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THE INFORMATION-SEEKING BEHAVIOUR OF SCIENCE FICTION AND
FANTASY WRITERS

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1 INTRODUCTION

1.1 Research subject and research questions

The topic of this master’s thesis is the information-seeking behaviour of creative writers in the genres of science fiction and fantasy (abbreviated as ‘SF&F’). The previous studies conducted on the information-seeking behaviour of creative professions have been few and far between. Susie Cobbledick (1996, 344) made an often-quoted observation about visual artists in her seminal study, noting that there are “more [visual] artists in the United States than there are [often-researched groups such as] natural scientists, social scientists and urban planners, or lawyers”. Whereas visual artists have been the subject of a few academic studies, the literature on creative writers is almost non-existent. The topic of this study is thus novel but also significant. Having more studies done on creative writing and other art forms brings forth new perspectives, enabling a more and more holistic view on how people seek information.

The research questions of this study are:

1) What are the information sources and channels used by SF&F writers in the work roles of creative writing proposed by this study: the researcher role, the artisan role and the entrepreneur role?

2) What characteristics of information sources are seen by SF&F writers to be the most important?

3) How writing genre, writing experience, writer attainment and gender affect their choice of information sources and channels?

4) What information barriers do they experience?

The theoretical background of this study is Leckie, Pettigrew and Sylvain’s (1996) model of the information seeking of professionals and T. D. Wilson’s (1997) theory on information barriers. This study utilizes the online questionnaire method with an emphasis on Likert items and statistical analysis. For information barriers, qualitative content analysis is also used. The questionnaire was submitted to sixteen English-speaking SF&F forums, drawing 130 participants from nine forums. The sample size is the largest of any studies of creative artists’ information-seeking behaviour to date.
1.2 Research concepts

Creative writer. ‘Creative writing’ has been characterized as “exhibiting imagination as well as intellect” and being “differentiated from the merely critical, ‘academic’, journalistic, professional, etc. [writing]” (Soanes & Stevenson 2006, ‘creative’). The products of creative writing include novels, short stories, poems, plays, songs and memoirs. However, this study does not make a distinction between writers who have and have not been published. The spectrum of creative writing ranges from the purely leisurely to the most sales-oriented and/or deadline-conscious writing. In the broadest sense, a creative writer is anyone who thinks him or herself as one. Similarly, this study adopts the view that self-identification is the only criterion for what makes someone a writer in the SF&F genres.

SF&F genres. A dictionary definition of science fiction is “fiction based on imagined future scientific or technological advances and major social or environmental changes, frequently portraying space or time travel and life on other planets” (Soanes & Stevenson 2006, ‘science fiction’), whereas fantasy is “a genre of imaginative fiction involving magic and adventure, especially in a setting other than the real world” (Soanes & Stevenson 2006, ‘fantasy’). Fredric Brown argued that “fantasy deals with things that are not and cannot be” while “science fiction deals with things that can be, that some day may be” (Brown 1955, 9 according to Simpson & Weiner 1989, ‘fantasy’).

Information-seeking behaviour. This term means “the patterns of actions and interactions in which people engage when seeking information of whatever kind, for whatever purpose” (Feather & Sturges 1997, ‘information-seeking behaviour’). Information-seeking behaviour is motivated by the full range of subjective human needs of cognitive, affective or physiological origin (Wilson 1981). The expression is rather vague and wide-ranging and its utility mostly lies in denoting the presence of patterns of actions but not in describing them (Feather & Sturges 1997, ‘information-seeking behaviour’). This study uses ‘information-seeking behaviour’ as shorthand for the SF&F writers’ choice and use of information sources and channels in addition to their interaction with information barriers.

Information sources and channels. An information source “contains (or is expected to contain relevant information”, whereas a channel “guides (or is expected to guide) [the
seeker] to pertinent sources” (Byström & Järvelin 1995, 193). Some definitions of information sources and channels such as that found in Reitz (2004, ‘source’) limit them to documents (books, e-books, journals and video files, etc.), but some, such as Brown (1991, 11), also include ‘interpersonal sources’ and ‘the self’ as a source along with the aforementioned ‘impersonal sources’. This study adopts Brown’s definition. In fact, artistic information sources, particularly those targeted to artist’s need for inspiration can include even unconventional and infrequently studied sources like dreams and forms of nature (Hemmig 2009).

Information barriers. This is a term first coined in 1981 by T. D. Wilson in his model of information-seeking behaviour (Wilson 1981) to mean the various factors that may inhibit information needs resulting to information-seeking action, such as the availability of time or personal contacts. In his 1997 revised general model of information behaviour, Wilson categorized these factors as personal, social or role-related, environmental, and relating to source characteristics (Wilson 1997, 568–569). He later preferred to use the term ‘intervening variable’, as it denotes the both supportive as well as preventive role of these factors to information seeking (Wilson 1999, 256). However, this study uses the term ‘information barrier’, focusing solely on the preventive aspect of these factors.
2 INFORMATION-SEEKING BEHAVIOUR IN SF&F WRITING

2.1 Science fiction and fantasy writing

Studying creative writing from the point-of-view of information-seeking behaviour is important for a simple reason: only rarely has it been done before. This is regrettably noticeable when the only scholarly studies done on the subject are an unpublished master’s thesis, now over two decades old, by Shannon Russell (1995), and a short exploratory article by Mari Tammi (2008) (both discussed in chapter 2.3). The artistic information seeking as a whole, too, has received only scarce attention, with only a handful of published articles on the topic (e.g. Cobbledick 1996, Hemmig 2009, Medaille 2010).

The field of creative writing has built-in characteristics that lend themselves well to scholarly interests. Firstly, it seems that creative writing has grown around it a certain mystique that warrants closer scrutiny. Some people seem to hold the notion that a work of fiction is more the result of a divine intervention or at least some kind of undefinable inspiration rather than a fruit of hard work by the writer. The popular media and its often romanticized representations of writers might often be the cause for this, but sometimes writers themselves spread this notion on their own (see Kaarto 2001, 164–165). Doing research on the process of information seeking of writers helps to dispel this myth and encourages people to see creative writing as similar to the artisan crafts such as clockmaking. Seen as an artisan, the writer has constant need to learn and to break down his or her process – and along with it comes a perpetual need for information. Information needs rise in all aspects of the craft, including not only familiarizing oneself with a topic for a story but also learning writing techniques and finding contacts in the publishing field.

However, this study does not seek to devalue the importance of instincts and the sense of play in the creative writing process by asserting that everything in writing can or should be researched by every writer. It has been argued that the modern preoccupation towards efficiency and design has created a common mindset among some creative writers where a convention or a set of rules win over experimentation and imagination (VanderMeer 2013, 7–8). The metaphor of writer-as-an-artisan is useful when teaching people about the fundamentals of craft, but it can also become a hindrance when, for example, developing one’s style, the writer’s ‘voice’.
Secondly, being familiar with the process of information seeking in creative writing has obvious benefits for a beginner writer. If a new writer perceives the information-seeking aspect of writing as a too big an obstacle to overcome, it may result to giving up his or her writerly aspirations altogether. Those beginning writers with only little knowledge on how to do research may feel estranged from the more research-intensive subgenres of SF&F such as historical fantasy or hard science fiction, where the veracity and credibility of the writer alone are sometimes great selling-points (an example of this being the back cover blurb by Douglas Preston for Andy Weir’s science fiction novel *The Martian* that says, “It feels so real it could almost be nonfiction” (Preston 2014)).

Even those who set their stories in completely imaginary settings have to hold the readers’ ‘suspension of disbelief’ by reaching a certain amount of coherence and substance, be it describing the behaviour of a knight’s horse realistically or, at the barest minimum, capturing the basic tenets of human psychology adequately in the text.

Robert Louis Stevenson, the author of the 1883 adventure novel *Treasure Island* had this to say about the usefulness of reference tools such as maps and calendars:

> With the map before [the writer], he will scarce allow the sun to set in the east, as it does in *The Antiquary*. With the almanack at hand, he will scarce allow two horsemen, journeying on the most urgent affair, to employ six days, from three of the Monday morning till late in the Saturday night, upon a journey of, say, ninety or a hundred miles, and before the week is out, and still on the same nags, to cover fifty in one day, as may be read at length in the inimitable novel of *Rob Roy*. (Stevenson 1905.)

Distance and the passage of time have always been critically important things to get right in fiction since every human has everyday experiences with them. Some things such as the abovementioned limitations of a horse as a means of transport change their relevance in time and are not likely as self-evident to 21st-century readers than they are to 19th-century readers. The truisms of yesteryear are today maybe only apparent to those with specialty knowledge, such as the fact that you cannot leave a horse in a stable overnight without taking off its saddle, or else you will likely have to deal with a very unhappy animal the next morning.

Doing research is naturally not everything what makes a good story. A competent researcher can write a high-quality encyclopedia but not necessarily an enjoyable story, whereas the opposite is true for a good creative writer. A writer who is curious about the world and people in it may write a story without doing a single Google search. In fact, a skillful writer never lets too much research come through in the text (Sanderson, Tayler
& Wells 2008, 13:30). However, factual research seems to hold special importance in science fiction and fantasy. Holding readers’ sense of immersion on the story, having them willingly believe the unbelievable, is a central challenge especially in long-form SF&F writing, which almost always has some sort of ‘worldbuilding’ element in it. Worldbuilding, or the creation of an imaginary setting for a story, is often seen as one of the reasons why people are drawn to read science fiction and fantasy (see Robinette-Kowal, Sanderson, Tayler & Wells 2015, 3:35).

A common feature in most science fiction worldbuilding different from fantasy is that it is often placed in a universe recognizably of our own, such as the future Earth, and often includes an explanation how our current state of scientific knowledge arrived to that in the story (Gunn 2005, 84–85). In comparison, worldbuilding in fantasy is more about internal consistency since the concept of plausibility is only in effect in areas where the affair of things is the same as ours. The realism in fantasy comes first and foremost from the connection between the psychology of the characters and the psychology of the readers (Roberts 2014, 34). There are subgenres of fantasy, however, that draw details from the real life history and from sciences, usually behavioural and social sciences, with the same focus and rigour as the science fiction subgenre of ‘hard science fiction’ does from natural sciences. These subgenres include the likes of ‘historical fantasy’, ‘alternate history’ and ‘hard fantasy’. At the same time, however, a concept from behavioural and social sciences (or ‘soft sciences’ as opposed to ‘hard sciences’) can just as well be extrapolated into a science fiction story element.

It seems to be a common opinion that fantasy, broadly speaking, has lower requirements than science fiction for the amount of research a writer is expected to do (see Sanderson, Tayler & Wells 2008, 0:42, 2:48, 10:15). Consequently, a fantasy writer possesses, on average, more freedom than a scifi writer to spend time elsewhere in the writing process. This is a direct by-product of what the readers generally expect from the genres. The scifi readership is perceived as being particularly drawn towards detailed realism in stories. In a revealing phrase, Hugo Gernsback, ‘the Father of Science Fiction’, remarks that the perfect formula for a science fiction story is “75 % literature interwoven with 25 % science” (Roberts 2014, 25).

Common tools and tricks used by SF&F writers to save time include writing from the point of view of an unknowledgeable character (see Sanderson, Tayler & Wells 2008,
8:42), or giving the reader an impression of depth by hiding large gaps in one’s knowledge behind strategically placed factual details (see Sanderson, Tayler & Wells 2008, 11:56). It seems that a necessary part of becoming a creative writer is learning to ‘pick his or her battles’ when it comes to information seeking, or the alternative may at worst be contracting the so called ‘world-builder’s disease’. World-builder’s disease is a common danger especially among beginning SF&F writers in which all the writer focuses on are the minutiæ pertaining to, e.g., fictional histories, extraterrestrial ecosystems and even completely made-up languages, but never getting much further in the writing process or in developing a well-rounded set of writing skills (see Robinette-Kowal, Sanderson, Tayler & Wells 2015, 1:21). They become “researchaholics”, as put by one theatre professional in a study by Medaille (2010, 336). The reason behind the prevalence of the world-builder’s disease, at least in fantasy, could be the high standards set by J. R. R. Tolkien, one of the great figures of the genre, who attracted numerous imitators according to George R. R. Martin (Ippolito 2016). Tolkien famously began working on his ‘Middle-Earth’ setting in 1916–17, an effort which culminated in the publication of The Lord of the Rings trilogy nearly forty years after (Tolkien 2002, 8).

The third built-in characteristic of creative writing relevant to academic endeavors is the link between information and entertainment. The majority of what public libraries circulate is fiction, a sizeable amount of books published is fiction, and even the average student’s choice for an academic major is not based only on practical but also gratifying reasons (Case 2012, 125). We certainly learn from fiction (Gerrig & Prentice 1991; Rapp, Hinze, Slaten & Horton 2014). Oatley (1999, 114) goes even as far as to say “fiction may be twice as true as fact” because of its often personal and emotional effect. The former United States president Barack Obama has said that the he has learnt the most important things as a citizen from novels (Obama & Robinson 2015).

The idea that fictive stories affect people’s knowledge of the world has been embraced by the USA’s National Aeronautics and Space Administration (NASA). The Launch Pad Astronomy Workshop is a writers’ workshop that has been funded by NASA in order to teach astronomy literacy to already established creative writers and editors, the people who act as inadvertent educators in the field (Launch Pad Astronomy Workshop (n.d.)). Another example of this kind of activity is the Diamonds in the Sky short story collection (Brotherton 2009), also funded by the United States government. Good science bloggers and popular science writers in easy to understand publications such as
New Scientist are in demand when creative writers seek scientific information (see Robinette-Kowal, Sanderson, Stone & Tayler 2014, 11:45). Influential science popularizers who themselves have worked in or near the field of fiction include the theoretical physicist Michio Kaku (Physics of the Impossible) and the neurologist Oliver Sacks (The Man Who Mistook His Wife for a Hat). Wikipedia, with its browsing-friendly link structure, may prove to be an especially valuable information source for creative writers looking for basic information on a subject (see Sanderson, Tayler & Wells 2008, 16:12).

