Transitions Theory and liminality in information behaviour research: applying new theories to examine the transition to early career academic

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Abstract

Purpose: Transitions – as a focus of study – has been missing from information behaviour research. This paper explores the topic of transitions – their characteristics and influences, the related concept of liminality, and Transitions Theory – and what it can contribute to the field of information behaviour. This exploration includes the application of liminality and Transitions Theory to an empirical study of participants making the transition from doctoral student to early career academic.

Design/methodology/approach: In addition to an extended literature review, this paper reports on a qualitative study that used constructivist grounded theory methodology for data collection and analysis. Early career academics were followed for a five- to seven-month period and data were collected using interviews and "check-ins." Transitions Theory and liminality were used to guide the analysis.

Findings: Three important findings were highlighted: the complicating effects of being in a liminal space on information behaviour; the changing information needs of those undergoing a transition; and the importance of comparison as a way of using information to understand new situations. A revised model of Transitions Theory (Meleis et al., 2000) is also proposed, to incorporate information behaviour.

Originality/value: This paper demonstrates that by examining information behaviour over longer periods of time and by making transitions a focus of research, new understandings and insight can be gained into what information individual needs, how they find, share, and use that information. This research demonstrates that information behaviour research adds important elements to the study of transitions and, conversely, that transitions (and Transitions Theory) add important elements to the study of information behaviour.

Introduction

Transitions are periods of change, rarely orderly or simple but rather complex processes experienced over time and space. Due to their association with developmental stages (e.g., puberty, adulthood, old age) and major life events (e.g., marriage, illness, starting work), transitions have been the subject of much study. It is at points of transition that values, views, and ways of being in the world are challenged and require individuals to actively deal with the resulting changes. Whether anticipated or unanticipated, chosen or compelled, viewed as positive or negative, all transitions require redefinition of situation and self. Accompanying this redefinition are changes to personal resources and habits. All of this has implications for information needs, seeking, use, sharing, and practices.

Transitions have been an area of study in many disciplines, including counselling, industrial and organisational psychology, human resources, education, and nursing. Within information science there has been interest various topics, such as how masters students are able to transition to professional practice (e.g., Oud, 2008), students starting university (e.g., Stutzman, 2011), women during pregnancy (e.g., McKenzie, 2003), immigrants in a new country (e.g., Caidi and Allard, 2005; Caidi, Allard, and Quirkey, 2010; Kennan, Lloyd, Qayyum, and Thompson, 2011; Lloyd, Kennan, Thompson, and Qayyum, 2013), and patients experiencing an illness (e.g., Ankem, 2006). However, much of the research in information behaviour examines individuals or groups of individuals undergoing a transition at one point in time or before and after an event. While examining individuals' experiences at one point in time is important to understanding the information behaviour of persons in a particular context, what is often missing are the on-going changes during the transition. While transition may be a part of the research, it is not the focus of the study, and as such it is not fully examined. At times of transition information needs often come to the fore. Information seeking and use may change depending on where individuals are within their transitional experience. How individuals and groups learn to navigate within and adapt to new contexts has often remained unanswered. In focusing on transitions as an object of study and drawing on existing literature, researchers can address the gap in the research literature and re-examine the impact of transitions on information behaviour.

This article contributes to the information behaviour literature by highlighting transitions as an area of study and more fully explicating the concept of transition as it relates to information behaviour research. In addition, this article offers Transitions Theory and the related concept of liminality as a way to better understand the information behaviour and practices of those undergoing transitions. This article begins by discussing the concept of transitions and Transitions Theory, particularly as it has been developed in the field of nursing. From there, transitions are discussed in detail, including the characteristics and influences. The related concept of liminality is explored, as well as the literature from information behaviour and information practice research. From there, the researcher's dissertation study will be discussed as an example of information behaviour research focused on transition. Findings from the study will be explored, as well as what transitions-focused research can offer the field.

Literature Review

The literature review will define transitions and discuss Transitions Theory, including the characteristics of transition and what influences transitions. This discussion will then turn to the related concept of liminality as a way to understand transitions. The review of the literature will then finish by discussing information behaviour and information practice research with populations in transition.

Transitions and Transitions Theory

'Transition' is a commonly used term and a topic of interest to many. Because of its popularity, the meaning of 'transition' is often assumed to be so readily apparent that it is not defined (Cowan, 1991). Upon closer examination, what defines and what composes a transition requires explication, as without delimitation, individuals could be said to be in a constant state of transition. While transitions have been the subject of study in many fields (e.g., psychology, organisational studies, education, and nursing), often the approach taken has been empirical rather than theoretical. Over the last 40 years Afaf Meleis and colleagues in the field of nursing have worked extensively on the topic of transitions, developing a theory that is based on three paradigms: role theory, lived experience, and feminist postcolonialism (Meleis, 2015). An early definition expressed transition as "passage from one life phase, condition, or status to another" including the concepts of "process, time span, and perception" (Chick and Meleis, 1986, p. 239). Rather than prescriptive, transitions are conceptualised as being experienced by people in different ways; they are personal rather than structured (Chick and Meleis, 1986). Almost a decade later Schumacher and Meleis (1994) review definitions of transitions used in nursing research. Examining these definitions reveals that they share aspects of an exit and entry points with a process of change or movement between, often including ideas of disruption and coping.

While transitions are diverse, there are defining features that include movement (transitions entail motion from one state to another), process (transitions are processes that occur over time), and substantive change (transitions for individuals and families include changes to "identities, roles, relationships, abilities, and patterns of behavior" [Schumacher and Meleis, 1994, p. 121]). Without these properties a change cannot be said to be a transition. Change is inherent to all transitions, but not all changes are transitions (Meleis et al., 2000). Additionally, transitions "both result in change and are the result of change" (Im, 2009, p. 423). Implied in these definitions is the effect of transitions – a positive outcome in the form of greater stability is reached at the end of a transition, regardless of whether the transition itself is viewed as positive. More recently, some researchers have focused more on the messy nature of and personal response to transitions. Reviewing the transitions literature in nursing, Kralik and colleagues (2006) define transition as "a process of convoluted passage during which people redefine their sense of self and redevelop self-agency in response to disruptive life events" (p. 321), which connotes adaptation to change. An argument can be made that this idea of redefinition is another essential feature in defining transition. Transitions Theory provides a framework for understanding both what transitions are as well as its major features: "types and patterns of transitions, properties of transition experiences, transition conditions: facilitators and inhibitors, process indicators, and outcome indicators" (Meleis, Sawyer, Im, Hilfinger Messias, and Schumacher, 2000, p. 16). (See Figure 1 for Meleis et al.'s Model of Transitions Theory.) In summarising Transitions Theory, Im (2009) outlines the assumptions that transitions: are complex and multidimensional; are characterised by "flow and movement over time;" cause changes in "identities, roles, relationships, abilities, and patterns of behavior;" and involve processes of movement and change in "fundamental life patterns" (p. 423).

