controlled for age, sex, education level, within-person mean of average current and ideal autonomy needs. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Table 10. Results of the Mediation Analyses – Indirect Effect of Deprived Competence

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| | | | | | | R^2 |

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Model 1: Mediator Variable Model	Outcome: Deprived Competence					.02
					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	-.22	.10	-2.23	.03	-.41	-.03
Mean avg. current/ideal competence	-.03	.05	-.59	.56	-.13	.07
Gender	-.02	.08	-.20	.84	-.18	.15
Age	.01	.004	1.75	.08	-.001	.02
Education level	-.06	.03	-1.65	.10	-.13	.01

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Model 2: Outcome Variable Model	Outcome: Competence Practices Helpfulness					.21
					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	-.94	1.74	-.54	.59	-4.37	2.48
Deprived competence	-1.14	.86	-1.33	.19	-2.82	.55
Mean avg. current/ideal competence	9.11	.92	9.90	$< .001$	7.30	10.92
Gender	2.23	1.49	1.50	.13	-.69	5.15
Age	.07	.08	.88	.38	-.09	.23
Education level	.51	.61	.84	.40	-.68	1.71

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Total and Indirect Effect (via Deprived Competency)

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	-.70	1.74	-.40	.69	-4.11	2.71
Indirect effect	.25	.20			-.08	.68

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Note. N = 443; controlled for age, sex, education level, and within-person mean of average current and ideal competence needs. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Table 11. Results of the Mediation Analyses – Indirect Effect of Deprived Relatedness

							R^2
Model 1: Mediator Variable Model	Outcome: Deprived Relatedness						.09
					Bootstrapped CI (95%)		
	Coeff.	SE	t	p	LL	UL	
Status	-.28	.13	-2.11	.04	-.54	-.02	
Mean avg. current/ideal relatedness	-.18	.06	-3.08	.002	-.29	-.06	
Gender	.22	.11	1.91	.06	-.01	.44	
Age	.01	.01	1.63	.10	-.002	.02	
Education level	-.21	.05	-4.57	< .001	-.31	-.12	
Model 2: Outcome Variable Model	Outcome: Relatedness Practices Helpfulness						.18
					Bootstrapped CI (95%)		
	Coeff.	SE	t	p	LL	UL	
Status	1.19	1.76	.68	.50	-2.26	4.65	
Deprived relatedness	1.76	.63	2.77	.01	.51	3.00	
Mean avg. current/ideal relatedness	7.09	.77	9.22	< .001	5.58	8.60	
Gender	1.09	1.52	.71	.48	-1.91	4.08	
Age	.12	.08	1.42	.16	-.04	.27	
Education level	.69	.63	1.09	.28	-.56	1.94	

Total and Indirect Effect (via Deprived Relatedness)

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	.70	1.76	.40	.69	-2.76	4.17
Indirect effect	-.49	.30			-1.19	-.02

Note. N = 443; controlled for age, sex, education level, and within-person mean of average current and ideal relatedness needs. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Table 12. Results of the Mediation Analyses – Indirect Effect of Work Centrality

							R^2
Model 1: Mediator Variable Model		Outcome: Work Centrality					.14
					Bootstrapped CI (95%)		
	Coeff.	SE	t	p	LL	UL	
Status	.97	.14	6.88	< .001	.69	1.25	
Gender	-.16	.12	-1.31	.19	-.40	.08	
Age	-.01	.01	-.89	.37	-.02	.01	
Education level	.22	.05	4.41	< .001	.12	.32	
Model 2: Outcome Variable Model		Outcome: Autonomy Practices Helpfulness					.06
					Bootstrapped CI (95%)		
	Coeff.	SE	t	p	LL	UL	
Status	2.88	2.30	1.25	.21	-1.64	7.40	
Work centrality	2.41	.74	3.24	.001	.95	3.87	
Gender	-.07	1.89	-.04	.97	-3.79	3.64	
Age	.26	.10	2.62	.01	.07	.46	
Education level	.89	.78	1.13	.26	-.66	2.43	