Fourth, research is of central importance in a creative writer’s choices for the representations of people, objects and events in his or her work. Especially after the discursive turn in the social and cultural sciences (see Hall 1997, 6), the representational practices of popular culture have been widely discussed both in an outside academia. Representations of race, ethnicity, social class, gender, and sexuality are some of the most common topics when discussing the ‘meaning’ that can be produced from a work of fiction. J. K. Rowling, the author of the Harry Potter series, faced criticism from North American Indigenous readers about her portrayal of Indigenous communities in her collection of short stories titled History of Magic in North America (Rowling 2016). According to Mills, although the short stories were “probably a well-intentioned attempt at inclusivity” in the previously Britain-centered Harry Potter universe, “her treatment of the many Indigenous nations in North America as one monolithic group” and the “ample use of the noble Indian trope” were among the most glaring problems (Mills 2016). Mills said that the treatment was “at best, misguided, and at worst stereotypical and appropriative” and showed a clear lack of “care that went into crafting Magic in North America”, and “a lack of depth to Rowling’s research”.

Fifth, studies such as this have applications in the development and evaluation of information products and services in public and specialized art libraries as well as elsewhere. This is in line with the general aim of information seeking studies of facilitating access to information, usually with the goal of supporting the development of information systems and services (Järvelin 1981, 26–27). Pavelich (2010) talks about the archival and rare books collections housed in most libraries, arguing that providing access to them for creative writing projects puts these collections “to new and exciting uses”. According to him, “providing increased support to creative writers can spur outreach to students in other fields that traditionally lie outside the realm of academic
research”. There certainly is a demand for research on writing given the fact that the number of creative writing programs in higher education has grown tremendously. Green (2012) notes that at North America colleges and universities there are approximately 880 degree-conferring creative writing programs, when in 1975 there were only 79. In Finland, formal programs of creative writing are currently being offered at two universities (in Turku and Jyväskylä).

2.2 Information-seeking behavior

Information-seeking behaviour means the patterns of actions and interactions in which people engage when seeking information of whatever kind, for whatever purpose (Feather & Sturges 1997, ‘information-seeking behaviour’). Information-seeking research is an essential part of all information studies (Järvelin & Vakkari 1993, 132). A distinction should to be made between information-seeking behaviour and information behaviour. ‘Information behaviour’, according to Case (2012, 5), encompasses “information seeking as well as the totality of other unintentional or passive behaviors (such as glimpsing or encountering information), as well as purposive behaviors that do not involve seeking, such as actively avoiding information”. Information-seeking behaviour, on the other hand, is a subset of information behaviour and concerns the information needs and sources of individuals (Wilson 1999, 263), or as Byström (1999, 15) puts it, “the information activities – like information needs, seeking and use (INSU) – on various professional and other everyday life settings”. According to Case (2012, 5), information seeking is “a conscious effort to acquire information in response to a need or gap in your knowledge”. Information-seeking behaviour is motivated by the full range of subjective human needs of cognitive, affective or physiological origin (Wilson 1981). However, a need for information does not necessarily result in engaging in information-seeking behaviour (Wilson 1997, 556). It is a rather vague and wide-ranging expression, and its utility mostly lies in denoting the presence of patterns of actions but not in describing them (Feather & Sturges 1997, ‘information-seeking behaviour’).

The origin of the systematic studies on information-seeking behaviour dates back to either the first, second or third decade of the 20th century, depending on whom one asks (Case 2012, 272). These first studies up until the 1970s were primarily on the use of
institutional channels such as libraries but also on the consumption of mass media serving the ‘serious’ information needs of the population. This type of research can be described as system-centered in its orientation (Choo & Auster 1993, 279), as being settled upon artifacts and venues (Case 2012, 6), and as viewing information as a ‘thing’ (Case 2012, 24) to be obtained from active seeking. It focused on, e.g., the used and unused portions of libraries, the impact of news broadcasts, or on the efficiency of different information seeking strategies for finding information for a specific task. This research had a predominantly quantitative flavor (Feather & Sturges 1997, ‘information-seeking behaviour’).

From the 70s onwards, the perspective of research started to shift from systems and services to users. Information was no longer seen solely as a thing or an artifact but as something residing inside a person’s head (Case 2012, 73). Information need was now seen as a subjective experience occurring in the mind of a person and escaping direct observance (Wilson 1997, 552). In information-seeking research, this included acknowledging the role of a greater variety of information-seeking strategies in fulfilling people’s information needs, and the relevance of informal channels and sources along with formal ones. This meant incorporating passive information-seeking strategies such as browsing and accidental encountering to the potential behaviors an individual may exhibit.

Relatively recently the academic field of information-seeking behaviour has witnessed the emergence of new research areas such as ‘everyday life information seeking’ (see Savolainen 1995). As Case (2012, 19) states, “every day of our lives engage in some activity that might be called information seeking, though we may not think of it that way at the time”. The nature of an information need is now not only seen to be motivated by the instrumental use of information but also its social and intrinsic or entertaining sides as well (Case 2012, 88). The focus shifted on the total information world of the seeker with his or her cognition, affect and physiology playing equal parts. According to Wilson (1981), “the full range of human, personal needs is at the root of motivation towards information-seeking behaviour” and that “these needs arise out of the roles an individual fills in social life”.

It was not until the 80s and the 90s when the humanities and arts started to receive wider attention in the study of information-seeking behaviour. According to Bates, they
have been perceived to hold less societal stakes than other fields such as medicine and engineering, which has led to smaller public or private research funding (Bates 1996, 155). Artists have been regarded as somewhat difficult to reach for research purposes (Stam 1995a, 21), while easily reachable groups such as scholars, students and library users have been overrepresented (Cowan 2004, 14). Perhaps artists have been seen as an insignificant ‘consumer group’ of information and information products. Two major reasons for the ‘invisibility’ of artists is that they are more commonly part-time than full-time workers (Cobbledick 1996, 344), and that a western tendency is to classify people according to the occupation that earns them the most money (Hemmig 2008, 356).

2.3 Previous research on the information-seeking behaviour of creative writers

The only studies concerning solely the information-seeking behaviour of creative writers are Russell’s (1995) master’s thesis and Tammi’s exploratory article (2008). Creative writing has also been discussed in the professional literature of library and information professionals (e.g., Osborne 2010, Pavelich 2010, Burkhart 2012, and Glassman 2014). These essays are anecdotal in nature, building upon the work-related experiences of information professionals, and designed to provide information for building and maintaining library or archive collections and developing services for clients. The limitation of such studies has invariably been the small sample sizes and the absence of peer-reviewing, but they deserve attention as long as the body of scholarly literature of this subject remains undersized.

Glassman (2014) stated in her article about students of creative writing that they “may need basic background information, foundational knowledge on a subject, or quick reference for a particular scene or character”. She noted that subject encyclopedias are generally a useful information source for them. She also emphasized the importance of image resources as a channel for quick visual reference and accuracy checks along with the benefits of scholarly research skills in some writing projects. Pavelich (2010) pointed out the existence of self-publishing and alternative book forms that may be a topic of interest for new writers facing the constantly evolving publishing field. Similarly, Burkhart (2012) noted that “getting you poetry, prose, or script noticed can be the most frustrating part of the process,” listing in his article several useful websites.
for getting visibility for one’s work. Both Pavelich and Burkhart focused on the career-related information seeking of creative writers.

Tammi (2008) interviewed 19 writers who had won or been nominated for the annually awarded Finlandia Prize. She asked them about the information sources and channels they have used, and about their information seeking related to specific work tasks such as description of locations. The interviewees consisted of 11 males and 8 females, their average age being 53 years. She concluded that authors sought information for 1) familiarization of a certain topic, and 2) fact checking (Tammi 2008, 179). All in all, these writers utilized information sources actively and took advantage of interpersonal channels, especially family members, to access sources (Tammi 2009). They approached information sources with an open mind: even an unreliable and low-quality source could yield something useful (ibid.). Serendipitous information seeking played a significant role for the study group (ibid.). For some of them, the work of an author is flexible in that if no information is found, the problem can be circumvented (Tammi 2008, 180; see also Russell 1995, 14). They expressed the opinion that too much information seeking could even be harmful and lead to stilted, reporter-like writing (Tammi 2009). On the other hand, some of the writers asserted that factuality is important and reported being willing to allocate a lot of time for information seeking (Tammi 2008, 180).

Russell (1995) conducted telephone interviews with seven published writers in her master’s thesis, asking about what kinds of information they have used while doing research. They were asked to name specific kinds of books, other information materials and experts they have contacted as well as whether or not they have used any ‘how-to’ or ‘market’ books in the past year. They were also asked to identify any problems they have experienced while doing research.

Russell’s major finding was the idiosyncrasy of the writers’ information needs: the interviews indicated that their information-seeking strategies were as varied as the topics for which they sought information (Russell 1995, 17). They were not regular library users, nor did any of them report using manuscripts or archives (11). They preferred researching from their private collections instead of using outside sources (Russell 1995, 15–16). One of the writers said that researching and borrowing books from a library is not appealing because the loan periods are not long enough. He instead
preferred buying books because then he could keep them as long as he needed. Another writer had a preference for using personal copies of research materials but he did utilize special materials such as maps in libraries. He also said that he preferred books over articles or encyclopedia entries because he “seeks the feel of the information, not just the facts” (7). One writer had similar feelings towards research assistants, hired by some of the most prolific professional writers, fearing that he would not likely ever use them since they may ever only present him a list of bare facts (14–15). The private collections of the writers most often consisted of general reference tools such as encyclopedias, almanacs, and dictionaries (16). As already established writers, they did not use writing guides nor read any advice books on research.

Two of the seven writers emphasized the use of people as an information source or channel (8) and six of them said that they had talked to experts (12). One said that contacting people was especially useful when learning occupational jargon (8). Another said that interviewing people is important and that finding experts was easy for her since she used to be a newspaper reporter (8). Russell concluded from the interviews that there generally seemed to be a correlation between the past or present occupations of the writers and their research habits: the former were positively affected by the latter, or they were negatively affected, where the writers wanted to separate the two (16–17). Four of the writers were drawn to pictures and three of them said that they had bought materials just for them. One expressed having had troubles visualizing how ordinary life looked during the historical time period of his novel, and said that children’s books sometimes contained useful illustrations when it was otherwise difficult to find any (11).

All in all, when seeking information on specific subjects, the writers looked wherever necessary to find it but within the boundaries they had set for themselves (16). One writer said that research for him was an on-going process where he constantly kept up with various subjects while reserving specific questions for the second draft of the novel (7). The same writer had a technique of ‘black boxing’ parts of the story that would have normally required research but were unnecessary for the story, such as what a character did during his or her work day (Russell 1995, 14). Another writer mentioned that he shapes his stories by what he already knows (14).
2.4 Research on other artistic information seeking

Among creative professions, those belonging to the wide array of visual artistry such as painting, sculpting and photography have been the focus of a majority of studies on artistic information-seeking behavior. There is also a beginning research tradition on theatre production professionals, composers, music educators and, relatively recently, on video game designers. Other fields such as dancing have also accumulated some research.

Mason and Robinson summarized the previous research of visual artists to five points: 1) Visual artists seek information, especially inspirational information, idiosyncratically and from various sources. 2) These information sources do not necessarily have any epistemic relation to art, and non-art information is seen as equally important. 3) The consensus of many researchers is that visual artists prefer browsing strategy in information seeking. 4) Interpersonal information seeking is central in visual arts especially on information related to work techniques and marketing. 5) Visual artists have been reported to prefer printed sources over electronic ones. (Mason & Robinson 2011, 161–162.)

Similarly to studies made on creative writers, the majority of scholarly research made on visual artists has been professional literature largely based on anecdotal evidence and limited to a small number of subjects. Hemmig’s literature review (2008) is the most thorough summary to this date about these studies, the first of which was written in the middle 1970s by the librarian Derek Toyne from the Falmouth School of Art in Cornwall, England. Toyne conducted a simple study (1975) in which he wrote down all the library users’ request during a two-month period. He found that artistic information needs are extremely far-reaching, varied and subjective (Toyne 1975), a finding that was echoed by a great number of subsequent studies. For example, Layne (1994, 24) remarked, “Almost any information might at some time or another be considered ‘art information’”. Pacey (1982, 37) noted that for this reason visual art students would benefit more from centralized art libraries than from smaller specialized libraries spread over the campus. Mason and Robinson (2011, 162) summarized that artists have almost unlimited sources of inspiration, abstract and concrete, internal and external, to the point that no library or information service can include them.
In another article two years later, Toyne observed that visual artists have two kinds of information needs: 1) the technical need, the ‘how-to’, and 2) the inspiration need (Toyne 1977). His rudimentary taxonomy of artistic information needs would be later expanded by numerous studies to include more specific needs. The principal information needs of visual artists that have been identified and isolated in previous studies are (modified from Hemmig 2008, 349):

3) information on materials and safety (Stam 1995b)

Medaille (2010, 343) found that theatre artists had similar information needs as visual artists. She listed them as: 1) understanding a work’s historical, cultural, and critical background, 2) learning about contemporary or historical theatre production, artists, and events, 3) learning about techniques and processes, 4) finding performance materials, and 5) furthering one’s career goals. The study implied that the sixth information need, inspiration, is also present (Medaille 2010, 344). She saw that information seeking and gathering, when seen in the context of inspiration, “not only provides a foundation for creative work but it also provides some of the raw material that will transformed into novel performances”.

Visual artists’ relationship to electronic information sources has been a topic of research for the past 20 years. For Medaille’s theatre professionals, whom she studied with a triangulation method of an online questionnaire and volunteer interviews, the internet offered a useful and fast access to information, enhanced information sharing, facilitated participating in online communities, and offered information on special and constantly changing topics such as job offers (Medaille 2010, 339). Some utilized online tools such as Idea Archive and Ideé Multicolor to find inspirational pictures (341). Nevertheless, Medaille also reported theatre artists’ heavy reliance on traditional print sources (339). In fact, many previously mentioned studies have shown strong support for artists’ preference for print resources even in the age of the internet. Among Beaudoin’s (2011)
research groups of archaeologists, architects, art historians and visual artists, the latter group had a noticeable preference for print and other analog resources while the others preferred digital resources (28–29). The easy organizability and the tactile feel of print materials have been seen to be major motivations for their use: one of Medaille’s interviewees commented, “I want it in paper, I want all my pictures so that I can move them around, I can cut them out, I can do anything…” (Medaille 2010, 341).