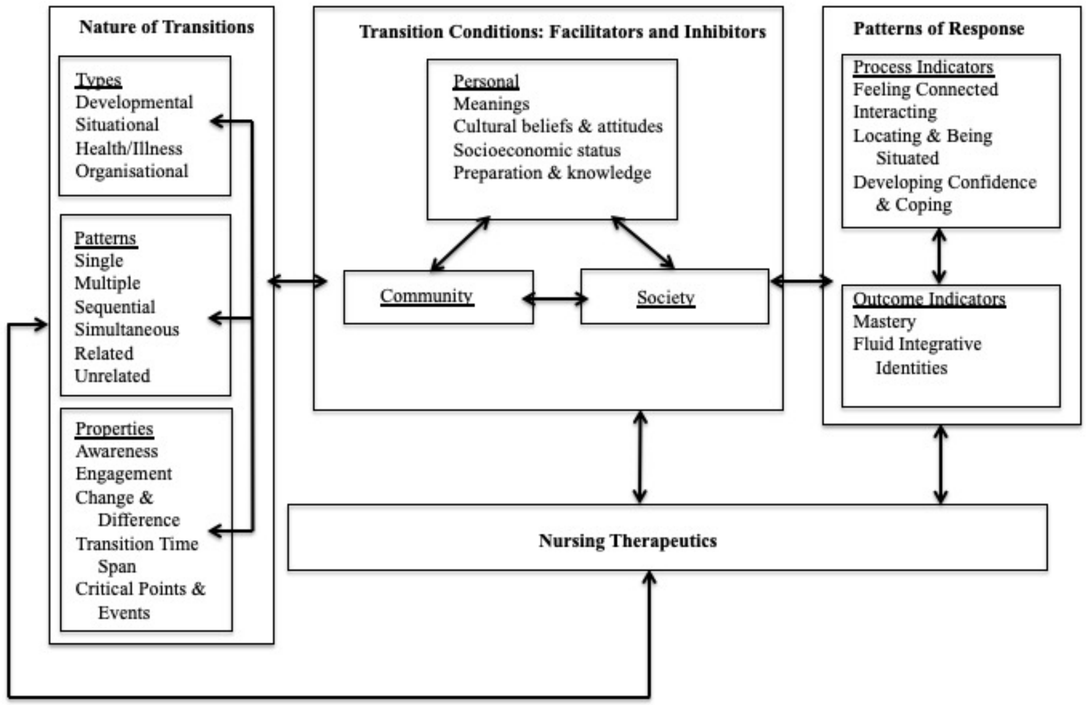

Figure 1. Model of Transitions Theory from "Experiencing transitions: An emerging middle-range theory," by A. I. Meleis, L. M. Sawyer, E.O. Im, D. K. Hilfinger Messias, and K. Schumacher, 2000, *Advances in Nursing Science, 23*, p. 17. Copyright 2000 by Wolters Kluwer.

Characteristics of Transitions

Transitions can be categorised in many ways, including the "type" of transition: developmental (changes due to changes in life cycle), situational (changes in circumstances in personal or professional life), organisational (changes in the organisational environment impacting individuals), or health-illness (changes due to developing an illness or health condition) (Meleis et al., 2000; Meleis, 2015; Schumacher and Meleis, 1994). Examining the pattern of transitions, single or multiple transitions may occur, which may also be simultaneous or a series of discrete transitions that have ripple effects into other areas (Meleis et al., 2000; Schumacher and Meleis, 1994). Transitions can also be categorised as anticipated (e.g., getting married, growing older) and unanticipated (e.g., falling into ill health, losing a job). As transitions can be conceptualised as two points of relative stability with movement in between (Chick and Meleis, 1986), they are associated with time and movement, transitional periods can be seen as "extend[ing] from the first anticipation of transition until stability in the new status has been achieved" (Chick and Meleis, 1986, p. 239). However, the boundaries of transitions – the beginning and ending – are porous and can be difficult to determine. Attempting to provide numerical values to transition timespans is not useful as experience of change are personal and differ between individuals (Meleis et al., 2000). While movement between two points may conjure up pictures of linear movement, transitions are often not experienced linearly, rather, can also be conceptualised as uni-directional, cyclical, spiral, or convoluted with backward and forward movements (Kralik et al., 2006). This is particularly true of transitions that occur over extended periods of time, which undulate as states of instability are experienced periodically (Kralik et al., 2006; Meleis et al., 2000).

Important also when thinking about transitions is the disruption to the stability that initiates the transition, the disconnectedness felt, as well as the sense of loss and "incongruity between past, present, and future expectations" (Meleis, 2015, p. 365). This disruption can upset individuals' sense of security as expectations based on past experiences go unmet, previous means of satisfying needs are unavailable, and familiar points of reference disappear (Chick and Meleis, 1986). These points of reference may be a mental representation or a physical location. Physical locations can be an important aspect of a transition (Meleis et al., 2000), as changing location disrupts familiar landmarks and requires learning about and adapting to a new environment. Mental representations – how one "situates" oneself in a given setting or circumstance (Meleis et al., 2000) – are disrupted by transitions as situatedness is in relation to the changing external context, requiring adjustment and redefinition until one is once again situated (more will be said about redefinition in a later section).