Total and Indirect Effect (via work centrality)

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	5.21	2.21	2.36	.02	.88	9.55
Indirect effect	2.33	.80			.78	3.92

Note. $N = 441$; controlled for age, sex, and education level. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Table 13. Results of the Mediation Analyses – Indirect Effect of Work Centrality

						R^2
Model 1: Mediator Variable Model	Outcome: Work Centrality					.14

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	.97	.14	6.92	< .001	.69	1.24
Gender	-.16	.12	-1.32	.19	-.40	.08
Age	-.01	.01	-.90	.37	-.02	.01
Education level	.22	.05	4.42	< .001	.12	.32

						R^2
Model 2: Outcome Variable Model	Outcome: Competence Practices Helpfulness					.03

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	-4.23	1.99	-2.13	.03	-8.14	-.32
Work centrality	.35	.65	.54	.59	-.92	1.61
Gender	3.88	1.64	2.36	.02	.66	7.11
Age	.17	.09	2.00	.05	.003	.35
Education level	-.30	.68	-.44	.66	-1.64	1.04

Total and Indirect Effect (via work centrality)

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	-3.90	1.89	-2.06	.04	-7.61	-.19
Indirect effect	.33	.61			-.87	1.55

Note. N = 442; controlled for age, sex, and education level. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Table 14. Results of the Mediation Analyses – Indirect Effect of Work Centrality

						R^2
Model 1: Mediator Variable Model	Outcome: Work Centrality					.14

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	.97	.14	6.92	< .001	.69	1.24
Gender	-.16	.12	-1.32	.19	-.40	.08
Age	-.01	.01	-.90	.37	-.02	.01
Education level	.22	.05	4.42	< .001	.12	.32

						R^2
Model 2: Outcome Variable Model	Outcome: Relatedness Practices Helpfulness					.03

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Status	-.99	2.00	-.50	.62	-4.92	2.94
Work centrality	1.73	.65	2.66	.01	.45	3.00
Gender	2.11	1.65	1.28	.20	-1.13	5.35
Age	.19	.09	2.15	.03	.02	.36
Education level	.44	.69	.64	.52	-.91	1.78

Total and Indirect Effect (via work centrality)

					Bootstrapped CI (95%)	
	Coeff.	SE	t	p	LL	UL
Total effect	.68	1.91	.36	.72	-3.08	4.44
Indirect effect	1.67	.67			.39	3.04

Note. $N = 442$; controlled for age, sex, and education level. Unstandardized regression coefficients are reported. Bootstrap sample size = 5000.

LL lower limit, *CI* confidence interval, *UL* upper limit.

Robustness Analyses

As supplementary analyses, I examined the robustness of the effects of the potential mediators above. Specifically, I investigated whether demographic variables such as age, gender, education level, organizational tenure (in years), English as a first language (1 = yes, 2 = no), and years lived in the US would significantly impact the patterns of the findings.

First, I ran regression analyses to examine whether relatedness deprivation would still be significantly associated with helpfulness of relatedness-supporting practices after controlling for age, gender, education level, organizational tenure (in years), English as a first language, and number of years lived in the US (H3). The significance of the association between deprived relatedness needs and helpfulness of relatedness practices remained significant and unchanged after controlling for the demographic variables (β = .14, p = .003). Further, I examined the relationship between work centrality and helpfulness of autonomy and relatedness practices after controlling for the demographic variables. Both analyses remained significant and largely unchanged (p = .002 for autonomy practices; p = .021 for relatedness practices).

All mediation analyses reported to test H4 included covariates of age, gender, and education level in the model. To further test the robustness of the mediation analyses, I additionally included organizational tenure (in years), English as a first language, and number of years lived in the US as covariates into the model to explore whether these would be important covariates. After applying these additional covariates, the indirect effect of worker status on perceived helpfulness of relatedness practices through deprived relatedness did not remain significant, b = -.32, 95% CI [-1.04, .41]. However, the indirect effect of worker status on perceived helpfulness of autonomy and relatedness through work centrality remained significant, b = 2.22, 95% CI [.66, 3.86], and b = 1.57, 95% CI [.29, 2.90], respectively. Thus, the significant indirect effects of worker status on helpfulness of organizational practices, through the mediating variable of work centrality, were found even after accounting for the potential effects of age, gender, educational level, organizational tenure, and English as a first language.