Medaille’s theatre artists viewed the information-seeking process as integral to their preparation. The theatre director interviewee compared her research experience to becoming “a temporary graduate student” in the subject of her play (334). Nevertheless, the artists reported feeling often frustrations with conducting research. Many of the frustrations were attributed to the pressure of time and the fast pace of the theatre production (335). Some theatre professionals found it challenging to spend much time on information seeking well in before receiving payment (336). Pressures also existed when issues of political or cultural representations such as race, class, and ethnicity were involved. “In these cases, theatre artists must do careful research to ensure that a production accurately represents different groups of people,” Medaille noted (ibid.). This requisite for accuracy sometimes clashed with the wish to entertain or build a more effective narrative (ibid.).

With so much information to gather and manage, theatre artists “can easily fall into the trap of doing too much research and prioritizing historical accuracy over emotional or conceptual truth”. Even though the playwright informant sought a vast amount of information of subject of a new play, he chooses to stop researching “at a point where his imagination can take over and ‘fill in the ellipses’, thus preventing his project from turning into a ‘research monstrosity’”. Medaille noted that the predisposition to over-research may at least in part be attributed to insecurity. (ibid.)

Qualitative methods have been used in a growing number of studies. Day and McDowell (1985) were the first to use the interview method, interviewing small groups of students. Cobbledick (1996) conducted exploratory interviews with four artists and prepared a questionnaire template that focused on information sources and channels. Cobbledick’s study is a seminal work on the information-seeking behavior in the arts. Not only did she conduct the first thorough literature review, she was also the first to recognize the need to step out of the boundaries of libraries and look more widely at
artists’ information needs. Her study was the first one to find its way to an academic peer-reviewed journal, and it presented a classification of visual artists’ information needs that has since been used as the basis in many subsequent studies.

A major shift to qualitative methodology came from Cowan (2004), who lamented that the previous studies one after another had been library-centered. According to Cowan (15), even Cobbledick, who had warned about the pitfalls of an insular art librarianship approach to research, had fallen into the same pitfalls herself. Cowan noted that if the researchers confine artistic information seeking to a specialized arena such as the art library, he or she may not see that the artist’s needs may not be best met there (ibid.). She interviewed one visual artist, a painter, with the intention of not letting her expectations as a librarian to have an influence on the choice of questions. She instead opted to keep them as open-ended as possible and let the artists express her own views on the subject.

Cowan’s study is still the best look at what kind of an information horizon any kind of artist might have. Her most notable result was that her informant did not view her creative work as a process of seeking information at all. Rather than thinking about the creative process as a series of problems to be solved or gaps to be filled, it was seen as “a dynamic process of perception and expression, a dialogue with the world and her materials” (Cowan 2004, 18). Cowan identified five primary sources of information that were central to this artist’s work: the natural environment, the work itself, relationships (with her artwork and with other artists), self-inquiry, and attentiveness (Cowan 2004, 17–18). This result would likely be contrasting with the results drawn from any survey questionnaire instrument designed on the notion that all information an artist could ever need could be found in a library.

Cowan’s approach is similar to how Case (2012, 49–50). expands on Dervin’s concept of information seeking as ‘sense making’: “[L]egitimate inputs may come from inside us, rather than viewing the only important information as arising from external sources. In a similar way, this view does not privilege formal information systems (e.g. books) over informal sources (e.g. friends, relatives, or coworkers); consulting the latter is a much more common approach to understanding than are the former channels”. Wilson (1981) urges researchers of information-seeking behaviour to avoid “preconceptions about what [the user of an information system] will perceive to be ‘information’, while
concentrating upon the problems that create cognitive and/or affective needs”, and to adopt “greater humility about the potential value of traditional information practices and a greater willingness to innovate and experiment”.

2.5 Models of information seeking

According to Case (2012, 135), there is no single theory of information-seeking and information behaviour in existence, and both have been approached with various models focusing on specific topics. Ellis’s model of information-seeking behaviour (1989) and Kuhlthau’s model of the information search process (1991) describe the information-seeking process in the cognitional context, and in Kuhlthau’s case also in the emotional context. There are other models that aim to describe the context of information seeking outside the seeker. One of them is Leckie, Pettigrew and Sylvain’s model of information seeking of professionals (1996).

The model of the information seeking of professionals by Leckie, Pettigrew and Sylvain (1996) aims to describe the work-related information seeking in information-heavy professions. The model was based on a literature review involving the previous studies made on engineers, health care professionals and lawyers. The model, presented as a flow diagram (Figure 1) was purposely simplified so that it can be applied to different professions (Savolainen 2011, 98). It was also designed for future researchers to add in additional parts as they see fit (Leckie 2005, 161). Utilizing feedback loops and specifying a multitude of context factors, it presents a dynamic overview of the information-seeking process.
Figure 1. Model of the information seeking of professionals (Leckie et al. 1996).

The primary assumption of the model is that the information needs that initialize information seeking in work environment are defined by the work tasks of the seeker. The nature and content of work tasks are in turn defined by the work roles the seeker. Each work role normally consists of several work tasks. The members of a profession typically change quickly and seamlessly from one work role to another. The model has four components. The first component consists of the work roles of a given profession and the work tasks that correspond with these roles. The roles and tasks give rise to the different information needs of the information seeker in that profession.

By adapting to creative writing the modified Hemmig’s list (2008, 349) of principal needs of visual artists presented on page 15 of this study, three general-level work roles of creative writers can be presented. The work roles of creative writers proposed by this study are:

1) The researcher role
2) The artisan role
3) The entrepreneur role

‘Inspiration’ and ‘specific visual information’ from the modified Hemmig’s list are assessed to correspond with the ‘researcher role’ of a creative writer. Each writing project, like each painting or sculpture, can be seen to be built upon a set of materials gathered by the writer, including anything between historical events and his or her life experiences. Linturi (2014, 33) defines ‘aineisto’ (the Finnish word for “material[s]” or
“[raw] data” (Hurme, Malin & Syväsuoja 1998: ‘aineisto’)) in the context of creative writing as the material from which the lines, sentences and pages of the literary work are refined. A writer seeking information in the researcher work role may, however, never use any formal information sources. There are writers who do little if any ‘research’ outside his or her own memories or imagination. The accidental encountering of information may be the only ‘information-seeking strategy’ chosen by these writers.

The ‘artisan role’ corresponds to Hemmig’s ‘information on techniques’ and ‘information on materials and safety’. While visual artists utilize different brush or photographing techniques and knowledge on the characteristics of working mediums such as gypsum or 16 mm film, creative writers too have a toolbox of their own to use language as their working medium. A ‘foil character’ and the ‘Chekhov’s gun’ are some of the names given to the numerous dramatic tools in writers’ disposal. Even finding the right creative mood by listening to a playlist of specific music might be a technique taken up by some creative writers.

‘Trends and events in the art world’ and ‘career, financial and tax information’ can be grouped together to form the ‘entrepreneur role’. The nomenclature should not be given too much significance, since, presumably, not every writer will ever picture him or herself as an ‘entrepreneur’, and matters related to owning a small business are relevant only to the most attained writers. Still, the workings of the publishing industry and the editing process, the balance of writing and non-writing life, and networking, among others, can be some of the most common questions asked by beginning writers. At the very least, getting attention to one’s work from publishers and readers is bound to be in the mind of every writer who wants some day to be read (see Burkhart 2012).

Given the above, we can list some of the work tasks rising from the aforementioned work roles:

1) Researching and gathering writing material
2) Writing and refining text
3) Publishing, marketing and networking

The second phase the model of information seeking of professionals concerns the characteristics of information needs which take their form according to the previously mentioned work roles and tasks but also to certain characteristics of the seeker and the information need itself. These characteristics, not depicted in the model, affect the nature of information needs. They include the seeker’s age, specialization and work
experience. It also matters whether or not the information need is primary or a variation of a previous need, or whether or not the information need is prompted by the seeker or by other person. These characteristics act as additional variables in the information seeking process, and they include (Leckie 2005, 161; Leckie et al. 1996, 182–183):

- Person’s status in the organization
- Person’s area of specialization (in a writer’s case, his or her genre)
- Person’s work experience
- The complexity of the information need
- The urgency of the information need
- The importance of the information need
- The predictability of the information need
- The source of the information need (internal vs. external)

The third phase of the model includes the potential ‘sources of information’ available to the seeker, whether he or she knows about them or not, and the ‘awareness of information’, the seeker’s depth of knowledge of these sources and their likely usefulness to the information need. These two factors determine which sources are used and how many feedback loops happen before the completion of the process. According to Leckie et al. (1996, 185–186), the following characteristics of an information source are important whether or not the seeker chooses to use it:

- familiarity with and prior success in using a source
- trustworthiness (the belief that a source will provide accurate information)
- packaging (format in which the information is provided and its convenience)
- timeliness (the ability to deliver information on time)
- cost (cost of money, time and other resources)
- quality (this links to trustworthiness, as it concerns accuracy and level of detail)
- accessibility (the ease of use and proximity – this links to packaging)

Leckie et al. suggest that accessibility is the most important characteristic of an information source (1996, 186). The model also includes a feedback mechanism between the information need and information sources, permitting several information seeking attempts if the initial one is unsuccessful. In the fourth phase of the model, some kind of outcome is reached. For writers, this outcome may be anything from finding ‘a seed’ for a story, to finding an editor. A potential outcome may also be the seeker needing additional information – or giving up altogether.

Finally, the model will be augmented by the addition of ‘information barriers’, a concept originating from the model of information-seeking behaviour by Wilson (1981). ‘Information barrier’ is the term given to the various circumstances, such as the
unavailability of time or personal contacts, that may inhibit information needs giving rise to information-seeking actions. In his revised general model of information behaviour, Wilson (1997, 568–569) categorized them as:

1) personal characteristics (e.g., emotional, educational and demographic variables such as cognitive dissonance, selective exposure to information, nervousness, gaps in knowledge, hearing problems, the level of education, age)
2) Social/interpersonal variables (e.g., social expectations)
3) Environmental variables (e.g., economic cost of information access, time cost of information access, geographic location)
4) Source characteristics (e.g., accessibility, reliability)

For example, the theatre professionals in Medaille’s study (2010) (discussed in chapter 2.4) reported feeling often “frustrations” (334) with conducting research. By following Wilson’s model, these frustrations can be given the label of information barriers. They included the pressure of time (335) and the potentially long waiting period for any monetary payment (336), both classified as environmental information barriers. Some of Medaille’s interviewees mentioned that the print format was a deciding characteristic for why some information sources were preferred over others (341), hinting at the possibility of this source characteristic barrier impeding theatre artists from using information sources such as e-books.

Wilson preferred to use the term ‘intervening variable’ in his many revisions of his original model to denote the both supportive as well as preventive roles of these variables to information seeking (Wilson 1999, 256). However, this study uses the term ‘information barrier’ as it focuses exclusively on how they inhibit information seeking. They provide a novel approach to artistic information-seeking research. Figure 2 presents an adapted model of information seeking of professionals as it can be seen in the context of creative writers.
2.6 Summary

Information-seeking behaviour is the sum of actions and interactions in which a person engages when seeking information. It concerns the information needs and sources of individuals in various professional or everyday life settings. The first studies of information-seeking behaviour were principally on the use of institutional channels such as libraries and the mass media. This research had a predominantly quantitative flavor. From the 1970s onwards, the perspective of research started to shift from systems and services to users. This included acknowledging the importance of new kinds of information-seeking strategies and the relevance of informal channels and sources along with formal ones.
It was not until the 80s and the 90s when the humanities and arts started to receive attention in information-seeking research. Among creative professions, those belonging to the wide array of visual artistry have been the focus of the majority of studies on artistic information-seeking behavior. Previous studies on creative writing from the information-seeking behaviour point-of-view are extremely rare. The only scholarly studies done on the subject are an unpublished master's thesis, now over two decades old, by Russell (1995), and a short exploratory article by Tammi (2008). Creative writing has also been discussed in the professional literature of library and information professionals. However, these essays are anecdotal in nature.

The field of creative writing has built-in characteristics that lend themselves well to scholarly interests. It seems that creative writing has grown around it an unneeded mystique that warrants closer scrutiny. Being familiar of the process of information seeking in creative writing has benefits especially to beginner writers. If a new writer perceives the information-seeking aspect of creative writing as a too big an obstacle to overcome, it may even result to giving up his or her writerly aspirations altogether. Furthermore, fiction is a powerful tool of spreading both accurate or inaccurate information as well as representations of race, ethnicity and gender, among others. Finally, information-seeking research on creative writers has applications in the development and evaluation of information products and services in public and specialized art libraries as well as elsewhere.

The model of information seeking of professionals by Leckie et al. (1996) presents a dynamic overview of the information-seeking process in information-heavy professions such as engineers, health care professionals and lawyers. The model is shown to be also applicable to creative writers. The primary assumption of the model is that the information needs are defined by the work tasks and work roles of the seeker. This study suggests that the three work roles of creative writing are the researcher, the artisan and the entrepreneur role.
3 STUDY METHOD AND RESEARCH MATERIAL

3.1 Study method

The research questions of this study are:

1) What are the information sources and channels used by SF&F writers in the work roles of creative writing proposed by this study: the researcher role, the artisan role and the entrepreneur role?

2) What characteristics of information sources are seen by SF&F writers to be the most important?

3) How writing genre, writing experience, writer attainment and gender affect their choice of information sources and channels?

4) What information barriers do they experience?

The method of this study is the survey method and the data collection instrument the self-administered online questionnaire. The strength of the survey method is its capability to easily gather data on the behaviors, attitudes and opinions of a large amount of people. This method comes attached with an extensive analysis tradition, a detail which has also been seen as one of its weaknesses by its critics (Alkula, Pöntinen & Ylöstalo 1994, 119). Many social researchers in the past have “become disenchanted” with the self-completed questionnaire model of research (Wilson 1981). However, since the literature on the information-seeking behavior of creative writers is almost non-existent, the subject would benefit not only from exploratory research conducted with qualitative methods but also from the wide coverage of a systematic survey study.