Influencing transitions

As a complex process there are a range of elements that can influence the experience and outcome of a transition (falling into the categories of "Properties" and "Transition Conditions: Facilitators and Inhibitors" in Figure 1). While too many to cover in depth, some of the most important elements properties include awareness, expectations, preparation and planning, knowledge and skills, the environment, and making meaning (Chick and Meleis, 1986; Meleis et al., 2000; Schumacher and Meleis, 1994). Awareness of a transition is an obligatory antecedent to declaring that a transition is taking place. If an individual is not aware or denies that transitional changes are taking place, then that individual is not yet in transition (Chick and Meleis, 1986); if an individual anticipates an upcoming change, they may enter a transitional period in expectation of that change. Individuals may anticipate the meaning or experience of a transition based on their expectations, derived from previous experience. Expectations can be individual or social about normative and nonnormative transitions (Cowan, 1991). However, the delineation between typical and atypical transitions may be blurred, as what is "normal" is determined by subcultures (Cowan, 1991) and may be experienced differently by individuals. Added to this, expectations may not be accurate; expectations may be unrealistic or there may be uncertainty or unknown aspects of new situations (Schumacher and Meleis, 1994). This may be particularly true of complex and multiple transitions that evolve over time. If individuals have expectations of transitions, they may prepare for the approaching change, which can help facilitate the transition (Meleis et al., 2000; Schumacher and Meleis, 1994). However, preparation and planning require knowledge about the situation, including issues and problems that must be identified in order to make effective preparations (Schumacher and Meleis, 1994). In addition to knowledge of what to expect from a transition, knowledge about how to negotiate a new situation is required (Schumacher and Meleis, 1994). New environments and new roles within those environments may require the acquisition of new knowledge or skills. Uncertainty drives the need for new knowledge or skills during this time.

Of course, transitions take place within a particular context. A transitions is "the process and the outcome of complex person-environment interactions. It may involve more than one person and is embedded in the context and the situation" (Kralik et al., 2006, p. 232). The sociocultural environment – including societal views of a transitional event, cultural belief systems, the provision of resources, or the addition of stressors – facilitates or inhibits transitions (Meleis et al., 2000). If a transition is assigned a stereotyped meaning or is stigmatised by a society, the transition is made more difficult. Resources – in the form of social, professional, or information support, as well as familiarity with the environment – play a key mediational role (Schumacher and Meleis, 1994).

A key aspect of experiencing a transition is the resolution or "redefinition" of self and situation. Using the term redefinition emphasises that what takes place is a reworking of the marking out of the boundaries of self and/or situation, highlighting that there is a significant modification of what currently exists to create something new. "Processes and outcomes of transitions are related to definitions and redefinitions of self and situation. Such defining and redefining may be done by the person experiencing the transition or by others in the environment" (Chick and Meleis, 1986, p. 241). In order to deal with transition, one must confront differences that exist because of the change encountered. This includes feelings of being different, perceptions of being different by others, seeing the world in different ways, or having diverse or unmet expectations (Meleis et al., 2000). In looking at patterns of response that indicate movement toward what they term successful transitions, Meleis et al. (2000) identify four patterns: feeling connected (needing to feel and stay linked with others for support), interacting (through contacting and dealing with others the meaning of the transition is created and acknowledged), being situated (creating meaning by comparing the old location to the new location after transition), and developing confidence and coping (learning to deal with the new situations created by transitions with security in oneself). Redefinition is a process of negotiating between the self and the new social context, a progression of positioning oneself in new ways as the landscape changes. Of particular interest is the use of comparison to deal with differences and the drive to make meaning from the situation.

Change can bring uncertainty and feelings of discomfort and disconnectedness. Comparison is an active process that focuses attention of specific aspects of an experience and considers in what ways they are similar or dissimilar. By comparing their old and new settings and circumstances individuals understand their current situation and their place within that situation (Messias, 2002). Comparison allows individuals to create new understandings, perceptions, and meanings as they situate themselves in space, time, and relationships (Meleis et al., 2000). Searching for or creating new meaning is also a way for individuals to understand their experience. Meaning, which is historically and culturally situated, is mediated by individuals' understanding of the significance. The meaning that individuals ascribe to their transition experience has existential connotations (Schumacher and Meleis, 1994), potentially influencing how individuals view themselves, their place in the world, and their value. Meanings, or subjective appraisals, given to the transition and the precipitating events can enable or constrain transitions (Meleis et al., 2000). Whether the individual undergoing a transition views it as positive or negative can affect how that individual will respond to the change.

Liminality

The concept of liminality is separate from, yet related to, transitions. From the Latin word "limen" for threshold, liminal is defined as "relating to a transitional or initial stage of a process" or "occupying a position at, or on both sides of, a boundary or threshold" (Oxford English Dictionary, 2018). Liminality implies movement from one space to another, being neither here nor there or, in the words of Victor Tuner (1967/1987), "betwixt and between." Writing from an anthropological perspective, Turner developed the idea of the liminal using Van Gennep's three phases of transition in rites of passage: separation (detachment from a fixed point or state), margin (liminal period of state ambiguity with few, if any, features of the preceding or forthcoming states), and aggregation (the completion of the passage and returning to a state of stability). While liminality focusses on this second phase, transitions encapsulate the entire process – the "passage from one life phase, condition, or status to another" (Chick and Meleis, 1986, p. 239) – often emphasising resolution. States that are stable are structured, containing rights and obligations. Therefore, Turner defines the liminal state, the passage between stable states, as interstructural and that those in a liminal state are structurally invisible. Individuals in liminal spaces experience definitional ambiguity – they are no longer classified as what they were but are not yet classified as what they are becoming, which is related to self-redefinition in transitions research (Kralik et al., 2006). Many of the discussions of liminality include aspects of spatiality, including liminal spaces – which can be metaphoric, physical, or virtual. While conceived of as an anthropological concept to understand rites of passage, the concepts of liminality and liminal spaces have been adapted by many researchers from different fields (e.g., Ibarra and Obodaru, 2016) and used to examine transitions and transitional experiences.