DISCUSSION

The current study applied Self-Determination Theory (SDT) as a lens to examine how common organizational integration practices are perceived as helpful in fulfilling refugee (vs. non-refugee) basic psychological needs. These integration practices are potentially helpful to all workers; however, compared to non-refugee workers, I argued that refugees are more likely to view these integration practices as helpful to them. The perceived helpfulness of organizational practices was evaluated according to its perceived ability to fulfill psychological needs that have been argued to be essential to well-being: autonomy, competence, and relatedness (Ryan & Deci, 2000). I tested the hypothesis that refugees would especially view these practices as helpful in fulfilling their needs compared to non-refugees (H1). To explore the underlying processes of why refugees would see these integration practices as more important than non-refugee workers, this study also considered potential mediators. As newcomers to society with more limited resources and connections, it was hypothesized that refugees would view work as an especially important context to derive basic needs, and thus report higher needs deprivation and work centrality (H2). As a result, higher needs deprivation and work centrality were explored as psychological mechanisms for why refugees (compared to non-refugees) would view the practices as more helpful for fulfilling the three different needs (a mediation; H3).

Based on this sample, the results showed partial support for my hypotheses. Consistent with H1, refugees viewed autonomy-supporting practices as especially helpful for addressing autonomy needs compared to non-refugees. Both groups viewed relatedness-supporting practices to be equally helpful (note: within-group, refugees rated relatedness-supporting practices as most helpful). Testing H2a revealed that refugees reported *less* autonomy and relatedness deprivation compared to non-refugees, an interesting finding that will be discussed further. H2b was supported in the finding that refugees reported higher work centrality than non-refugees; that is, refugees ascribed more importance to the role of work in their lives. In testing H3a, I found relatedness deprivation was significantly associated with the perceived helpfulness of relatedness-supporting practices. Partially in line with H3b predictions, I found significant associations between work centrality and perceived helpfulness of autonomy and relatedness practices, but no association with competence practices, suggesting that those with higher work centrality perceive autonomy and relatedness-supporting organizational practices as helpful. Finally, testing H4a showed that

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refugees tended to view relatedness-supporting practices as *less* helpful through less relatedness deprivation – findings that run counter to my predictions. In support of H4b, work centrality significantly mediated the relationship between worker status and helpfulness of autonomy and relatedness practices, such that refugees view autonomy and relatedness practices as especially helpful, through higher work centrality.

Altogether, the current study provides novel insight into how refugees perceive various organizational support practices compared to non-refugees. Refugees view autonomy and relatedness practices as helpful in fulfilling their basic psychological needs. Both refugees and non-refugees viewed relatedness-supporting practices as equally helpful, yet when taking into consideration the role of work centrality, refugees tend to view relatedness practices as even more helpful than non-refugees. Refugees reported higher work centrality, signaling their dedication to work and ascription of work as an especially important component of their lives. This finding underscores the importance of the work context as a source for refugees to achieve important needs, such as reclaiming a sense of volition (i.e., autonomy) and belongingness (i.e., relatedness). These findings shed light on what psychological needs refugees are particularly keen on addressing through the workplace, as well as the psychological mechanisms that differentiate them from non-refugee workers.