Study participants were recruited by posting a cover letter to various English-speaking SF&F writing forums. This convenience sampling method was based on volunteers and chosen for its economy of time (see Alreck 1995, 109). This means that there is a substantial limitation to this study, namely the issue of how representative is this sample of the whole writer population. In self-administered surveys, non-cooperation rates are higher, particularly from the less responsive individuals, those with lower literacy or attention spans, and those with less available time. Furthermore, when participation is based on choice, the gathered data may overrepresent those who hold a special interest on the subject of the study. Self-administered surveys also output an unknown amount of ‘wrong’ information resulting from the disadvantage of the survey-maker being unable to guide the respondents through the survey (Sapsford 2007, 110). Finally, online surveys have an inherent visibility bias (Alreck 1995, 82), meaning that it will leave out those who are not aware of its existence.
The sample, not being a true random subset of the SF&F writer population, is likely unrepresentative of them in some ways. Consequently, this study should be regarded as a pilot study – a proof of concept or a prototype – to serve as a starting point for future questionnaire instruments targeting the information-seeking behaviour studies of creative writers and other artists alike. The ideal end product of continuing endeavors with the method is a standardized questionnaire instrument. The results of this study are meant to provide base of comparison for future studies. Moreover, with so little previous research in existence, this study relies on future studies to prove its validity.

Various demographic and writing-related data were collected in the first section of the questionnaire. The demographic and writing-related variables were presented in the adapted model of the information seeking of creative writers (see page 23). The following variables were included in comparing groups for statistical differences (chapter 4.4):

- **Writing genre**: We asked respondents to identify themselves as writers of ‘only scifi’, ‘mostly scifi’, ‘both scifi and fantasy equally’, ‘mostly fantasy’, or ‘only fantasy’. For the purposes of analysis, the first two response options were collapsed into ‘scifi writers’ category and the last two into ‘fantasy writers’ category. The middle option was omitted from the genre analysis.
- **Writing experience**: Respondents were asked to identify their level of writing experience from 5 categories: ‘0–1 year’, ‘2–5 years’, ‘6–10 years’, ‘11–20 years’ and ‘over 20 years’. In the analysis phase of the study, the first two options were combined into ‘0–5 years’ category due to the small amount of respondents picking the first option.
- **Gender**: Respondents were asked to identify themselves as ‘male’, ‘female’ or ‘prefer not to say’. Respondents could also opt to skip the question altogether. Only the male and female options were analyzed, as only these groups ended up drawing enough respondents for statistical significance.
- **Writer attainment**: This exploratory variable was created as a crude measure of the respondents’ financial success as a writer. They were asked to answer ‘yes’ or ‘no’ to the question, “Have you ever earned money from creative writing? Earnings include any professional sales, government/non-government funding, or writing prizes (greater than $500)”.

The following demographic data were also gathered but only included as a part of the sample distribution overview (chapter 4.1):

- **Age**: Respondents were asked to state their age in years.
- **Country of residence**: Respondents were asked to choose from a drop-down list of countries of the world, as defined by OHCHR (Office of the United Nations High Commissioner for Human Rights (n.d.)).
- **Education**: Respondents were asked to identify their highest completed level of education: ‘less than high school / vocational school’, ‘high school / vocational
school graduate’, ‘some college’, ‘undergraduate degree’, or ‘postgraduate degree’.

The second section of the questionnaire asked respondents open-ended questions. One question was relevant to the present study, the question about information barriers. Respondents were asked, “Has something ever kept you from using and information source or obtaining information? If so, please specify. These can include, for example, a lack of money, time or other resource, language or cultural barriers, or past inexperience as a writer”.

The third section of the questionnaire corresponded to the third phase of the adapted model dealing with the information seeker’s available information sources and the awareness of potential information sources along with their perceived usefulness. It involved a pre-specified list of 31 information sources and channels, aimed to be comprehensive of the key sources and channels in creative writing, but to not be an exhaustive one as to avoid survey-fatigue. The sources and channels were categorized for easier readability and thematic grouping, and not for being included in any kind of analysis. Respondents were asked to evaluate the importance of each of the 31 sources and channels for their writing three times – each time for the three work roles of the writer: the researcher, the artisan, and the entrepreneur role. To help respondents differentiate the work roles from each other, additional information was provided on the common work tasks related to the roles (see Appendix 1). A five-point Likert scale was used to allow respondents express their opinion: 1 = ‘not at all important’, 2 = ‘not that important’, 3 = ‘neither important nor unimportant’, 4 = ‘important’ and 5 = ‘very important’. Respondents also had an option to choose the option ‘not sure’. Finally, they were given a text box to write in any missing information sources at the end of each 31-item list. These source and channel contributions were not analyzed other than as potential additions to future survey instruments (see chapter 5).

The fourth and final section of the questionnaire dealt with the characteristics of information sources and channels. The seven characteristics corresponded to the ones presented in the adapted model. They were; familiarity, trustworthiness, packaging, timeliness, cost, quality and accessibility. Two question types were used to ask respondents evaluate the importance of these characteristics. Firstly, a statement was devised for each characteristic, and a five-point Likert scale was used to measure the respondent’s degree of agreement on how well the statement applied to them (1 = ‘not
at all’, 2 = ‘not very well’, 3 = ‘somewhat well’, 4 = ‘well’ and 5 = ‘very well’. The statements were:

- Trustworthiness: “The information must come from a trustworthy source.”
- Packaging: “I prefer the print format over the electric format” (the only aspect of the packaging characteristic explored in this study was the placement of SF&F writers in the print-electronic dichotomy).
- Quality: “I require information with a high level of detail and quality of presentation.”
- Cost: “Access to information must require as few resources as possible (money, time to learn).”
- Familiarity: “I prefer using information sources that are familiar to me.”
- Accessibility: “I prefer sources that are easy to use and are in close proximity to me.”
- Timeliness: “I want access to the information I need as quickly as possible.”

Secondly, respondents were asked to rank a list of phrases corresponding to the characteristics in order of importance using a drag-and-drop operation. The packaging characteristic was omitted from this question. The phrases were:

- Familiarity: “Has been useful to me before.”
- Trustworthiness: “Is reliable.”
- Timeliness: “Has a short waiting time.”
- Cost: “Is cost effective (money, time to learn).”
- Quality: “Has a high level of detail, is well-presented.”
- Accessibility: “Is easy to use, is located near.”

The numeric data resulting from all but the open-ended question were processed using SPSS (version 23). Descriptive statistics were calculated to make an overview of the sample (chapter 4.1). The data analysis of the third and fourth sections of the questionnaire involved calculating the median values for the five-point Likert scores and characteristic rankings. The median measures central tendency, in this case the self-reported, group-wide importance of the information sources and channels. With the Likert items producing only ordinal data, mean values could not be used for this purpose. For the same reason, interquartile ranges (IQR) were calculated to measure statistical dispersion instead of standard deviations. IQR is calculated by subtracting the bottom 25 % from the bottom 75 % of the data, resulting in the number of the Likert points populated by the middle 50 % portion of the data (Nummenmaa 2009, 63).

When comparing subsets within the study group (writing genre, writing experience, gender, and writer attainment), population pyramid and box plot graphs were produced. Two nonparametric statistical tests were used to aid the reader to interpret these graphs:
The Mann-Whitney U test and the Kruskal-Wallis H test. However, given this study’s sample being non-random, the result may not hold statistical significance for the entire population of SF&F writers, even if indicated so by the statistical tests.

The Mann-Whitney U test was chosen to compare the differences in the Likert-item and ranking scores and a variable with two categories (science fiction/fantasy, male/female, attained/not attained). This study followed the process of running the Mann-Whitney U test in the SPSS software presented by Laerd Statistics (n.d.). In the Mann-Whitney U test, all scores in the given two categories are grouped together, put in the order of smallest to largest and given numerical ranks, with the smallest score given the rank of 1, the second smallest the rank of 2, and so forth. The scores are then put back to their original categories, and the sum of the ranks is calculated for both categories. If the sum of the ranks in one category is considerably larger, it means that the scores in that category are higher on average than in the other (Nummenmaa 2009, 261). The median values were chosen as the measure of difference if the distributions of the scores in the two categories were assessed as similar by a visual inspection of the shape of the population pyramid. If the distribution of scores were assessed to be dissimilar, mean rank values of the categories were instead used to measure difference.

The Kruskal-Wallis H test was chosen to compare the difference in the Likert-item and ranking scores and the level of writing experience. This study followed the process of running the Kruskal-Wallis H test in the SPSS software presented by Laerd Statistics (n.d.). In the Kruskal-Wallis H test, all scores are grouped together, put in the order of smallest to largest and given numerical ranks, with the smallest score given the rank of 1, the second smallest the rank of 2, and so forth. The scores are then put back to their original experience level categories, and the sum of the ranks is calculated for all categories. If the sum of the ranks in one category is considerably larger, it means that the scores in that category were higher on average than in the other (Nummenmaa 2009, 267). Pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. Median values were chosen as the measure of difference if the distributions of the scores in the two categories were assessed as similar by a visual inspection of the shapes of the box plots. If the distribution of scores were assessed to be dissimilar, mean rank values of the categories were instead used to measure difference.
This study assumed the significance level of 0.05 ($p < .05$) for rejecting the null hypothesis that there is no relationship between the categories. No results over the significance level were reported in the analysis of either the Mann-Whitney U or the Kruskal-Wallis H tests.

3.2 Research material

The questionnaire (Appendix 1) was created with Webropol survey-making tool and submitted with a cover letter in January 2016 in 16 online writing forums. As for the members-only Science Fiction and Fantasy Writers of America (SFWA) forum, the Secretary of the organization was contacted and the questionnaire was submitted by her. The following nine forums attracted study respondents:

Fantasy-Writers. Fantasy-Writers.org is “the perfect site for writers and readers of fantasy fiction, providing a space to post your stories and receive friendly, constructive advice from our large community, including many published authors” (Fantasy-Writers.org (n.d.)). The questionnaire was posted on the “Member Websites and Stuff” subforum (www.fantasy-writers.org/forums/ballyhoo/member-websites-and-stuff).

Goodreads. Goodreads.com is “the world’s largest site for readers and book recommendations” (Goodreads (n.d.)). It is a book database and book reviewing service but it also hosts a community consisting of numerous discussion groups. The group the questionnaire was posted on was the Goodreads Authors/Readers group (www.goodreads.com/topic/group_folder/139370?group_id=26989).

KBoards. KBoards.com is “a community forum for Kindle owners, with 90,000 members and over 3 million posts (…). Our forums have boards focused on Kindle books, accessories, reviews, user tips, and other Kindle-related topics. (…) Beyond that, KBoards offers unique (and free) tools for authors, including our active Writer's Cafe, a sorted list of bestselling KBoards authors, a Book Bazaar to promote indie books, a directory of author services like editing and cover graphics, and a KB author books page”. (Chute 2016). The questionnaire was posted on the Writer’s Café subforum (kboards.com/index.php/board,60.0.html).
My Writers Circle. Mywriterscircle.com is “a free online writers forum open to everyone” (My Writers Circle (n.d.)). The questionnaire was posted on the Writers Wanted! subforum (www.mywriterscircle.com/index.php?board=5.0).

NaNoWriMo Forums. National Novel Writing Month (NaNoWriMo) “is a fun, seat-of-your-pants approach to creative writing. On November 1, participants begin working towards the goal of writing a 50,000-word novel by 11:59 PM on November 30.” (National Novel Writing Month (n.d.)). The activity of the site centers on the discussion forums. The questionnaire was posted the Polling Booth subforum (www.nanowrimo.org/forums/the-polling-booth).

OWW-SFF-Writing. OWW-SFF-Writing (www.groups.yahoo.com/neo/groups/oww-sff-writing/info) is an e-mail discussion group for the members of the Online Writing Workshop for Science Fiction, Fantasy and Horror (sff.onlinewritingworkshop.com). It is meant for “discussion of the workshop, submissions, ratings and reviews, the SF/F market, and writing in general” (Online Writing Workshop for Science Fiction, Fantasy and Horror (n.d.)). Participating in the workshop requires a yearly membership fee, although the discussion group is open for anyone to join.

Reddit. Reddit.com is “made up of many individual communities, also known as ‘subreddits’. Each community has its own page, subject matter, users and moderators. Users post stories, links, and media to these communities, and other users vote and comment on the posts. Through voting, users determine what posts rise to the top of community pages and, by extension, the public home page of the site” (Reddit Help (n.d.)). The questionnaire was posted on four subreddits: www.reddit.com/r/writing, www.reddit.com/r/fantasywriters, www.reddit.com/r/scifiwriting and www.reddit.com/r/worldbuilding.

SFFWorld Forum. The community forum of the Science Fiction and Fantasy World (SFFWorld.com) website “offers the opportunity for fans all over the world to exchange their views and thoughts about science fiction, fantasy and horror, without intimidation, regardless of their point of view, age, level of intelligence, hair colour, sock size or whatever.” (SFFWorld 2016). The survey was posted on the Writing subforum (sffworld.com/forum/board/writing.10/).
SFWA. Science Fiction and Fantasy Writers of America (SFWA) “is an organization for published authors and industry professionals in the fields of science fiction, fantasy, and related genres. Founded in 1965, SFWA informs, supports, promotes, defends, and advocates for its members. We host the prestigious Nebula Awards at our annual SFWA Nebula Conference, assist members in legal disputes with publishers, offer the Speakers Bureau, administer grants to SFF community organizations and members facing medical or legal expenses.” (Science Fiction & Fantasy Writers of America (n.d.)). Access to the private SFWA discussion forums require an annual membership fee along with a proof of a paid sale of a work of fiction to a qualifying market, or other professional involvement in science fiction or fantasy.


The sample size of 130 respondents is the largest of any studies of creative artists’ information-seeking behaviour. 30 percent of them were members of KBoards forums. A little under a quarter of them came from the four subreddits of Reddit. The distribution of respondents from individual subreddits was not calculated. A little over fifth of the respondents were SFWA members. OWW-SFF-Writing, Goodreads, SFF World Forums and Fantasy-Writers each got a share of little over five percent, and My Writers Circle and NaNoWriMo Forums drew two and one respondents, respectively, with around one percent share each. The number of respondents drawn from each forum are found in Table 1.