Using the concept of liminality can help explicate transitional experiences and provide more complete and comprehensive understandings of this complex phenomenon. For example, Baird (2012) describes the liminal phase of refugee women, which takes place after moving to a new environment and culture, as a time when "the reality of living in a new society becomes manifest as an individual begins to deal with the tedious activities of daily living" (p. 258). This period is one in which individuals can feel vulnerable, overwhelmed, confused, disoriented, and detached; a paradoxical time of negativity when structure is lost but there is potential for "change and positive transformation" (p. 258). Cook-Sather (2006), examining the experiences of pre-service teachers, highlights the importance of using liminality to study transitions. “Given Geertz’s (1973) definition of culture as constituted by the webs of significance that people have themselves spun and in which they are suspended, liminality remains a powerful framework for understanding and structuring transitions, which are necessary within and because of the cultures we create” (Cook-Sather, 2006, p. 123). Focusing on liminal spaces is important “because it is at places and moments of change and transformation that one can see most clearly the processes of domination and resistance, of inclusion and exclusion, and of marginalization and socialization” (Davis, 2008, p. 486). While frequently a topic of study in other fields, liminality has been little researched in information science. Recently, some work has been done on using liminal space to explore boundary objects (Huvila et al., 2017) and the transitional experiences of refugees (Lloyd, 2017; Lloyd and Pilerot, 2017).

Transitions and Information Behaviour Research

Within information behaviour research, transitions – as distinctive entities – are rarely the focus of studies. However, individuals undergoing life changes have been included in research (see the next paragraph for examples) and aspects of transitions have been discussed by information behaviour researchers, particularly sense-making and uncertainty. For example, Dervin’s (1983) sense-making research studies “how people construct sense of their worlds and, in particular, how they construct information needs and uses for information in the process of sense-making” (p. 3). Dervin’s work shares similarities to Kralik and colleague’s (2006) definition of transition, which is a process to “redefine their sense of self and redevelop self-agency” (p. 321). A core premise of sense-making is that “reality is neither complete nor constant but rather filled with fundamental and pervasive discontinuities or gaps” (Dervin, 1983, p. 4). While Dervin is referring to regular interactions with the world, there is applicability to the periods of instability (Chick and Meleis, 1986) and “disruptive life events” (Kralik et al., 2006, p. 321) that require redefinition and are discussed in the Transitions Theory literature. Another example of information behaviour research that has similarities with the above and is relevant for the study of transitions is Kuhlthau’s (1993) work on the principle of uncertainty (1993), based on her Information Search Process (ISP) model (1991). Uncertainty comes from “a lack of understanding, a gap in meaning, or a limited construct” (p. 347) and is a way to understand how individuals seek information. While the ISP model was based on children’s researching for a school project, uncertainty is a key aspect of transitions. Kuhlthau’s work on uncertainty was pivotal recognising that the experience of uncertainty is not limited to cognition, but also affect and behaviour, providing a more holistic picture of the information-seeking process.

A holistic picture is important when examining the experiences of individuals and groups undergoing a transition. While not focussing on transitions, Lloyd (2007; 2009) examined the transition of firefighters and ambulance officers – as they moved from novice to expert – to determine how novices use and experience information when taking on new roles. Lloyd examined how information practices are experienced in different modalities (social, corporeal, and textual), socio-culturally located, and shaped by discourse. Information behaviour research has also focused on the information needs and seeking of individuals or groups during a transition, though rarely throughout the whole transitional period. While the concentration is not on the transition itself, important insights into what people do are found. For example, McKenzie (2003; 2001) examined the everyday life information practices of women pregnant with twins, which provided a useful model of connecting to and interacting with information sources, as well as patterns of information seeking (McKenzie, 2003). This model was used by and expanded upon by Yeoman (2010), who examined the experiences of women during menopause, found women use the information they find to make sense of their situation, support their decision making, and become a source of information for others. A study from nursing, McCaughan and McKenna (2007) looked at the information-seeking behaviour of newly diagnosed cancer patients, finding that an important strategy used by cancer patients coming to terms with their diagnosis is to compare their experience to that of other cancer patients. This research demonstrates the varied sources and ways of seeking individuals employ during a transition. Recently, transitions have begun to be a focus of study. Using Transitions Theory as a framework, Bronstein (2018) provided a rich picture of the information behaviour of domestic migrant workers in Israel throughout their migration process, identifying a range of challenges to achieving a sense of belonging and highlighting the importance of affect and perception in information behaviour research. Related to information behaviour, Hicks (2018) used Transitions Theory to examine the information literacy practices of students learning a language overseas, finding a theory of mitigating risk explains how undergraduates engage with information to support transitioning to a new environment.

However, during a transition, information behaviour and needs are not static. Some research has begun to look more at the changes that take place throughout a transition. Hersberger, Murray, and Sokoloff (2006) examined the information use environments of abused and neglected children who were placed into foster care, finding that as children progress through phases of adjustment to their new environments, information needs and seeking change in a corresponding manner. Westbrook (2009), using the person-in-progressive situation model of everyday life information seeking (ELIS) as her framework, looked at how the information needs of survivors of intimate partner violence (IPV) change throughout a transition from considering leaving a partner to legal proceedings after a separation and re-housing. (The person-in-progressive situation model was developed by Dunne [2002] from Allen's person-in-situation model to examine information needs, seeking, and use in the evolving context of IPV.) Pohjanen and Kortelainen (2016) examined how transgender individuals find and share information about the transgender experience, discovering that information needs change as gender identity develops, from information about others' experiences to their own life situations (including transitioning). Recently, there has been a focus on the experiences of refugee populations during immigration (e.g., Caidi, Allard, and Quirke, 2010; Kennan, Lloyd, Qayyum, and Thompson, 2011; Lloyd, 2017; Lloyd, Kennan, Thompson, and Qayyum, 2013; Lloyd, Pilerot, and Hultgren, 2017; Oduntan and Ruthven, 2017), a situation that is constantly changing. Kennan et al. (2011) frame refugees' experiences of settlement in three phases: transitioning, settling in, and being settled. That information needs change in each phase increase the challenges in fulfilling these needs, demonstrating the complexity of the information environment refugees experience. While refugees' experiences are particularly complex, they demonstrate the multi-layered, continually changing nature of transitions.

Methodology and Methods

This research examined the information behaviour and practices of early career academics during transition. While information behaviour and information practices are debated and contested terms, this research uses both information behaviour and information practices, examining information needs, seeking, use, sharing, and practices that occur within a particular context and are socially and culturally produced and situated. The research sought to answer the following research questions:

1. What are the information behaviour and practices of academics as they transition from doctoral education to their first full-time, lecturer/assistant professor positions in universities?
2. What information behaviour and practices do academics engage in during transition to become a part of new social contexts?