Theoretical Contributions

The current paper has made at least three important theoretical contributions. First, the framework of the psychological needs adds new knowledge to an understudied population in the industrial-organizational psychology literature: refugees. Despite many calls for a better understanding of conditions of refugees in human resource-related disciplines (Guo & Al Ariss, 2015; Portes & Zhou, 1993), theories and research targeting refugees remain scarce (Campion, 2018; Lee et al., 2020). As a result, the potential needs of refugee workers and the factors that can facilitate their integration have not been well understood. This theoretical framework tackles this theoretical limitation. The lens through psychological needs to unpack refugee workforce integration offers scholars a systematic way to understand refugees through their needs of autonomy, competence, and relatedness. Doing so highlights areas where refugees' deprived needs may dampen their performance, enriching our knowledge about the role of organizations in managing refugee workforce and introducing ways organizations can direct initiatives towards

supporting refugees. By allowing scholars to organize human resource practices into meaningful categories, the framework directly contributes to our understanding of a more effective occupational integration of refugees. It also supports that basic needs are a meaningful way to understand refugee workforce management.

Second, the paper expands the literature on psychological needs by linking it to an increasingly crucial human resource phenomenon. Addressing psychological needs in the workforce is critical. Studies have connected the fulfillment of individual workers' needs to many positive work outcomes, including increased task performance, organizational citizenship behavior, and proactive behavior (e.g., Deci et al., 2001; Sonnentag, 2015; Van den Broeck et al., 2008; Van den Broeck et al., 2016). What has not been established, however, is how psychological needs play a key role in understanding cross-cultural and culturally unique situations, such as the refugee workforce (Van den Broeck et al., 2016). Refugees are unlike traditional immigrants and expatriates, who left their home country voluntarily (Gericke et al., 2018). In contrast, they are in a situation of unique challenges (e.g., trauma, welfare dependency, deficiency in skills, lack of social network). This makes the understanding of refugees' needs particularly relevant and theoretically important to the literature on psychological needs. Yet the current literature on needs and well-being has been relatively silent in the context of refugees and has not drawn these theoretical connections. This paper directly addresses this important issue and offers a framework to encourage future psychological needs research to examine and improve occupational practices that serve refugee workers.

Third, the paper explores potential psychological mechanisms that differ meaningfully between refugees and non-refugees, which highlight how refugees may uniquely experience workplace support. In particular, the study found that refugees tend to have higher work centrality – they view work as an especially important part of their lives. Uncovering the ways in which refugees may diverge from the typical worker is important in developing a better understanding of who refugees are, what they value, and how their unique experiences shape them as workers and as individuals in general. Moreover, understanding how refugees uniquely approach life can inform how organizations can target and design support for this particular population.

Practical Contributions

The current paper has made several practical contributions. As discussed in the introduction, organizations are in a strong position to help refugees. The perspective of fulfilling psychological needs can guide practitioners in the ways they dissect the conditions of incoming refugee workers and subsequently understand how they can tailor occupational support to individual refugee workers. Moreover, the framework of needs also enables practitioners and policymakers to evaluate and design their current practices critically. For example, the findings from this study suggest that refugees view autonomy and relatedness-supporting practices as especially useful to addressing their needs, through higher work centrality. Based on this study, organizations seeking to improve upon their refugee integration designs may consider prioritizing practices targeting autonomy and relatedness needs (e.g., entrepreneurial support, networking opportunities). However, additional studies should be conducted to examine and gather evidence for the effectiveness of needs-supporting practices for refugee workplace outcomes before a more confident recommendation can be provided. Still, the current study identified the topmost useful practices for addressing psychological needs from refugees' own perspective (e.g., entrepreneurial support for autonomy, language training for competence, cultural skills development for relatedness). These insights would not be revealed unless practitioners systematically evaluate the application and implications of organizational practices on refugees' psychological needs. Thus, applying the SDT framework as a systematic lens to understanding refugee support may help practitioners design evidence-based organizational support programs.