Table 1. Distribution of respondents according to online creative writing forums

<table>
<thead>
<tr>
<th>Forum</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>KBoards</td>
<td>39</td>
<td>30</td>
</tr>
<tr>
<td>Reddit</td>
<td>31</td>
<td>23.8</td>
</tr>
<tr>
<td>SFWA</td>
<td>27</td>
<td>20.8</td>
</tr>
<tr>
<td>OWW-SFF-Writing</td>
<td>8</td>
<td>6.2</td>
</tr>
<tr>
<td>Goodreads</td>
<td>8</td>
<td>6.2</td>
</tr>
<tr>
<td>SFF World Forum</td>
<td>7</td>
<td>5.4</td>
</tr>
<tr>
<td>Fantasy-Writers</td>
<td>7</td>
<td>5.4</td>
</tr>
<tr>
<td>My Writers Circle</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>NaNoWriMo Forums</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>130</td>
<td>100.1</td>
</tr>
</tbody>
</table>
4 RESULTS

4.1 Sample distribution

The ages of the respondents ranged from 16 to 78 years, and the average age was 42.4 years (standard deviation = 14.7). The average age for males was 42.4 years, for females 43.1 years, and for those that preferred not to disclose their gender 35.5 years. The distribution of participants’ country of residence is shown in Appendix 2. The main thing to note about the country distribution is, expectedly, that a great majority consists of English-speaking countries, with 70 percent representing the USA or Canada in particular, but also the multi-national composition of the sample, with 24 total countries represented. One of the strengths of this study is the international character of its study group.

The genre distribution was somewhat balanced, with 30.8 percent of the participants identifying themselves as either only or mostly scifi writers and 41.6 percent as either only or mostly fantasy writers. 27.7 percent of the writers identified themselves as writers of both genres. The study participants leaned towards the ‘Yes’ category in the writer attainment variable: 70 percent reported having either made at least one professional sale, received government/non-government funding or won a writing prize of at least $500. The accessible and streamlined nature of today’s self-publishing world may be the reason why a professional sale might not be such a rarity among writers than it once was. A little over a half of the respondents were either members of KBoards, which is a major hub among self-published writers, or of SFWA, the professional organization for published authors. Cross tabulation for writer attainment and the writing genre is presented in Table 2. The science fiction writers of this sample were proportionally more represented on the having-earned-money side, and vice versa for fantasy writers.

The respondents were on average quite experienced writers: over a half had been writers for at least 11 years. The gender ratios in the study group was quite equal for males (46.9 percent) and females (49.2 percent). Four respondents (3.1 percent) preferred not to disclose their gender, and one (0.8 percent) chose not to answer this question. Cross tabulation for gender and writing experience is presented in Table 3. The females of this sample were a little bit more represented in the higher experience levels. The
respondents were highly educated, with 93.1 percent having at least some college education. The distribution of education levels is shown in Table 4.

Table 2. Cross tabulation of writer attainment and writing genre.

<table>
<thead>
<tr>
<th>Writing genre</th>
<th>Has earned money</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Only scifi</td>
<td>8</td>
</tr>
<tr>
<td>Mostly scifi</td>
<td>22</td>
</tr>
<tr>
<td>SF&amp;F equally</td>
<td>28</td>
</tr>
<tr>
<td>Mostly fantasy</td>
<td>29</td>
</tr>
<tr>
<td>Only fantasy</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
</tr>
</tbody>
</table>

Table 3. Cross tabulation of gender and writing experience. (Exper. = writing experience in years, M. = Male, F. = Female, Pr. = Prefer not to say, No = No answer)

<table>
<thead>
<tr>
<th>Exper.</th>
<th>M. %</th>
<th>F. %</th>
<th>Pr. %</th>
<th>No %</th>
<th>Total %</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>3</td>
<td>4.9</td>
<td>1</td>
<td>1.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2–5</td>
<td>16</td>
<td>26.2</td>
<td>16</td>
<td>25.0</td>
<td>1</td>
<td>25.0</td>
</tr>
<tr>
<td>6–10</td>
<td>12</td>
<td>19.7</td>
<td>10</td>
<td>15.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11–20</td>
<td>14</td>
<td>23.0</td>
<td>15</td>
<td>23.4</td>
<td>3</td>
<td>75.0</td>
</tr>
<tr>
<td>&gt; 20</td>
<td>16</td>
<td>26.2</td>
<td>22</td>
<td>34.4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>61</td>
<td>100.0</td>
<td>64</td>
<td>100.0</td>
<td>4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4. Distribution of respondents according to education level

<table>
<thead>
<tr>
<th>Education</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>High school</td>
<td>8</td>
<td>6.2</td>
</tr>
<tr>
<td>Some college</td>
<td>23</td>
<td>17.7</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>47</td>
<td>36.2</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>51</td>
<td>39.2</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.1</td>
</tr>
</tbody>
</table>

4.2 Information sources and channels in different work roles

The results from the Likert item answers from all 130 respondents showed that the information sources and channels holding the highest average importance across all three work roles of SF&F writing (researcher, artisan and entrepreneur) were ‘search engines and online indexes’, ‘my life experiences’, ‘my work or studies’, ‘discussion forums’, ‘writer friends and writer groups’, ‘experts and scholars’, and ‘first-hand accounts and people with specific experience’. Generally speaking, the sources and
channels that showed the most versatile use in SF&F writing were search engines and online indexes, ‘the self’ as a source, and many interpersonal sources and channels. Among interpersonal sources, ‘family members, friends and relatives’ were consistently considered of lower importance than the fellow writer sources or those with expert knowledge, with the median score of 3 (‘not important or unimportant’) in the researcher role and in the score of 2 (‘not very important’) in artisan and entrepreneur roles.

‘Public libraries’, ‘academic and specialty libraries’, and ‘archives and museums’ had, on average, only doubtful importance in the researcher role (median score of 3) and no importance in the artisan and entrepreneur roles at all. ‘Reference librarians’ did not clearly have significance in any of the work roles. The lowest-regarded information source among the 31 listed sources across all the work roles was ‘fanzines’, resulting in a median score of 1 in all three, indicating that in the present time and age, they are largely only a curiosity as an information source. ‘Radio’ seemed to be similarly negligible information source, resulting in the highest score of 2 in the researcher role.

Three information sources or channels showed consistently high interquartile range (IQR) scores across multiple work roles: ‘conventions and writers’ associations (IQR = 3 in all three work roles), ‘writing courses’ (IQR = 3 in the artisan and entrepreneur roles, 2 in the researcher role), and ‘my literary agent or editor’ (IQR = 4 in the artisan and entrepreneur roles, 2 in the researcher role). This suggests that either the opinion on the usefulness of these sources is divided, or that a large writer population segment simply does not have access to them. The latter seems to be the more likely explanation especially with literary agents and editors, who are generally only accessible to those who have signed or are soon-to-sign a publishing contract, or to those who have hired a freelance editor. It also seems safe to say that not all have attended a convention or are a member of a writer’s association, or have ever taken a writing course.

The average Likert-item median score of an information source or a channel in the researcher role was higher (3.29) than in the artisan (2.79) and entrepreneur (2.58) roles, but this is likely an indication that the list of sources was best suited for the researcher work tasks rather than an indication of any pattern of writer behaviour. In fact, the amount of sources and channels that were on average regarded as ‘important’ (4) or
‘very important’ (5) was very similar in the researcher role (12 sources) and the artisan role (13 sources), and only a little smaller in the entrepreneur role (10 sources).

The researcher and entrepreneur roles had very clearly discernable top-ranking information sources, whereas the artisan role had a very even distribution on the top of the ranking. The information sources attracting both the highest possible average median score and a very low IQR score in the researcher role were ‘search engines and online indexes’, ‘online encyclopedias and databases’ and ‘my life experiences’. The corresponding sources in the entrepreneur role were ‘search engines and online indexes’ alongside ‘discussion forums’ and ‘writer friends and writing groups’, indicating that information seeking is archetypically more interpersonal in this work role.

The findings indicated that the information sources and channels that held importance specifically in the researcher role (as seen in Table 5) were ‘my life experiences’, ‘non-fiction’ and ‘nature, environment, people-watching’. The rest of the frequently used information sources and channels in the researcher role were ‘my work or studies’, ‘discussion forums’, ‘writer friends and writer groups’, ‘experts and scholars’, ‘fiction’, ‘non-fiction’, and ‘first-hand accounts and people with specific experience’. The information sources of ‘movies, TV and video games’ and ‘other visual art’ were considered of neutral importance only in the researcher role and either ‘not that important’ or ‘not at all important’ in the other two. The relatively high IQR scores in ‘first-hand accounts and people with specific experience’ and ‘academic and specialty libraries’ indicate that SF&F writers are a disunited group in their use of these two particular information sources in the researcher role.

Table 5. Ranking of information sources and channels in the researcher role: number of respondents, median Likert-item score, and interquartile range. 1 = ‘not at all important’, 2 = ‘not that important’, 3 = ‘neither important nor unimportant, 4 = ‘important’ and 5 = ‘very important’.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Information source or channel</th>
<th>N</th>
<th>Med</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>search engines and online indexes (Google, Web of Science etc.)</td>
<td>130</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>my life experiences</td>
<td>130</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>online encyclopedias and databases (Wikipedia, EBSCO, Google Maps, Merriam-Webster dictionary etc.)</td>
<td>130</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>nature, environment, people-watching</td>
<td>130</td>
<td>4.5</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>discussion forums</td>
<td>130</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>my work or studies</td>
<td>128</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>fiction (prose, poems, fan fiction, etc.)</td>
<td>127</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>
As previously mentioned, the artisan role had a very even distribution on the top of the ranking, with 11 sources sharing the median score of 4, as illustrated in Table 6. These sources were varied but included ‘bookstores’ and ‘your personal library’, both associated with buying behaviour. The sole source considered ‘important’ on average in the artisan role but not in any of the other two was ‘writing courses’. It was noteworthy that the phrase ‘finding the right creative mood’ in the questionnaire description for the artisan role prompted only low scores for ‘other visual art’, ‘music’ and ‘movies, TV and video games’. ‘Nature, environment, people-watching’ was highly divisive in this regard, with both median and IQR scores being 3 in the artisan role. Other divisive sources in the artisan role were ‘public libraries’, ‘online encyclopedias and databases’, and ‘newspapers and periodicals’, with IQR scores of 3.

<table>
<thead>
<tr>
<th>Source</th>
<th>Median</th>
<th>IQR</th>
<th>Table 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>bookstores (both physical and online)</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>non-fiction (biographies, textbooks, encyclopedias, old diaries, etc.)</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>your personal library</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>writer friends and writing groups</td>
<td>128</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>first-hand accounts and people with specific experience</td>
<td>127</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>experts and scholars</td>
<td>129</td>
<td>3.5</td>
<td>2</td>
</tr>
<tr>
<td>media-sharing services (Youtube, Pinterest, Instagram, etc.)</td>
<td>130</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>public libraries</td>
<td>130</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>social media (blogs, social networking services, podcasts, etc.)</td>
<td>130</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>archives and museums</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>family members, friends and relatives</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>movies, TV and video games</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>music</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>news services (NBC News Digital, Huffington Post, Ars Technica, etc.)</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>newspapers and periodicals</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>writing guides (books, web resources, etc.)</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>other visual art (paintings, photography, sculpture, etc.)</td>
<td>128</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>academic and specialty libraries</td>
<td>125</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>conventions and writer’s associations</td>
<td>120</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>radio</td>
<td>128</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>reference librarians</td>
<td>126</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>writing courses</td>
<td>124</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>my literary agent or editor</td>
<td>109</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>fanzines</td>
<td>120</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 6. Ranking of information sources and channels in the artisan role: number of respondents, median Likert-item score, and interquartile range. 1 = ‘not at all important’, 2 = ‘not that important’, 3 = ‘neither important nor unimportant’, 4 = ‘important’ and 5 = ‘very important’.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Information source or channel</th>
<th>N</th>
<th>Med</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>discussion forums</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>fiction (prose, poems, fan fiction, etc.)</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>search engines and online indexes (Google, Web of Science etc.)</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>writing guides (books, web resources, etc.)</td>
<td>130</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>experts and scholars</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>my work or studies</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>writer friends and writing groups</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>bookstores (both physical and online)</td>
<td>128</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>my life experiences</td>
<td>128</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>your personal library</td>
<td>128</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>first-hand accounts and people with specific experience</td>
<td>127</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>online encyclopedias and databases (Wikipedia, EBSCO, Google Maps, Merriam-Webster dictionary etc.)</td>
<td>129</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>writing courses</td>
<td>123</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>non-fiction (biographies, textbooks, encyclopedias, old diaries, etc.)</td>
<td>130</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>social media (blogs, social networking services, podcasts, etc.)</td>
<td>130</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>conventions and writer’s associations</td>
<td>118</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>nature, environment, people-watching</td>
<td>125</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>my literary agent or editor</td>
<td>107</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>family members, friends and relatives</td>
<td>129</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>public libraries</td>
<td>129</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>newspapers and periodicals</td>
<td>125</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>media-sharing services (Youtube, Pinterest, Instagram, etc.)</td>
<td>130</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>movies, TV and video games</td>
<td>130</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>academic and specialty libraries</td>
<td>129</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>music</td>
<td>130</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>news services (NBC News Digital, Huffington Post, Ars Technica, etc.)</td>
<td>130</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>other visual art (paintings, photography, sculpture, etc.)</td>
<td>129</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>radio</td>
<td>129</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>reference librarians</td>
<td>124</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>archives and museums</td>
<td>127</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>fanzines</td>
<td>120</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

As shown in Table 7, information seeking in the entrepreneur role is markedly more interpersonal in nature, with ‘discussion forums’ and ‘writer friend and writing groups’ along with ‘search engines and online indexes’ being the three clear favourites and ‘first-hand accounts and people with specific experience’, ‘experts and scholars’, ‘social
media’, and ‘conventions and writers’ associations’ following suit. It was slightly unexpected that ‘first-hand accounts and people with specific experience’ and ‘experts and scholars’ (both with a median score of 4) received such enthusiasm in this work role. This could be attributed to respondents interpreting the wording in ‘people with experience’ and ‘experts’ to mean ‘colleagues’ or ‘other industry figures’. Similar results with ‘my life experiences’ and ‘my work or studies’ in this and the previous two work roles are clear indications that ‘the self’ (see Brown 1991, 11) as an information source is pervasive in the information-seeking behaviour of at least some SF&F writers, used for even career-related information needs. ‘Public libraries’ and ‘academy and specialty libraries’ were of extremely low significance sources in the entrepreneur role.