This qualitative research used constructivist grounded theory methodology (Charmaz, 2014) to collect and analyse data from interviews and "check-ins" with early career academics. Ethics approval was received from the School of Information Studies Ethics Committee at Charles Sturt University and all participants were assigned pseudonyms.

Participants

Participants for this study were lecturers (the Australian title) and assistant professors (the Canadian title) who: 1) were in a discipline in the humanities or social sciences, 2) had been in full-time doctoral studies, 3) had received a PhD within the last four years, 4) had moved to a full-time continuing academic position, 5) were in the first two years of starting a position, and 6) were still within their probationary period. Participants were recruited using maximum variation sampling to ensure that a variety of participant backgrounds, experiences, and disciplines were represented. Convenience sampling was also introduced due to participant responses.

In total, 20 academics were recruited through direct or departmental emails, 10 from New South Wales, Australia and 10 from Alberta, Canada. Participant ages ranged from 29-early 50s and included eight women and 12 men. Disciplinary backgrounds included: business, history, art history, education, philosophy, information science, political science, law, psychology, and sociology. Participants came from 10 universities, which varied in size.

Methodology

Constructivist grounded theory (CGT) methodology provided a framework for both the data collection and the data analysis. CGT not only provides a framework for research but a theory, grounded in the data, is also the result of using the approach (Charmaz and Bryant, 2008). Data collection took place over the course of a year. Data were transcribed as they were collected and journals and memos were kept throughout the research. This reflective process formed the first stage of analysis. This process highlighted that participants in the first year of their position had substantially different experiences than participants in the second year. As the majority of participants recruited in the first six months of the study were in their first year, during the second half of data collection an effort was made to recruit participants in their first year. In this way theoretical sampling was used; data were gathered that contributed to the development of categories (Charmaz, 2008). Nearing the end of the data collection period is became apparent that well-established patterns and themes were emerging and that gathering more data would not contribute to the findings. At this point saturation was reached and data collection stopped.

Data collection methods

Each participant was followed over a 5 to 7-month period. This timeframe was used to ensure that participants' experiences of an entire academic semester were captured. Data collection began and ended with an in-depth interview, lasting between 45-90 minutes. Initial interviews were conducted in person; follow-up interviews were conducted over Skype. To maintain rapport over the study and capture salient experiences as they happened, "check-ins" were used. Check-ins are a method adapted from McKenzie (2001), consisting of brief contact in the form of a modified journal entry of interview. Because early career academics are such a busy group, making regular contact difficult, they were offered the option of checking-in with private blogs, email, Skype, or telephone. By offering choice about contact preference, better communication was maintained. Data was collected at five points (two interviews and three check-ins) with majority of participants.

Data analysis

Using the CGT framework, data were inductively coded in two rounds. The first round of coding was line-by-line on printed transcripts. This initial coding used verbs to focus on meaning, rather than description (Charmaz, 2008). Memos were used during coding to aid in the development of theoretical codes and an evolving code list was created and maintained. The constant comparison method was used to compare and contrast codes for their explanatory ability and uniqueness. Emergent themes developed and compared to the data to determine fit, explanatory power, and comprehensiveness. The second round of coding was at the paragraph level with NVivo, the qualitative data analysis programme. This focused coding developed more concrete themes and sub-themes. Constant comparison was once again used to compare the themes to each other to determine their explanatory power and distinctiveness. Themes and sub-themes were checked iteratively to ensure they were grounded in the data. To ensure that the major themes were grounded in the data, and not placed in pre-existing categories, the themes were repeatedly revised and compared to the data (Charmaz, 2014). Frequently small sections of data were coded, analysed, and written up in quick succession to aid in the integration of major themes into the grounded theory.

Findings and Discussion

Transitions Theory, first developed in nursing, provided a lens to understand early career academics' transitions into their first continuing academic position. The findings of the study were examined in reference to Meleis and colleagues' (2000) model of transitions and mapped onto this model (see Figure 2). Based on this research with ECAs, several aspects have been added to the model (indicated by an asterisk). The paper will focus on three of these added aspects: liminal space, information needs, and comparison as a form of information use. (Affect and Information Flow will be explored in other papers, Willson [2019a] and Willson [2019b] respectively.)

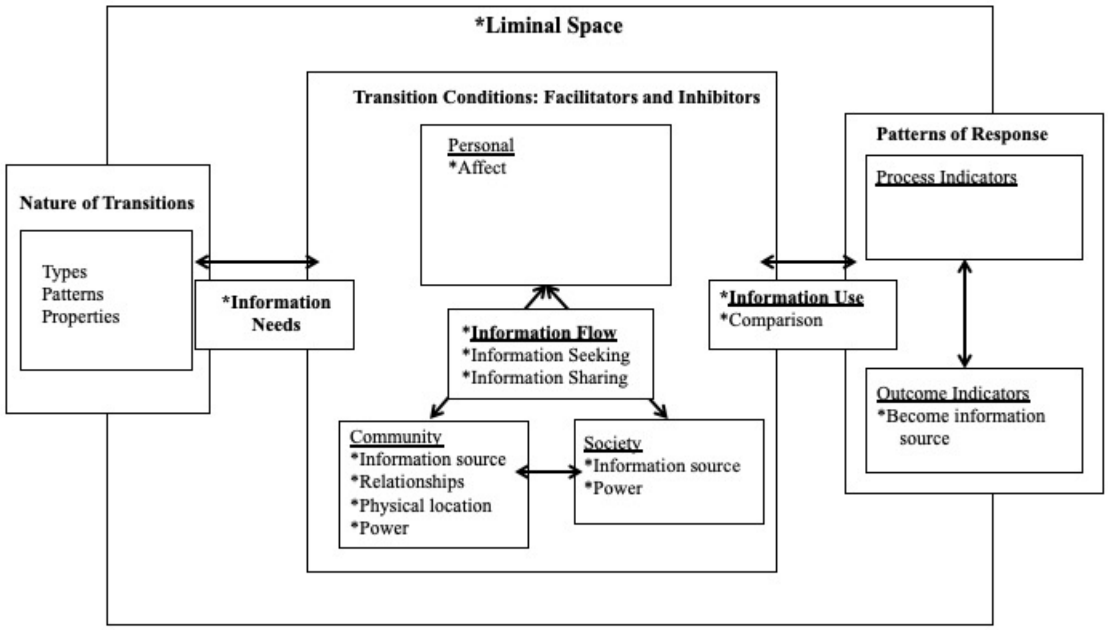

Figure 2. Additions to Model of Transitions Theory to Include Information Behaviour

Liminality – being at the point of getting a "real job" in academia or not

Particularly when describing their experiences of finishing their PhDs, early career academics described times of great uncertainty and turmoil. David, a 37-year-old Canadian academic in the social sciences, discussed the period of time finishing his PhD and beginning his academic job. He described this liminal period with a war metaphor:

> … where you finish your PhD and you're having a glimpse of the abyss on the other side and for that moment is especially rough and … we have a sense that we just made it through, right? It's basically like people who went out of the Normandy debarkment and just made it on beaches and so like, I don't know how that happened but I'm still there and I'm still dazed by that experience.