In addition, the provision of refugee support is an opportunity to demonstrate and reaffirm the positive role of organizations. Today, there is a growing interest by consumers, citizens, and investors in the quality of corporate social responsibility (CSR) held by an organization (Bilbao-Terol et al., 2019). Consumers are demanding that businesses contribute positively to the larger community, and they are more loyal to brands that do so (Tent, 2018). Deloitte's annual United States millennial survey has shown that the majority of American millennials yearn for leaders whose decisions might benefit the world and wish to work for organizations that allow them to engage in "good causes" (Deloitte, 2018). The findings suggest that, following recent geopolitical and social concerns, it is an ideal time for business leaders to prove themselves as agents of change in demonstrating corporate social responsibility. Indeed, this study sheds light on the refugee experience; refugees' higher work centrality emphasizes the importance of the organizational

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context to refugee workers' integration, further affirming organizations' roles in supporting refugees. Thus, the improvement of practices in support of the refugee workforce may generate creative positive ripple effects for organizational image and business performance.

It is also critical to note that providing support for refugees and facilitating the success of refugee workforce integration is not solely a philanthropic endeavor. In fact, successful workforce integration of refugees can bring about many positive business and organizational outcomes. As discussed in the introduction, refugee employees have demonstrated themselves to be valuable workers, with lower turnover rates, and can open the doors to a new recruitment pipeline. With tight labor markets and aging demographics, many businesses see refugees as a way to meet labor shortages (Mehta et al., 2019). Contrary to popular beliefs that the underemployment of refugees is due to a lack of skills or education, refugees are often overqualified for their work (Desiderio, 2016). Many refugees with earned credentials are often forced to flee with little notice or preparation, and thus many arrive without transcripts or certificates (Khran et al., 2000). Further, refugees possess unique work skills and competence (e.g., foreign language abilities to serve multilingual customer bases). To the extent that increased support to refugee workers can increase attraction to refugee job applicants, organizations with practices that fulfill core needs holistically will be more capable of expanding their talent pool to an untapped resource of rich potential.

Finally, the current study's exploration of work centrality as a psychological mechanism underscores the importance of the work context to refugees. The study showed that work centrality mediated the relationship between refugee status and the perceived helpfulness of autonomy and relatedness-supporting practices (H4b). This mechanism points to the importance of organizational contexts to refugees as they re-establish their footing in the new host society, affirming organizations' roles in investing effort and resources to support them. Not only would it benefit the integration and well-being of the refugee employees, but it would likely translate into building a more productive and stronger workforce within the organization.

Do Refugees Experience More Needs Deprivation?

As mentioned above, one contribution of the current study is its effort to explore the unique psychological mechanisms of refugees that may influence their perceptions of organizational support. Originally, I predicted that refugees would exhibit higher levels of needs deprivation for all three needs compared to non-refugees as a product of their difficult life experiences leading to

resettlement. However, my findings suggested a mostly surprising opposite pattern of results: refugees reported less autonomy and relatedness deprivation, and no difference in competence deprivation compared to non-refugees.

At least three possible explanations may account for this finding. First, it is possible that the measurement used to capture current needs and ideal needs had room for improvement. Following data collection, I conducted a confirmatory factor analysis (CFA) to test the model fit of the current and ideal needs measures, which revealed poor fits for the factor structures, suggesting that the scale may not have captured the distinct constructs as intended, and thus were not a valid measure of autonomy, competence, and relatedness needs. To account for the possibility that a lack of strong psychometric foundation in the scale may negatively affect the validity of the results, I used an alternative version by removing the items within the autonomy and relatedness needs scales that included reverse-worded items (which have been found to produce factor structure issues; Zhang et al., 2016). By doing this, I created good-fitting models, and using this new, shortened scale I ran the analyses for the hypotheses of the study. Still, the results using this version ran counter to the proposed hypotheses, and the modifications made to the original scale suggest that one should exercise caution in interpreting the data relating to needs deprivation.