Table 7. Ranking of information sources and channels in the entrepreneur role: number of respondents, median Likert-item score, and interquartile range. 1 = ‘not at all important’, 2 = ‘not that important’, 3 = ‘neither important nor unimportant, 4 = ‘important’ and 5 = ‘very important’.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Information source or channel</th>
<th>N</th>
<th>Med</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>discussion forums</td>
<td>129</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>search engines and online indexes (Google, Web of Science etc.)</td>
<td>129</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>writer friends and writing groups</td>
<td>128</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>first-hand accounts and people with specific experience</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>experts and scholars</td>
<td>127</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>writing guides (books, web resources, etc.)</td>
<td>125</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>my life experiences</td>
<td>128</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>my work or studies</td>
<td>128</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>social media (blogs, social networking services, podcasts, etc.)</td>
<td>128</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>conventions and writer’s associations</td>
<td>118</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>online encyclopedias and databases (Wikipedia, EBSCO, Google Maps, Merriam-Webster dictionary etc.)</td>
<td>128</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>media-sharing services (Youtube, Pinterest, Instagram, etc.)</td>
<td>128</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>your personal library</td>
<td>127</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>bookstores(both physical and online)</td>
<td>126</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>non-fiction (biographies, textbooks, encyclopedias, old diaries, etc.)</td>
<td>125</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>writing courses</td>
<td>124</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>my literary agent or editor</td>
<td>107</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>family members, friends and relatives</td>
<td>129</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>newspapers and periodicals</td>
<td>127</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>news services (NBC News Digital, Huffington Post, Ars Technica, etc.)</td>
<td>126</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>public libraries</td>
<td>126</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>movies, TV and video games</td>
<td>128</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>nature, environment, people-watching</td>
<td>126</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
4.3 Characteristics of information sources and channels

Topping the ranking of the highest average Likert-item median score of source characteristics (Table 8) were trustworthiness and timeliness. The responses to both the corresponding questions (“The information must come from a trustworthy source.” and “I want access to the information I need as quickly as possible.”) leaned very clearly towards a median score of 5 (applies to the respondent ‘very well’).

Quality and familiarity characteristics (“I require information with a high level of detail and quality of presentation.” and “I prefer using information sources that are familiar to me.”) were regarded as applying to the respondents ‘well’ with the median score of 4. Accessibility (“I prefer sources that are easy to use and are in close proximity to me.”) likewise resulted in the median score of 4 but with a slightly higher IQR score.

Cost (“Access to information must require as few resources as possible (money, time to learn).”) was of low significance relative to the other sources and the only source characteristic to have a median score of 3, ‘somewhat well’. The respondents did not show particular attachment towards the print media, with the question “I prefer the print
format over the electric format” resulting in the median score being 2 (applies to the respondents ‘not very well’).

The question involving ranking of information sources drew similar results (Table 9) to the Likert-item statements. Trustworthiness (“Is reliable.”) was again found on the top with the median ranking of 2, while quality (“Has a high level of detail. Is well-presented.”) and familiarity (“Has been useful to me before.”) scored just a little lower (Med = 3). This time, however, the timeliness characteristic, while regarded unequivocally significant in the statement question, was in the second to last place in the ranking question (Med = 5). The cost characteristic (“Is cost-effective (money, time to learn).”) again received a neutral response but raised in relative significance (Med = 4), while accessibility (“Is easy to use. Is located near.”) decreased a little bit in significance compared to the earlier question (Med = 4).

The first significant observation that can be drawn from both the Likert-item and ranking questions is that the highest-ranked source characteristic was trustworthiness, attracting top ratings in both questions. Quality and familiarity were also consistently regarded as significant, while accessibility and cost enjoyed moderate significance at minimum. The timeliness characteristic drew conflicting results, appearing on the top of one chart and in the bottom of another.

Table 9. Ranking of information source characteristics according to the results of the ranking question: number of respondents, median ranking score, and interquartile range.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Characteristic</th>
<th>Statement</th>
<th>N</th>
<th>Med</th>
<th>IQR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>trustworthiness</td>
<td>Is reliable</td>
<td>129</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>quality</td>
<td>Has a high level of detail. Is well-presented</td>
<td>129</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>familiarity</td>
<td>Has been useful to me before</td>
<td>129</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>cost</td>
<td>Is cost-effective (money, time to learn)</td>
<td>129</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>accessibility</td>
<td>Is easy to use. Is located near.</td>
<td>129</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>timeliness</td>
<td>Has a short waiting time</td>
<td>128</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>
4.4 Comparison of writing-related variables and gender

4.4.1 Writing genre

Mann-Whitney U tests were run to determine if there were differences between writing genres. Writing genre was statistically significantly associated with the reported importance of some information sources and channels in SF&F writing. Being a science fiction writer (N = 40, Med = 4) was positively associated with more frequent use of ‘news services’ in the researcher role than fantasy writers (N = 53, Med = 2) ($U = 681.000, z = -3.031, p = .002$). This was the most striking difference between the two genres. Median scores were calculated, as the distributions of the scores for science fiction writers and fantasy writers (Figure 3) were similar, as assessed by visual inspection.

![Figure 3](image-url)  
Figure 3. Distribution of Likert scores for ‘news services’ in the researcher role between science fiction and fantasy writers.

When asked about the use of ‘other visual art’ in the researcher role, fantasy writers (N = 53, Med = 4) were found to have put slightly more importance on them than science fiction writers (N = 39, Med = 3) ($U = 778.000, z = -2.076, p = .038$). Median scores were again used since the distributions of the scores (Figure 4) were assessed to be similar. A small but statistically significant difference ($U = 762.000, z = -2.138, p = .033$) was also observed between fantasy and science writers for the rating of ‘first-hand accounts and people with specific experience’ in the researcher role, with the former group rating them higher (N = 51, mean rank = 51.06) than scifi writers (N = 40, mean
rank = 39.55). Distributions of the scores (Figure 5) were not similar, as assessed by visual inspection, and mean rank scores were used instead of median scores.

Figure 4. Distribution of Likert scores for ‘other visual art’ in the researcher role between science fiction and fantasy writers.

Figure 5. Distribution of Likert scores for ‘first-hand accounts and people with specific experience’ in the researcher role between science fiction and fantasy writers.

‘Media-sharing services’ (Figure 6) in the entrepreneur role were slightly more highly valued by fantasy writers (N = 52, mean rank = 52.26) than scifi writers (N = 40) (mean rank = 39.01) (U = 740.500, z = -2.418, p = .016). In the same vein, fantasy writers (N =
50, Med = 4) tended to rate ‘writing guides’ (Figure 7) in the entrepreneur role a little higher than scifi writers (N = 40, Med = 3) (U = 754.500, z = -.050, p = .040).

Figure 6. Distribution of Likert scores for ‘media-sharing services’ in the entrepreneur role between science fiction and fantasy writers.

Figure 7. Distribution of Likert scores for ‘writing guides’ in the entrepreneur role between science fiction and fantasy writers.
4.4.2 Writing experience

A Kruskal-Wallis H test revealed that those with higher experience rate ‘archives and museums’ in the researcher role higher on average, with statistically significant results found between the ‘0–5 years’ (N = 37, mean rank = 45.64) and ‘11–20 years’ (N = 33, mean rank = 71.76) (p = .017) categories, and the ‘0–5 years’ and ‘over 20 years’ (N = 38, mean rank = 78.86) categories (χ² = 17.002, df = 3, p = .001). The distributions of Likert scores (Figure 8) were not similar for all groups, as assessed by visual inspection of a boxplot. Consequently, mean rank scores were calculated. Furthermore, ‘public libraries’ (Figure 9) in the researcher role were also reported more important by the ‘over 20 years’ category (N = 38, mean rank = 79.26) than the ‘0–5 years’ category (N = 37, mean rank = 48.55) (p = .002) (χ² = 13.444, df = 3). The age of the respondent did not account for these results. The average ages in the experience level categories, from highest to lowest, were 38.6 (sd = 13.3), 33.1 (sd = 14.1), 41.0 (sd = 12.9), and 52.6 (sd = 14.7) years.

![Boxplot depiction of Likert scores for ‘archives and museums’ in the researcher role between four levels of writing experience.](image-url)

Figure 8. Boxplot depiction of Likert scores for ‘archives and museums’ in the researcher role between four levels of writing experience.
A similar statistic between the two extreme groups was found with ‘first-hand accounts and people with specific experience’ in the researcher role, with the writers in the ‘over 20 years’ category responding with higher Likert-item scores (N = 38, Med = 5) than those in the ‘0–5 years’ category (N = 35, Med = 3) ($\chi^2 = 10.489$, df = 3, $p = .015$).

Median scores were calculated since the distributions of Likert scores (Figure 10) were assessed as similar. Members of the ‘0–5 years’ category tended to report ‘experts and scholars’ in the researcher role (Figure 11) a little less frequently than the rest of the community, with a statistically significant result ($\chi^2 = 9.973$, df = 3, $p = .015$) again found between this (N = 37, Med = 3) and the ‘over 20 years’ category (N = 38, Med = 4). In the scores for ‘my work or studies’ in the researcher role (Figure 12), those in the highest experience group reported more source use than the lowest experience group (N = 38, Med = 5 vs. N = 37, Med = 4) ($\chi^2 = 9.902$, df = 3, $p = .019$). This was a result likely affected by the higher average age in the highest experience level category: those with longer work and study history also benefited from them more.
Figure 10. Boxplot depiction of Likert scores for ‘first-hand accounts and people with experience’ in the researcher role between four levels of writing experience.

Figure 11. Boxplot depiction of Likert scores for ‘experts and scholars’ in the researcher role between four levels of writing experience.
Figure 12. Boxplot depiction of Likert scores for ‘my work or studies’ in the researcher role between four levels of writing experience.

‘Online encyclopedias and databases’ in the entrepreneur role (Figure 13) were more valued by the ‘6–10 years’ category than by the rest. The analysis yielded statistically significant results between the ‘6–10 years’ category (N = 21, mean rank = 97.19) and the other three categories: ‘0–5 years’ (N = 36, mean rank = 60.17) (p = .001), ‘11–20 years’ (N = 33, mean rank = 60.29) (p = .001), and ‘over 20 years’ (N = 38, mean rank = 54.20) (p < .0005) (χ² = 11.552, df = 3). A very similar result was found with ‘media-sharing services’ in the entrepreneur role (Figure 14) (χ² = 21.333, df = 3), where writers in the ‘6–10 years’ category (N = 21, mean rank = 97.19) exhibited greater enthusiasm than the rest of the groups: ‘0–5 years’ (N = 36, mean rank = 60.17) (p = .001), ‘11–20 years’ (N = 33, mean rank = 60.29) (p = .001), and ‘over 20 years’ (N = 38, mean rank = 60.29) (p < .0005). The ‘6-10 years’ category also assessed ‘news services’ in the entrepreneur role (Figure 15) higher (χ² = 11.037, df = 3), statistically significant results being this time between this (N = 20, Med = 3) and the ‘0–5 years’ category (N = 36, Med = 1.5) (p = .015), and the ‘over 20 years’ category (N = 38, Med = 2) (p = .016).
Figure 13. Boxplot depiction of Likert scores for ‘online encyclopedias and databases’ in the entrepreneur role between four levels of writing experience.

Figure 14. Boxplot depiction of Likert scores for ‘media-sharing services’ in the entrepreneur role between four levels of writing experience.
4.4.3 Gender

A Mann-Whitney U test showed that females (N = 63, mean rank = 70.88) were more likely to value ‘first-hand accounts and people with specific experience in the researcher role compared to males (N = 59, mean rank = 51.48) (U = 1267.500, z = -3.137, p = .002). Mean rank scores were calculated as the distributions of the scores for science fiction writers and fantasy writers (Figure 16) were not similar, as assessed by visual inspection. Similarly, a positive relationship was found between the female gender and the use of ‘social media’ in the artisan role (Figure 17) (N = 64, mean rank = 69.84 vs. N = 61, mean rank = 55.82) (U = 1514.000, z = -2.212, p = .027). Females (N = 63, mean rank = 67.02) also reported little higher scores for ‘writing courses’ in the artisan role (Figure 18) compared to males (N = 56, mean rank = 52.11) (U = 1322.000, z = -2.414, p = .016). Analysis showed a statistically significant association (U = 1281.500, z = -1.975, p = .048) with the importance of ‘conventions and writers’ associations’ in the artisan role (Figure 19) for females (N = 60, mean rank = 63.14 vs. N = 54, mean rank = 51.23).
Figure 16. Distribution of Likert scores for ‘first-hand accounts and people with specific experience’ in the researcher role between males and females.

Figure 17. Distribution of Likert scores for ‘social media’ in the artisan role between males and females.
Figure 18. Distribution of Likert scores for ‘writing courses’ in the artisan role between males and females.

Figure 19. Distribution of Likert scores for ‘conventions and writers’ associations’ in the artisan role between males and females.

For ‘discussion forums’ in the entrepreneur role (Figure 20), a small association was again found for females (N = 64, Med = 5 vs N = 60, Med = 4) ($U = 1401.500, z = -2.844, p = .004$), and likewise for ‘conventions and writers’ associations’ in the entrepreneur role (Figure 21) (N = 59, Med = 4 vs. N = 55, Med = 3) ($U = 1229.500, z = -2.304, p = .021$). Median scores were calculated for these two sources. The use of
‘writing guides’ in the entrepreneur role (Figure 22) tended to also slightly correlate with the female gender (N = 61, Med = 4 vs. N = 59, Med = 3) (U = 1428.500, z = -2.011, p = .044). For ‘first-hand accounts and people with specific experience’ in the entrepreneur role (Figure 23), the data analysis yielded a little higher scores among females (N = 64, Med = 5) compared to males (N = 60, Med = 4) (U = 1364.000, z = -2.978, p = .003). However, regarding ‘family members, friends and relatives’ in the entrepreneur role (Figure 24), males (N = 60, Med = 3) demonstrated a little higher average Likert-item score than females (N = 64, Med = 2) (U = 1525.000, z = -2.042, p = .041).

Figure 20. Distribution of Likert scores for ‘discussion forums’ in the entrepreneur role between males and females.
Figure 21. Distribution of Likert scores for ‘conventions and writers’ associations’ in the entrepreneur role between males and females.

Figure 22. Distribution of Likert scores for ‘writing guides’ in the entrepreneur role between males and females.
Figure 23. Distribution of Likert scores for ‘first-hand accounts and people with specific experience’ in the entrepreneur role between males and females.