Jesse, a 29-year-old Canadian academic in the social sciences, highlighted the uncertainty he felt when looking for a job at the end of his PhD:

> I think there was just a lot of uncertainty and the notion of where am I going to get a job? Am I going to get a job? Should I go academic or take an applied job? Those were all really difficult things. And it's only after a year and a half of being done that I'm kind of, you realise slowly, at least for me, I mean, coming out of that fog, … And I still have friends who are finishing their grad degrees and I see them still in that sad haze in some ways, and uncertainty. So it's kind of, yeah I guess that's kind of my experience retrospectively looking back it's realising there are definitely some dark places during graduate school.

Jesse came out of the "fog" surrounding his PhD slowly. David, after having gone through the experience and in a job, is still there and "dazed" by his experience. The transition is not clean or neat. Baird (2012) describes those in a phase of liminality as experiencing profound vulnerability, as well as disorientation, confusion, and novelty. Ibarra and Obodaru (2016) make the case that whilst traditional rites of passage were normative, contemporary liminal experiences have neither a socially legitimate narrative to explain transformation nor a prescribed outcome. This requires individuals to construct their own narrative about their change, as well as determine the results of that change.

Jesse, despite getting a tenure-track job before he graduated, shared the experience of going to some "dark places." So much is tied to the academic job – the city (and possibly country) you live in, being able to pay bills, as well as having a place in the academy. Jason, a 29-year-old Australian academic in the social sciences, described his experience of applying for jobs:

> I think one of the things that I probably can't highlight enough is just that, that I was hyper-aware, I guess, before winning the job here that there was, that I was at a point in my career where people either made it or didn't. You know, like so a lot of people get to that point where they were either very close to finishing their PhDs or they even did finish them, and just never managed to, for one reason or another, secure what I would call I real job, like an actual job, rather than just scraps of casual work. And I'd seen people who were very capable and very intelligent, and who didn't make it, basically. It was a real fear for me.

Jason describes the point where he could not move backwards and could not move forwards. It is a painful place to be, particularly because within academia, your place is dependent on your position. PhD students have a place. Academics on permanent contracts have a place. Those finished PhDs and without, as Jason puts it, a "real job" have no place (though play a vital role in the functioning of universities). Those working on temporary contracts occupy a "liminal position in the organization, betwixt and between the conventional positions in the organizational structure" (Garsten, 1999, p. 605). It is at this point individuals undergoing transition are "structurally invisible" (Turner, 1967/1987, p. 6). They are in an antistructure state, connected to others in a liminal space but marginalised by those within the structure (Davis, 2008). Not fitting into any of the categories within the organisational structure, they are both invisible and marginalised. And this liminal position has real consequences. Gill (2014), discussing the situational precariousness of academics working on short-term contracts, describes their lives being "marked by stress, anxiety and the inability to make plans – either personal or occupational – for the future" (p. 19).

Invisibility, marginalisation, and precarity further complicate the information behaviour of early career academics transitioning from PhD to academic positions. Already, early career academics have complex information needs. Those finishing off/finished PhDs and looking for work need information about available jobs, in addition to other information, such as about their field of research, their professional associations, higher education, etc. They need to frequently scan their information environment to keep themselves up-to-date. However, more information may be of little use until their situations stable and defined. Being structurally invisible means that they may not be in a place to easily obtain information, not a part of an academic unit with mentors or peers to ask. Liminal space was added to Meleis et al.'s (2000) model as an overarching feature (see Figure 2). Placing transition and transitional experiences into a space that is 'betwixt and between' indicates that transitional experiences are inherently unstable and that all aspects of a transition will be affected by this lack of stability. This is particularly true of information needs.

Changing information needs

Transitions are periods of increased information needs. These information needs arise from moving to a new role and, potentially, in a new information environment. When starting a new job, information about new roles, tasks, and responsibilities is required, along with understanding how work is performed within a new organisational context. Academic work is multifaceted and complex and takes place in a complex environment. Universities are not only complex information environments, but the processes and procedures of academic work are often opaque, taking time and specialised information to understand. The complexities of working in academia means that information needs can be at various levels, from the conceptual, to the structural, to the practical. Claire, a 40-year-old Australian academic in business, discussed her new information needs as an ECA. She had done her PhD in the department she was now working in, but despite not being in a new information environment, she needed information about her new role,

> The biggest transition was being a full-time member of staff, because all the admin staff knew me well. It was assumed that I knew a lot of things and I had to often go up to the office manager and say, "Well, if I was a new employee, what would you be telling me?" Because even orientating myself around the intranet or finding that there was an induction course for new staff, like I opted to go in these things. I haven't had a load of people say, "Oh, [Claire], you should do this." They seem to assume I know it all.

Claire was a very involved PhD student who went to training, got involved in student governance, and got to know colleagues. However, this did not provide her with all she needed to know about her current position. Part of Claire's difficulties stemmed from the structural invisibility that came from her shift in role and status, obscuring her information needs from her colleagues. Part of her difficulties stemmed from a lack of induction (or from poor induction) at the university and department level, common to almost all ECAs in the study. Starting at a new university, Laura, a 32-year-old Australian academic in the social sciences, described her experience,

> I also found that there wasn't really any formal documentation in [the school] to help with, just basic stuff like how to get on to the student system to enter marks or print off class photos or just the mechanics of what I was supposed to be doing. Or even like a checklist of all the different things you should do, like who you should contact about doing your research profile online, all that kind of stuff.