Second, it is possible that refugee and non-refugee participants do not hold the same frame of reference to determine their levels of needs fulfillment. Differences in culture can cause meaningful or spurious differences on the measured constructs based on how the measurement instrument itself is interpreted (Robert et al., 2006). This "frame-of-reference" effect, where cultural differences can influence the relative strength of item endorsement because the perception of one's standing on an item is interpreted with reference to relevant social groups, has been shown to be a threat to measurement (intercept) equivalence. As a product of different life experiences, circumstances, and hardships, refugees and non-refugees may hold different frames-of-reference for determining baseline reference points of needs fulfillment. Refugees are likely to have gone through extremely challenging situations, and thus may start out with a lower baseline level of needs fulfillment. Refugees may also hold lower expectations for the future; in turn, they may indicate lower levels of ideal needs fulfillment. This, in combination with a lower baseline point of needs fulfillment, may lead refugees to appear as having less needs deprivation than non-refugees. In addition, a measurement invariance testing on the shortened version of the scales

revealed invariance between refugees and non-refugees at the metric and scalar level – evidence to suggest that the scales do not operate identically across groups.

An alternative explanation may be suggested by past research on refugee resiliency. Refugees in Australia, who experience high levels of discrimination in the labor market, low income levels, lack of opportunity, and perceptions of discrimination reported levels of life satisfaction and well-being that are not as low as one would expect (Fozdar & Torezani, 2008). To explain this paradox, the authors draw on "relative deprivation" theory, which recognizes that judgments of life satisfaction results not from absolute characteristics but subjective, relative comparisons (Walker & Smith, 2002). Refugees may not be comparing their levels of needs fulfillment to that of the general population, but to alternative comparison points, such as their life prior to migration, or to those at home. The results of relative gratification (as opposed to deprivation) may provide insight into the surprisingly high levels of reported needs fulfillment. These possible explanations offer potential insight as to why H2a was not fully supported using the current operationalization of needs deprivation, however, they raise interesting avenues that should be explored in future research.

Third, refugees may be more focused on fulfilling and sustaining more fundamental physical/safety needs as opposed to more abstract needs such as autonomy, competence, and relatedness. Considering the context under which refugees arrive in their host country (i.e., violence, persecution, conflict), it is reasonable to assume that refugees might prioritize establishing more basic physical needs, such as protecting their physical safety and finding secure housing, rather than pursuing larger self-actualizing needs such as autonomy, competence, and relatedness. Finally, it is possible that refugees experience a pronounced sense of gratitude for their new resettlement in a safe host country, leading to lower levels of ideal needs fulfillment. These specific differences in life circumstances create difficulties in comparing refugees to non-refugees in terms of needs fulfillment.

Limitations

While the initial findings of this study are promising in helping us better understand how refugees perceive organizational support, some limitations of the current study should be acknowledged. First, a limitation of our study survey was that it focuses on the American context, which restricted our sample collection to a subset of the refugee population. Although the U.S. has

historically engaged in strong efforts to resettle refugees, most refugees (80%) seek refuge in countries neighboring their countries of origin (e.g., Turkey hosts the largest population of refugees in the world), and about 1/3 of refugees are hosted in the world's poorest countries (UNHCR, 2019a). Only 16% of the world's refugees are hosted in the rich and developed countries, such as the U.S. This fact points out that, in contrast to the less developed countries who are currently hosting a much larger portion of refugees, the U.S. should be in a relatively good position to mobilize and direct resources towards resettling refugees in a manner that is thoughtfully considering the integration and well-being of these individuals. While it is important to gain a holistic understanding of how refugees are being supported in their various host countries, the current study can only be indicative to how refugees in the U.S. are experiencing workplace integration and support, and this can vary widely from refugees who are resettled elsewhere, where there may be less societal and organizational resources to support their higher psychological needs.

A second limitation was that the study was conducted exclusively in the English language. Many refugees do not read or speak English fluently – the majority of refugees resettled in the U.S. speak Arabic, Nepali, or Somali (Scamman, 2018). Although most improve their English-language skills over time (Mathema, 2018), if the survey were offered in multiple alternative languages, the sample would have been more representative of the general refugee population. Moreover, many refugees may not have strong literacy levels or access to digital tools (e.g., access to Internet or own a computer), which further hinders our ability to sample representatively. One can imagine how only sampling from English-understanding participants may have an influence on the variables of interest: Refugees who have strong English skills may be able to connect more effectively with locals, thereby creating more and stronger social connections and experiencing smoother navigation of the American society. Those who speak English may also face less discrimination or prejudice behaviors in the workplace or in general life contexts. These factors could have major influences on bolstering or buffering threat to all three needs. Future studies should consider translating studies/surveys for refugees into different languages so as to capture more perspectives within the population.