Figure 24. Distribution of Likert scores for ‘family members, friends and relatives’ in the entrepreneur role between males and females.
4.4.4 Writer attainment

The exploratory variable of writer attainment predicted opinions about the importance of a number of information sources and channels. The largest difference was found in the comparison of ‘my work or studies’ in all three writer work roles, with attained writers, or those who had earned money from writing, reporting considerably higher average scores than those who had not. In the researcher role, the mean rank of the former group was 71.50 (N = 90) and the mean rank of the latter group was 47.92 (N = 38) \( (U = 1080.000, z = -3.537, p < .0005) \). The distributions of the scores (Figure 25) were not similar, as assessed by visual inspection. In the artisan role, median scores were calculated, as the distributions of the score were assessed to be similar (Figure 26), with the values being Med = 5 (N = 90) vs. Med = 4 (N = 39) \( (U = 1172.000, z = -3.190, p = .001) \). In the entrepreneur role, mean rank scores were chosen again due to the dissimilarity of the score distributions (Figure 27). The values for them were 72.46 (N = 91) vs. 44.93 (N = 37) \( (U = 959.500, z = -3.958, p < .0005) \). Finally, the analysis also revealed that ‘my life experiences’ in the entrepreneur role attracted higher average scores in the attained group (N = 91, mean rank = 71.34 vs. N = 37, mean rank = 47.69) \( (U = 1061.500, z = -3.423, p = .001) \). The distributions are seen in Figure 28.

\[ \text{Figure 25. Distribution of Likert scores for ‘my work or studies’ in the artisan role between writers who have and have not earned money from writing.} \]
Figure 26. Distribution of Likert scores for ‘my work or studies’ in the researcher role between writers who have and have not earned money from writing.

Figure 27. Distribution of Likert scores for ‘my work or studies’ in the entrepreneur role between writers who have and have not earned money from writing.
Figure 28. Distribution of Likert scores for ‘my life experiences’ in the entrepreneur role between writers who have and have not earned money from writing.

The results of a Mann-Whitney U test showed an association between writer attainment and the rating of ‘bookstores’ in the researcher role (Figure 29). Those who had earned money from writing (N = 91, mean rank = 70.10) reported statistically higher (U = 1355.500, z = -2.197, p = .028) scores than those who had not (N = 39, mean rank = 54.76). A small association was found for ‘your personal library’ in the researcher role (Figure 30) and writer attainment (N = 91, mean rank = 69.25 vs. N = 38, mean rank = 54.82) (U = 1342.000, z = -2.146, p = .03). Regarding the importance of ‘news services’ in the researcher role (Figure 31), the data analysis likewise exposed a small association with writer attainment (N = 90, Med = 3 vs. N = 39, Med = 2) (U = 1360.500, z = -2.087, p = .037). In terms of ‘newspapers and periodicals’ in the researcher role (Figure 32), the results indicate that those who had earned money from writing (N = 91, mean rank = 70.90) reported higher Likert-item scores than those who had not (N = 38, mean rank = 50.88) (U = 1192.500, z = -2.845, p = .004). The same group also favoured ‘music’ in the researcher role (Figure 33) slightly more (N = 91, mean rank = 76.29 vs. N = 38, mean rank = 60.29) (U = 1300.000, z = -2.266, p = .023). Those in the attained group also reported more use of ‘writer friends and writing groups’ (Figure 34) in the artisan role (N = 91, Med = 5 vs. N = 37, Med = 4) (U = 1213.000, z = -2.676, p = .007).
Figure 29. Distribution of Likert scores for ‘bookstores’ in the researcher role between writers who have and have not earned money from writing.

Figure 30. Distribution of Likert scores for ‘your personal library’ in the researcher role between writers who have and have not earned money from writing.
Figure 31. Distribution of Likert scores for ‘news services’ in the researcher role between writers who have and have not earned money from writing.

Figure 32. Distribution of Likert scores for ‘newspapers and periodicals’ in the researcher role between writers who have and have not earned money from writing.
Writer attainment also prompted statistically significant differences in the rating of source characteristics, a unique quality among the analyzed variables. Data analysis demonstrated a small influence from writer attainment on the rating of ‘familiarity’ as a source characteristic (Figure 35). Those who had not earned money from writing (N = 39, Med = 4) supplied higher median scores than those who had (N = 90, Med = 3) \(U = \)
1361.000, $z = -2.091, p = .037$). Also, ‘accessibility’ (Figure 36) was valued higher by those who had not earned money from writing, with mean rank scores being 76.18 (N = 39) vs. 60.92 (N = 91) ($U = 1358.000, z = -2.200, p = .028$). The same correlation, albeit very slight, appeared with ‘timeliness’ (Figure 37), where the median score for those who had not earned money from writing was 5 (N = 39) compared to the score of 4 of those who had (N = 91) ($U = 1422.600, z = -2.011, p = .044$).

**Figure 35.** Distribution of Likert scores for the ‘familiarity’ characteristic between writers who have and have not earned money from writing.

**Figure 36.** Distribution of Likert scores for the ‘accessibility’ characteristic between writers who have and have not earned money from writing.
Figure 37. Distribution of Likert scores for the ‘timeliness’ characteristic between writers who have and have not earned money from writing.

4.5 Information barriers

Qualitative content analysis was used in analyzing the responses to the question “Has something ever kept you from using an information source or obtaining information?”. The categories and subcategories of information barriers presented by Wilson (1997, 568–569) (see page 22) were used as the analyzing frame. The written-in responses, labeled as ‘original expressions’ in Table 10 detailing the analysis process, were abridged (labeled as ‘reduced expressions’) and grouped into categories and subcategories.

A total of 80 respondents supplied valid answers, mentioning at least one information barrier, for a total of 146 individual cases of information barriers. A single answer could list information barriers from all three categories or it could include only one. Answers detailing different aspects of a barrier, for example, a lack of funds to both make purchases and to travel abroad, were treated as a single response for money as a barrier. Furthermore, when an answer only stated money as a barrier, it overrode other barriers that might or might not have also played a part. For example, a mention of paywalls with scholarly sources was categorized as an environmental (money-related) variable, while mentioning a source being inaccessible due to the writer not being enrolled in a
university was categorized as a source characteristic (inaccessibility). It was naturally possible that an answer could mention both.

Table 10. Categories of content analysis with examples of original expressions for each information barrier category.

<table>
<thead>
<tr>
<th>Original expression</th>
<th>Reduced expression</th>
<th>Category</th>
<th>Main category</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Don't want to pollute my brain.”</td>
<td>Fear of influence</td>
<td>Personal characteristics</td>
<td>Information barriers</td>
</tr>
<tr>
<td>“Lack of technical background to understand sources keeps me from using a lot of cutting-edge scientific and medical research.”</td>
<td>Lack of knowledge</td>
<td>Personal characteristics</td>
<td></td>
</tr>
<tr>
<td>“Not being an adult.”</td>
<td>Being underage</td>
<td>Personal characteristics</td>
<td></td>
</tr>
<tr>
<td>“Lack of access to experts”</td>
<td>Lack of contacts</td>
<td>Social/interpersonal variables</td>
<td></td>
</tr>
<tr>
<td>“Paywalls on scholarly articles are a constant source of irritation. Trying to write a story from an abstract is not helpful.”</td>
<td>Money-related</td>
<td>Environmental variables</td>
<td></td>
</tr>
<tr>
<td>“I won't use an information source if its reliability is questionable, that is, if I have reason to believe it isn't accurate.”</td>
<td>Reliability</td>
<td>Source characteristic</td>
<td></td>
</tr>
<tr>
<td>“Some online databases require specialized access, such as current university affiliation, or charge significant fees to access data.”</td>
<td>Accessibility, money-related</td>
<td>Source characteristics</td>
<td>Environmental variables</td>
</tr>
<tr>
<td>“Cons are intimidating, as I'd be going alone and am rather shy. Plus they take time, money, and a willingness to travel and leave my husband to care for the animals for a few days.”</td>
<td>Introversion, time-related, money-related, location-related</td>
<td>Personal characteristics</td>
<td>Environmental variables</td>
</tr>
</tbody>
</table>
The most popular information barrier category was environmental variables with 56.2 percent (82/146) of the responses. The second most popular category was source characteristics with a little over one quarter (39/146) of responses. Personal characteristics totaled 14.4 percent (21/146) of the responses and social/interpersonal variables had 2.7 percent (4/146) share. Figure 38 shows the distribution of the barrier categories.

![Figure 38. Distribution of information barriers according to barrier categories.](image)

Out of the environmental variables, those relating to money had a 57.3 percent (47/82), those related to time 29.3 percent (24/82), and those relating to location 11 percent (9/82). The final two answers (2.4 percent) mentioned a general poor return of investment. These results are shown in Figure 39. Example responses containing barriers in this category were the following:

- *I learn a lot about creating and maintaining characters through live theater, but I can't afford to go as often as I would like.*
- *Lack of time and money play a great part in finding answers to complex astrophysics questions.*
- *Online resources that are not free*
- *Sometimes I would have liked to travel to a location or spend more time at a location but haven't been able to for financial reasons. I'm also sometimes hesitant to ask experts in a field for information directly out of shyness.*
Time, money and location as well as restricted access and language barrier. If I had unlimited time and money there are several information sets that I expect I could find in Spain, and Italy, and also in the Vatican Library. I know the information exists because I see it quoted in other sources, but I can't get to the originals, and if I could, I'd still need help with translation.

no English language libraries in Japan.

In pre-Internet days, I was limited to whatever information was available at the local library. What is more, geographical barriers due to living in Germany make it difficult for me to access many SFF conventions and big name workshops like Clarion.

General poor return on investment (sometimes finding the perfect answer just isn't worth all the resources it would take)

Figure 39. Distribution of information barriers in the ‘environmental variables’ category.

The source characteristic category included 38.5 percent (15/39) responses mentioning ‘foreign language’ as a barrier, 35.9 percent (14/39) mentioned ‘inaccessibility’, 15.4 percent (6/39) ‘untrustworthiness’, 5.1 percent (2/39) ‘poor quality’, and a single mention (2.6 percent) for both ‘poor timeliness’ and ‘internet insecurity’. These results are shown in Figure 40. Example responses containing barriers in this category were the following:

Language barriers. There are plenty of texts in Russian or Chinese that haven't been translated into English. For example, I wanted to read a book that discussed Chinese social politics (and particularly, the roles, behaviors, and expectations of servants and the common people) in the Ming dynasty, but it hadn't been translated into English.
Language barrier (very frustrating when I know the information is there but I can’t read it), not enough time (36 hour days would be nice), internet down
I often get blocked from medical journals because I don’t have the same access as doctors or people studying at a university would have
National Security classification
China’s internet blocks
Source was not online
I am no longer able to use WorldCat or Jstor because I am not enrolled in a University that pays for those services.
Sometimes the source turns out to be bunk/bogus. Sometimes it doesn't fit what I'm writing well enough to include. Time, money, and language have never been a factor for me
Lack of money for courses, lack of respect for the sources.

Figure 40. Distribution of information barriers in the ‘source characteristics’ category.

Personal characteristics (Figure 41) drew responses in all three subcategories. Emotional variables totaled 57.1 percent (12/21) of the responses and included ‘introversion’ (7), with the subcategories of ‘fear of influence’ (3), ‘realizing one’s own limitations’ (1), and ‘insecurity’ (1). Educational variables had a share of 38.1 percent (8/21) of the total responses, with ‘lack of knowledge’ (6) and ‘inexperience’ (2) subcategories. Demographic variables drew a single response, ‘being underage’, with a share of 4.8 percent. Example responses containing barriers in this category were the following:

I struggle to talk to people I don't know, so it's hard to just reach out to experts via letter or whatever. I've never done that, though people tell me I should.
I have always wanted to read certain literature in their native tongues (everything from Tolstoy to the Communist Manifesto to Mein Kampf).

Shyness--more outgoing writer's often meet/engage with more experienced professionals
don't like to ask people to spend their time helping me

Not wanting to steal from other writers or infringe copyright
Lack of time, and a lack of understanding of scientific language

Figure 41. Distribution of information barriers in the ‘personal characteristics’ category

Finally, social/interpersonal variables (Figure 42) included 4 answers, all mentioning ‘lack of contacts’ as an information barrier. Example responses containing barriers in this category were the following:

not knowing who to contact at an academic institution

I didn't think of academic sources in the previous part of the survey. Here, access to things like us jstore is ridiculously expensive. I would definitely use more academic sources if the money wasn't an issue. And I would question academics if I felt I had clout and wouldn't be wasting their time.
Figure 42. Distribution of information barriers in the ‘social/interpersonal variables’ category.
5 DISCUSSION

The statistical analyses in this study revealed, with the caveats due to the research limitations, that the information source labeled as ‘search engines and online indexes’ are the most used source by SF&F writers when looking at all aspects of the craft: researching writing materials, getting information on writing techniques, and learning about career-related matters. The responses also attest to the prevalence of interpersonal sources such as writer friends, experts and discussion forums. This was on line with Russell’s (1995, 12) finding that most of her writer interviewees had interviewed people or experts for their work. It is also noteworthy that ‘the self’ as an information source (see Brown 1991, 11) is heavily used, as given evidence by the importance of one’s life experiences, work and studies. This is similar to how Cowan (2004, 17–18) described one of the primary sources central to her painter interviewee’s work as ‘self-inquiry’.

The dispersed responses to writing courses, conventions, writers’ associations, and literary agents and editors suggest that SF&F writers have an uneven access to these particular sources. This seems only natural, given the requirements for getting an agent or editor, and the possible environmental barriers associated with taking a writing course or attending a convention. The significance of the traditional information organizations of public, academic and specialty libraries, museums and archives for the SF&F writer population only ranged from uncertain (the researcher role) to almost non-existent (the artisan and entrepreneur work roles). Russell similarly found that her seven writer interviewees were irregular library and archive users (1995, 11). Reference librarians were clearly not used by the study group in any of the work roles.

When SF&F writers search for things to write about, i.e., when they research worldbuilding, place and characters, story themes and motifs, among others, the absolute most important sources are search engines and online indexes, online encyclopedias and databases such as Wikipedia, and one’s life experiences. Writer’s work or studies, experts and interpersonal writer connections are also commonly used in the researcher role. The same holds for both fiction and non-fiction, and for experiencing the nature and environment.