Because ECAs are undergoing a transition – their own situations are changing – their information needs shift over time, changing in content and acuity. Savolainen (2012), in describing information needs in context, describes 'situations of action' (para. 14) – a specific set of circumstances in which information needs arise – that have temporal and spatial elements because of the dynamic nature of the environment in which situations develop and change. Westbrook (2009) describes the changing information needs of intimate partner violence as women move from thinking about leaving their partners to establishing new households, while dealing with a myriad of government and legal agencies. Westbrook, using Dunne's (2002) "person-in-progressive-situations" model for her study, found that information needs arise as a result of being at a particular temporal and spatial point in the transition of leaving a partner.

While very different circumstances, all ECAs expressed information needs relating to their academic positions, needs which changed throughout their transition. Some of these information needs act as gates; they have to be met in order to accomplish activities. Fredric, a 36-year-old academic in Australia in a business school, encountered problems the first time he tried to submit marks online:

> And someone told me, "Oh, you can go fill in the grade, so distinction, credit, pass, and so on, automatically when you submit the marks." And I couldn't find the functionality … So I tried to figure it out myself in Blackboard and created a marking scheme where you automatically assign a label to marks … So just clicked submit and then epic failure. … It took more than a week to resolve the issue and I couldn't submit my mark.

In this instance, Fredric had an acute information need, as marks had to be submitted by a specific date. The partial (or partially inaccurate) information he received meant he had difficulties, not in finishing the marking but in finishing the managerial aspect of marking – online submission. The issue that this caused was significant, as this was the first time Fredric had submitted marks and he ended up being late submitting and was anxious about how this reflected on his performance. Returning to Savolainen's (2012) information needs in context, this example can be viewed as 'task performance' (para. 18), in which an information need can be considered as a category of the required information for an activity or problem. Information needs fluctuate and are influenced by a variety of factors, including task complexity (Savolainen, 2012).

When aspects of academic transitions are considered, there can be significant benefits for ECAs. Jesse discussed a new "onboarding" programme set up by his university for new employees,

> They actually did, I think, a fairly nice job. The first thing they [do], it's a new initiative they have here, where they actually have an onboarding coordinator. So about six weeks or eight weeks before I started I had my onboarding coordinator … [s]he emailed me and said, "Here's all the stuff you need to know. We've created this brand-new website that tells you what do I need to do the month

> before I come. The first few days, you know, the next month." All those sorts of things, with links to everything you could possibly need to know.

The onboarding programme described by Jesse, while not perfect, addresses the information academics may need at different points in their employment, from before they start to the first day, the first week, and the first year. The programme pays attention to the temporal, spatial, and task aspects of information needs. While some mention is made in the Transitions Theory literature of new knowledge and skills needed when undergoing a transition (e.g. Schumacher and Meleis, 1994), there is little discussion of information needs, something that information science is well placed to contribute to our understanding of transitions. Information needs have been added to Meleis et al.'s (2000) model between the nature of the transition (the types, patterns, and properties of transitions) and the Transition Conditions that facilitate or inhibit the transition (the personal, societal, and community aspects of transitions) to demonstrate that they arise from and interact with the transition and the context.

Using comparison to make meaning

While early career academics have new and changing information needs, they brought a wealth of knowledge and experience to their new academic positions. This knowledge and experience had to be reconciled with the expectations of academic life they brought, as well as the realities of academic work. In starting the "real job" to which Jason referred, ECAs are in a liminal space; it is then reality manifests and the transition then becomes about dealing with the "tedious activities of daily living" (Baird, 2012, p. 258). Comparison was one of the ways participants used information to understand and make sense of their transitions. Comparison consisted of a mediation between ECAs' expectations of and the preparedness for their new circumstances with the reality of their situations; this was done in order to make sense of their new roles, their new information environments, and their place within that environment. Expectations and preparation are interrelated. In their model, Meleis and colleagues (2000) refer to these together as "preparation and knowledge." In this section, ECAs' expectations of preparedness for academic positions will be discussed, as well as their use of comparison to understand new required ways of working and their sense of identity and belonging.

Expectations are important to the experience of a transition, as they are a frame of reference. However, that frame of reference may or may not be accurate. Accurate knowledge about what a transition entails can help lessen stress during the transition and lessens the incongruity experienced (Schumacher and Meleis, 1994). Despite their knowledge and experience, many ECAs had inaccuracies, unknown, or incomplete expectations. This can be expected as ECAs moved from being outsiders to insiders within academia, without full knowledge of what academic positions entail before taking them on. While they varied in the accuracy of their expectations, many had their expectations upset about the extent of busyness they would experience, the type of work required (i.e. more structured and varied), and the amount of administrative work required.

Laura was hired whilst a PhD student. She completed her PhD and went on maternity leave over the course of the research and wrote about how her expectations were upset:

> Additionally, I have now had to think about applying for research grants and submitting my PhD for publication. As this coincides with a period of maternity leave I feel stressed to produce something tangible, and quickly! I am unsure how much of this stress is related to the shift in identity and roles/responsibilities/expectations post-PhD and the pending maternity leave. For some reason I thought I would have less stress post-PhD, but now it is dispersed amongst a number of different incomplete projects!!

The discrepancy in expectations and reality contributed to Laura's stress. Laura was not the only participant who had expectations that the PhD would be more stressful than the academic position, nor was she the only one to underestimate how much busier she would be as an academic. The difficult change from focussing on one project during the PhD to many projects as an academic was challenging for many participants. In this way, not only was the workload of an academic was demanding but, in several ways, was unexpected.

Interestingly, one of the participants who expressed the most positivity about his job was Jason, who worked casual academic contracts for 5 years during his PhD. When asked about his positivity, he responded:

> I've been trying to think of why I'm sounding so positive. I think part of it is that I have really realistic expectations of that university. Disciplines are about where the university sector as a whole is at, at the moment. I think a lot of people come into this job with a kind of fairly unrealistic view of what the work-life balance is going to be like, what their academic freedom is going to be like, what the pressure and the expectations and all the kind of stuff is going to be like.

Jason had more realistic expectations of what his academic position would entail, based on his extensive previous experience. This finding aligns with the research of Oud (2008), who found that those with greater discrepancies between expectations and initial experiences at a job have greater levels of dissatisfaction. Jason's expectations and reality were more closely aligned and his previous experience allowed him to better prepare for his current job. Jason had expectations (and knowledge) about what his academic position would entail, related to his previous experience. His knowledge and experience helped him prepare himself for the job.