Third, although refugees represent a considerably smaller portion of the total American population, it would have been statistically beneficial to recruit more refugee participants. Still, given that the refugee population is relatively smaller and perhaps seen as more vulnerable/protected, the current sample collected was within our practical means. In an attempt

to compensate for this limitation, I aimed to oversample non-refugee workers 5:1. However, I did not meet my target number for the non-refugee sample (i.e., 500 participants), as I made the decision to remove a portion of the non-refugee participants due to data quality concerns.

Fourth, the current study examined how refugees perceived organizational support practices *if it were offered to them.* While there are benefits to using this approach (e.g., understanding whether practices are helpful irrespective of idiosyncratic organizational integration efforts), the findings are unable to inform us on how these organizational support practices *actually* benefit refugees, and if so, whether this support is linked to positive work outcomes, such as enhanced well-being, increased job performance, or improved relations with co-workers. Understanding the consequences of providing this support would provide stronger evidence for the utility and importance of offering such practices to populations such as refugees.

Future Directions

To extend upon the current study, future research should go beyond perceptions of hypothetical practices and begin estimating the *actual impact and effectiveness* of organizational practices in addressing refugees' need fulfillments and promoting positive work outcomes. In the present study, I examined how refugees would perceive organizational support practices to be helpful in fulfilling their needs, *if it were offered to them.* This research question was meaningful in discerning how refugees would perceive hypothetical organizational support practices, irrespective of organizational idiosyncrasies. However, a promising future direction could include empirically evaluating such practices for its effectiveness in aiding integration when it is actually offered to refugees. Here, effectiveness could be considered as realized through the fulfillment of the basic psychological needs, and its ultimate translation into positive work outcomes (e.g., subjective well-being, job satisfaction, organizational commitment). Investigating the relation between organizational practices and the above outcomes could provide further evidence for the value of such organizational support practices, highlighting the simultaneous benefits for (1) the organizations who invest in such practices, and (2) the refugees who have access to the support and resources needed to truly integrate and thrive within the organization and society at large.

Based on my current findings, taking the next step will logically lead to a related research question: *How is the utility of organizational support practices associated with work outcomes, and how does worker status influence this relationship?* Exploring this question will allow for a

greater understanding of what practices are actually implemented and offered to refugee workers, provide evidence for how these practices are experienced by refugees, and examine whether it would be instrumental to needs fulfillment and the promotion of positive work outcomes. Based on the current findings, it is likely that refugees (especially those who are high in work centrality) would find autonomy and relatedness practices to be particularly useful in filling needs that are relatively lacking, and their participation in such organizational practices could lead to a myriad of positive downstream effects such as reclaiming a sense of volition, and developing feelings of belongingness both within the organization, and greater subjective well-being.

Expected Challenges and Recommendations for the Recruitment of Refugee Workers

With consideration for the challenges and limitations experienced while conducting Study 1, I hope to implement improvements in the study design and participant recruitment strategies in future studies.

First, in examining the roles of important psychological mechanisms on the worker-organizational helpfulness relationship, it is crucial to use strong measurement tools to accurately capture the constructs of interest. The needs scale used in the current study (Van den Broeck et al., 2010) demonstrated poor model fit via CFA, which called into question the degree to which confident analysis or conclusions could be made regarding the hypotheses. In efforts to rectify this, in future studies I will explore alternative measure of SDT needs at work, or validate an original scale that more directly captures needs deprivation. Doing so may provide better insight into the construct of 'deprived needs' and reveal more reliable patterns of results between refugees and non-refugees. Especially when comparing constructs across cross-cultural population samples, it is important to make sure that the scale being used is psychometrically sound so as to better ensure one's ability to compare between groups (Robert et al., 2006). When possible, it is recommended to conduct measurement invariance testing to examine whether the construct is interpreted in the same way across different population groups.