All participants felt that their doctoral studies gave their disciplinary knowledge and research expertise. However, participants had differing views about the extent to which they felt prepared for the other aspects of their position. For example, Niels, a 32-year-old academic in an Australian university working in the humanities, expressed his belief that the PhD partially prepares students for future academic positions:

> The PhD in and of itself prepared a required knowledge base. Of course it doesn't prepare you for, I mean if you don't do any teaching, it's just not really part of your PhD. It doesn't prepare you for teaching, right? And if you don't do any article publications, which I guess these days is part of doing your PhD but it doesn't need to be, right? It's not strictly speaking part of the PhD, it's only if you want a job. Well then in sense I mean it doesn't prepare you for what you're supposed to do.

Niels highlights that teaching and publication may or may not be a part of the PhD. Many participants highlighted aspects of academic positions that are not part of doctoral students' experience. Jesse, despite being successful in his doctoral programme and getting a job before he graduated, described being "terrified" when starting his first academic job.

> [I]f you're studying the transition between PhD it's that kind of impostor syndrome really kind of pops up at you. I really don't think universities do a very good job of preparing you for – graduate education does not prepare you for many, like writing a grant. I had no idea how to write a grant. It was a nightmare. And it was three times the amount of work I thought it was going to be and it was insane. But we didn't learn that sort of stuff.

Several participants mentioned grant writing, the extent of busyness, and administrative work as aspects of academic positions for which they were not prepared. Others mentioned the challenges of having a sudden change in their status (going from student to academic) and new responsibilities thrust upon them. While no one can be fully prepared for a position before they undertake it, Jesse's perspective of the doctoral programmes not preparing students for academic positions is concerning. "Anticipatory preparation facilitates the transition experience, whereas lack of preparation is an inhibitor" (Meleis et al., 2000, p. 22). Preparation requires having accurate knowledge and expectations about what is coming, as well as opportunities to prepare.

During a transition, expectations and preparation are tested against reality, the "tedious activities of daily living." Participants discussed how they mediated between what they knew and what was new, figuring out how to enact their information activities in a new information environment, as well as their place within that environment. This mediation often comes in the form of comparison. ECAs compare between their expectations and experience with their current reality, actively negotiating as part of the process of becoming situated, making sense, and gaining new understanding and perception. Comparison is a form of information use, drawing on what is normal (or not normal) within a particular subculture or to an individual.

Many participants talked about changes they had to make to their ways of working when starting their current positions. They had to adapt from how they worked during their doctoral studies (or on short-term contracts). Many talked about needing to work more efficiently, not having the time to make things perfect. Others talked about more substantive shifts. Mark, a 34-year-old academic in business in a Canadian university, talked about a major shift to acting as a coordinator and manager of his research projects,

> I think probably the biggest learning experience for me was realising that as a junior faculty, I could still start basically beginning to outsource more and more of my work and delegate and find ways to free up my time to pursue higher value-added activities. So, what I've learned and what has been surprising to me is how much time I now spend seeking out grant dollars and finding research assistants and kind of building out almost like an organisation around my research. And I guess the place where I did my PhD studies was not as good about doing stuff like that…

Mark did not work this way during his PhD but learned this from his current colleagues. It was a significant learning experience for him, changing the way he organises his research projects, conducts his research, and how he prioritises his research activities. This way of working marked a change in understanding his role within his research, now a senior person in with the responsibility to obtain funding, organise research projects, and supervise research assistants. Old ways of working did not fit his new reality and he had to change, comparing his information and understanding of his previous and current situations to identify the differences, as well as potential solutions.

Comparison is the process of isolating aspects of experience and identifying what is different and labelling what is new, then weighing those differences and similarities to better understand their current situation. Comparing the before and after as a way to situate one's self and make sense (Messias, 2002). It involves process of active engagement and negotiation, going back and forth between previous and current experiences, environment, and ways of being. Palmer, O'Kane, and Owens (2009) describe "reliving and integrating of past, present and future experiences" (p. 51) as an important part of the process of stabilisation during transition. By testing out and identifying what is different, uncomfortable, or no longer working – for example, identifying that working in isolation is not possible as an early career academic – the experience can be better understood, which is a part of the sense-making process. Taking stock of what is known and not known – what meets expectations and what does not – is a way of understanding and reducing uncertainty and unfamiliarity. Comparison is used to weigh differences and similarities in the process of making the unknown and precarious familiar and stable, helping individuals as they “redefine their sense of self and redevelop self-agency.”

In this way, comparison is a form of information use. Interestingly, comparison receives little attention in information behaviour literature. However, a study from nursing on information-seeking behaviour discusses a common strategy used by patients with new cancer diagnoses is to learn from others’ experience and compare their own experiences (McCaughan and McKenna, 2007). This research demonstrates comparison as an important form of information use, as well as contributing information use to Meleis and colleagues’ (2000) model of Transitions Theory. Information use connects “Transition Conditions” to the “Patterns of Response,” the personal, community, and societal contexts and information flow with the process and outcomes of transitions (see Figure 2).

Conclusion

This article has described Transitions Theory and liminality, applying these theories to information behaviour research. Using Transitions Theory and concentrating on the transition itself provides a focus to better understand experience of transition, as it relates to information behaviour. Examining a transition requires questioning what the transition experience entails: what aspects of life are called into question, what changes, what stays the same, what adaptations need to be made, and what defines the experience. Examining a transition requires paying close attention to the experiences throughout the entire occurrence and how those experiences are modified at different points. Examining a transition requires focusing on the process, the changes experienced throughout as well as the idea of becoming, liminality and uncertainty that is held in tension throughout. Using Transitions Theory, acknowledging the multiple aspects that inherent in transition, requires a holistic view into the experience including the personal, the social, and the contextual. The use of this perspective brought to light the importance of liminality (related to uncertainty and precarity) to understanding individuals' experiences of transition, their changing information needs, and their use of comparison (related to expectations and preparation) to situate themselves in a new context. The addition of informational aspects to Meleis and colleagues' (2000) model of Transitions Theory demonstrates the contribution that information behaviour can make to understanding experiences of transition, as well as highlighting the importance of information behaviour researchers turning their attention to transitions.

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