Second, it is worth noting the challenges associated with recruiting a sizable sample of refugee workers. This is in part due to the smaller population of refugees in the US relative to the general population, as well as traditional research platforms' lack of focus on this underrepresented group. Other barriers include language concerns (many refugees are not fluent in reading or understanding English, especially when they first arrive), or access to digital resources (i.e.,

computers, Internet) that is commonly needed to participate in online survey study designs. That being said, it remains an important issue to consider and include underrepresented populations such as refugees in scholarly research. Very few studies have examined refugees' vocational behavior, and current knowledge of how organizations and policy makers can better assist refugees is limited (Morrice, 2011), and recruitment issues may play a large part in this lack of research effort or output. Although engagement of such groups can be challenging, including underrepresented groups in research is a scholarly priority for reducing societal and social disparities – failure to involve these populations in research only serves to further exacerbate these disparities (Erves et al., 2017).

Recommendations for improving upon the recruitment of refugee-status individuals for research studies include: (1) Translating research studies/surveys to multiple languages so as to be more inclusive of refugees arriving from predominantly non-English speaking countries (e.g., Arabic, Nepali, Burmese etc.); (2) Exploring alternative offline options of completing the survey (e.g., paper-and-pencil survey); (3) Actively reaching out and partnering with refugee-serving organizations, such as refugee resettlement and employment agencies, to engage and recruit refugee individuals for research efforts.

Conclusion

As the number of refugees continues to rise around the globe, organizations will be called to play urgent and critical roles in supporting the well-being and outcomes of refugee populations. By taking into account basic psychological needs when designing organizational support, we now have a framework to systematically understand how organizational practices can impact and more effectively support refugee workers. By taking into consideration the refugee's own perspective, we have shed light onto what refugees perceive as most helpful, and the unique mechanisms influencing those perceptions. It is only when organizations are better equipped to integrate refugees into the workforce, will we be able to turn crises into opportunities for both refugee well-being and organizational growth. Together, the knowledge generated will help integrate refugees into organizations and society at large.

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APPENDIX

List of organizational practices and examples provided to participants.

Organizational Practice	Examples
Entrepreneurial support	Grants or investments for entrepreneurial pursuits; business incubator programs
Technological tools	Providing WIFI; access to smartphones
Transportation	Providing a shuttle bus or driver; providing a public transportation pass
Financial services	Access to banking services; setting up a line of credit; loan services
Physical health and safety	Providing food, housing, or healthcare
Financial/business literacy	Providing education for personal financial management, budgeting, investing, managing debt, calculating interest, retirement planning
Digital literacy	Programs to develop coding literacy; workshops for informational safety and security; how to access information online; how to create digital content; how to collaborate and manage content digitally
Internships	A temporary training position in an organization, that allows you to gain work experience and relevant job skills
Apprenticeships	An arrangement to shadow and learn a trade from a higher-up individual.
Language training	English language classes to develop reading, writing, and speaking skills; interpreter services
Job-relevant skills training	Skills training for specific job roles (e.g., caregiving, software engineering, hospitality); upskilling; reskilling; developing technical, quantitative, or analytical skills
Mentorship	Establishing a mentor-mentee relationship with a more experienced member of the organization.
Education opportunities	Support to pursue an educational degree; certifications
Career guidance	Resume and cover letter review workshops; mock interviews; career counselor services
Cultural experiences	Organized trips to community events, staff holiday parties, experiencing local cuisine
Networking	Professional networking events, conferences
Community integration	Opportunities to volunteer for nonprofit organizations; leisure activities
Guidance from professional with similar cultural background	Receiving career guidance from a professional with a shared cultural background and knowledge
Cultural skills development	Cross-cultural skills and communication training; team building exercises; cultural talks; diversity and sensitivity training