When SF&F writers seek information on how to put words onto a page, including topics such as plot structure, viewpoint, adding conflict to the story, grammar and spelling, and when they look for inspiration, a very wide range of sources were shown equal
enthusiasm, albeit not on the level of the three top sources of the researcher role. They included physical or online bookstores and the one’s personal library, indicating that the behaviour of buying information sources might be relevant especially in the artisan role. A similar result was found by Russell (1995, 15–16), whose interviewees’ private collections most often consisted of general reference tools such dictionaries, common for technique-related information seeking. Search engines, online databases and encyclopedias, interpersonal sources and the writer’s life and work were again widely used, along with writing courses, fiction, and printed or online writing guides. It was surprising that the inspiration aspect mentioned in the survey question for the artisan role prompted only very low scores for both music and the artistic or entertaining visual art forms. Moreover, experiencing the nature and environment was a divisive method of seeking information in the artisan role.

When SF&F writers seek information on career-related matters such as the business of writing, the publishing and self-publishing world, time management, marketing, networking and current trends, information seeking was shown to be markedly more interpersonal in nature than in the other two work roles. In the entrepreneur role, fellow writers contacted either physically or online are the primary information sources, along with search engines and online indexes. Writing guides were, unsurprisingly, also high in the rankings. What was surprising was the inclusion the likes of experts, scholars and first-hand accounts in the group of widely used sources in the entrepreneur role. This could be attributed to respondents interpreting the wording in ‘people with experience’ and ‘experts’ to mean ‘colleagues’ or ‘writing industry professionals’. A similar result with writer’s life experiences and work or studies in this role – and in the previous two – was, on the other hand, a clear indication that ‘the self’ as an information source is pervasive in the information-seeking behaviour of SF&F writers, meeting even career-related information needs. Public, academy and specialty libraries were of extremely low significance sources in the entrepreneur role: it is suspected that the rapid obsolescence rate of career-related information lead writers use the internet and interpersonal sources rather than any information organizations for these matters. The annually published Writer’s Market guidebook, while not been rendered completely obsolete, has at the very least been given stiff competition by market listing websites.

Statistical analyses in this study revealed that the information source characteristic regarded by SF&F writers as the most important is, without doubt, trustworthiness.
Quality and familiarity are also regarded important, while accessibility and cost both enjoy better-than-neutral importance. SF&F writers do not show particular attachment towards the print media. This runs against some studies about visual artists (e.g., Mason & Robinson 2011, 161–162; Medaille 2010, 339; Beaudoin 2011, 28–29). Perhaps the easy organizability, browsability and the tactile feel have become antiquated arguments in favour of the print medium, or perhaps writers simply do not value them so highly. There was considerable ambiguity as to where the timeliness characteristic was ranked, with placements in the two extremes of the rankings in the two survey questions about source characteristics. It is possible that the wording in ‘Has a short waiting time’ rendered the ranking question invalid, as respondents might have envisioned sources such as the reference librarian here. If this was the case, the timeliness characteristic places next to trustworthiness.

Some tentative observations may be made from the comparison of responses according to the three writing-related variables and gender. Science fiction writers are considerably more frequent users of news services online in the researcher role than fantasy writers. Science fiction, being a genre “based on imagined future scientific or technological advances and major social or environmental changes” (Soanes & Stevenson 2006, ‘science fiction’), likely contains writers who might have more to gain in following news about such things, at least online. In comparison, fantasy writers put slightly more importance to two information sources in the researcher role: visual art such as painting, photography and sculpture, and people with first-hand or specific experience. In the entrepreneur role, fantasy writers put slightly more value in writing guides and media-sharing services. The comparison of the responses between scifi and fantasy writers – and between the other groups – is tentative due to research limitations.

Breakdown by level of experience revealed some interesting trends. The higher the experience level of the writer the more importance he or she tends to give to public libraries, archives and museums in the researcher role. A similar trend was found with first-hand accounts and people with specific experience, also in the researcher role. Analysis showed that the age of the respondent did not account for these results. It may be that the use of these sources is a mark of more advanced-level, nuanced writing themes and motifs that would benefit from large physical information collections and from people’s experiences. Writers in the lowest experience level category, ‘0–5 years’, tend to give a little less importance to experts and scholars in the researcher role than
the rest. It is possible that beginner writers commonly feel that they do not have enough professional weight to approach these people. Conversely, those in the highest experience level category, ‘over 20 years’, tend to give a little more importance to the writer’s own work or studies in the researcher role. This was a result likely affected by the higher average age in the highest experience level category: those with longer work and education history also benefit more from them. Curiously, those in the ‘6–10 years’ category give more value to the following three information sources in the entrepreneur role: online encyclopedias and databases, media-sharing services, and online news services. It is possible that when the writer has accumulated around 6–10 years of writing experience, he or she enters a period when his or her information needs are more career-related, perhaps investigating into who the publishers are and what the state of the publishing business currently is, and perhaps watching related Youtube videos.

Some themes arose from the results of the comparison between the male and female genders. Female SF&F writers tend to give more value to first-hand accounts and people with specific experience in the researcher role compared to males. Similarly, female gender is a positive predictor of a higher use of social media, writing courses, and writer conventions and associations in the artisan role. In the entrepreneur role, females see discussion forums, writer conventions and associations, writing guides, and first-hand accounts and people with specific experience a little more important. The general conclusion is that female writers tend to be more enthusiastic users of other people’s experiences in writing, and of writing services such as courses, conventions and online communities for researching writing technique and career-related matters. However, regarding family members, friends and relatives in the entrepreneur role, males demonstrate a little more frequent usage than females.

The exploratory variable of writer attainment predicted opinions about the importance of a number of information sources and channels. The largest difference was found in the comparison of the writer’s work or studies in all three writer work roles, with attained writers, or those who had earned money from writing, reporting considerably higher average scores than those who had not. Furthermore, life experiences in the entrepreneur role were valued more by the attained writers. It is enticing to think that writers who are able to incorporate their work or school life into their writing are more likely to earn money from it. However, a more probable explanation could lie in the possibility that those who had earned money from writing often regard writing itself as
‘their work’ and thus saw this question as one about how writing experience helps them in their craft.

There was also an association between writer attainment and a little bit higher importance rating of bookstores and one’s personal library in the researcher role. This indicates that buying behaviour is stronger with those who have received monetary benefits from writing. This is a self-feeding cycle, as the investments in information sources are likely to pay themselves back. Regarding the importance of online news services, newspapers and periodicals, and music in the researcher role, the data analysis likewise exposed a small positive association with writer attainment. The attained writer group also favoured writer friends and writing groups in the entrepreneur role slightly more. Finally, writer attainment prompted statistically significant differences in the rating of source characteristics, a unique quality among the four analyzed variables. The study showed that accessibility, familiarity and timeliness characteristics are valued slightly higher by those who have not earned money from writing. This hints at the possibility that getting money from writing is correlated with the writer having a little higher tolerance on poor accessibility and timeliness of sources, and him or her holding little less preference in already familiar sources. However, even if this result is true, this correlative relationship does not equate to a causative one: tolerance on the shortcomings of sources does not necessarily lead to writer attainment. Furthermore, writer attainment as seen in this study should not be regarded as a synonym for ‘writer success’, since, presumably, not all SF&F writers write for the money.

The clear majority of information barriers SF&F writers experience are environmental barriers, with over a half of barriers supplied by the respondents falling into this category. Out of the environmental barrier responses, three clear subcategories could be discerned: the barriers related to money, the barriers related to time, and the barriers related to writer’s location, descending in order of prevalence. The source characteristics category totaled over a third of the responses, with foreign language, inaccessibility and untrustworthiness as the most common responses. Personal characteristics drew a little under a sixth of the responses, and about two thirds of them were emotional variables such as introversion, one third educational variables such as a lack of knowledge, and a single response a demographic variable, ‘being underage’. Social/interpersonal variables had a five percent share with four responses, all mentioning lack of contacts as an information barrier. Medaille’s theatre professional
Interviewees said that the major information barriers were time pressure and the research conducted before production being unpaid (Medaille 2010, 335–336). In comparison, SF&F writers also identified a lack of time as an important barrier, but for them the money-related barriers were more about the cost of buying and accessing sources, and of travelling abroad. Evidently, having one’s artistic production tied to a monthly salary affects how certain information barriers are experienced. It was also noteworthy that the SF&F writers of this study did not mention pressures existing on political or cultural representations, unlike Medaille’s informants (336). However, the self-reported nature of the data collection method of this study was not ideal to draw out such responses. Qualitative methods such as the in-depth interview would shed more light on this and many other questions raised by this study.

Given that the generalizability of the findings may be limited due to differences between respondents and non-respondents, as detailed in chapter 3.1, it is important to note that the results are preliminary, and that these limitations should be addressed in future studies with more robust measures. The questionnaire instrument also had certain inadequacies further studies ought to address. The wording in the drag-and-drop ranking question, especially for the timeliness characteristic, could have been improved. The examples supplied for information barriers in the barrier question presented a source of uncertainty for the results, as mentioning money and time might have had an influence on them ending up being often-reported barriers.

Some information sources were not formulated precisely, leaving ambiguities into the ones such as ‘experts and scholars’ and ‘first-hand experience and people with specific experience’, as seen in the results of these sources in the entrepreneur role. It would have also been prudent to list information sources like archives and museums separately, to give more specific categorization to the various writing resource and market sites, and to add in more distinguishing writer colleague sources such as ‘beta readers’ and ‘critique groups’. In response to the possible missing sources question at the end of each work role, many respondents supplied further aspects of ‘the self’ as an information source such as ‘dreams’, ‘meditation’ and ‘solitude’. ‘Book cafés’, ‘live theatre’, ‘role-playing games’ and ‘making visual art’ were also clearly missing from the list of sources, as recognized by some respondents. However, the more exhaustive the questionnaire gets the more it causes survey fatigue, potentially skewing the results.
6 CONCLUSION

In sum, the findings suggest that, generally speaking, the information-seeking behaviour of SF&F writers is characterized by a heavy use of search engines, interpersonal sources and ‘the self’ as an information source. In the researcher role, additional importance is given to online encyclopedias and databases, to fiction and non-fiction, and to the nature and environment. Information-seeking in the artisan role is associated with no clear favourite sources, albeit buying behaviour might be higher. Information seeking in the entrepreneur role was shown to be more interpersonal in nature than in the other two roles. The most important source characteristic for SF&F writers is trustworthiness. Scifi writers are more frequent users of online news services than fantasy writers in the researcher role. Accumulating writing experience is associated with more frequent use of public libraries, archives and museums. Starting writers tend to use scholars and experts less. Those with six to ten years of experience may have entered a period in their writing lives when career-related information seeking from online databases, media-sharing services and online news services is higher. Female writers tend to be more enthusiastic users of other people’s experiences in the researcher role, and of various channels of learning to write in the artisan and entrepreneur roles. Acquiring money from writing is slightly correlated with the writer having a little higher tolerance on poor accessibility and timeliness of sources, and holding a little less preference in already familiar sources. The majority of information barriers experienced by SF&F writers are environmental barriers, especially money-related ones.

This study showed that although internet research is ubiquitous, there are patterns of behaviour among SF&F writers – such as the popularity of ‘the self’ as an information source and the interpersonal nature of career-related information seeking – that, when researched further, enable a more holistic view on the general human information seeking. Further research into many of the tentative results of this study, such as the usefulness of the nature and environment in researching writing material, and the usefulness of online news services in science fiction, have the potential of improving the understanding of the inner workings of SF&F writing. Gillet (1996, 3) has argued that a vast number of SF&F story seeds lie in the special cases that can be hard to pull out of standard references. Thus, the question of where writers seek information should never be dismissed with a simple mention of Google.
Understanding the different preferences in creative writers’ information seeking in the three work roles will make creating more effective and targeted information products and services possible. This is especially true for public libraries, regarded important only by a minority of SF&F writers of this study. The academic libraries serving student patrons in the growing number of higher education creative writing programs can also make use of the results of this and future studies in the development of library collections and web resources.

This study adds to the literature of professional information seeking by presenting for the first time survey data from a large sample of creative writers. The model of information seeking of professionals by Leckie, Pettigrew & Sylvain (1996) proved to be a useful theoretical framework for studying SF&F writers, demonstrated by the emergence of distinct behavioural patterns for each of the presented work roles, and by the effect of occupational and demographic variables to source use. The validity of the work role taxonomy was also given support by the results. However, creative writing is presumably a highly idiosyncratic activity that has aspects which do not perfectly fit into the more linear theoretical models of information behaviour like the one in this study. Ultimately, a deeper understanding of not just where but also of how and to what end writers seek information is vital to fully grasp the information-seeking behavior of creative writers.

Future studies employing the questionnaire method with Likert items ought to also opt for creating true, multi-item Likert scales by summing up the responses for several information sources in relevant ‘source families’ such as the different kinds of libraries, interpersonal sources and aspects of ‘the self’ as a source. This would allow the calculation of mean and standard deviation values and potentially the use of parametric – and more powerful – statistical tests. To further facilitate this, the future researchers using survey-making software are also advised to employ slider scale questions (e.g., the 0–100 scale) rather than five-point Likert-scale questions to assess respondents’ opinion on sources and statements.

Finally, although not analyzed in this study, many of the open-ended questions in the questionnaire attracted long and articulate answers from a great number of writers. This demonstrates that creative writers could be an especially receptive group to qualitative research method designs enabling the collection of participants’ own thoughts on their
information-seeking processes, especially on the use of ‘the self’ as an information source, as identified by this study. Although the wide coverage of this quantitative survey was a big step forward in providing information on how SF&F writers seek information, for information-seeking research to truly get a broad understanding of this topic, qualitative methods such as the in-depth interview, as employed by Cowan (2004) for visual artists, might be particularly advantageous. In the end, they would also be beneficial to future quantitative approaches for choosing the right questions.
SOURCES

Alkula, Tapani; Pöntinen, Seppo & Ylöstalo, Pekka (1994). *Sosiaalitutkimuksen kvantitatiiviset menetelmät*. Helsinki: WSOY. [In Finnish]


Science Fiction & Fantasy Writers of America (n.d.). Who We Are. Available at http://www.sfwa.org/about/who-we-are/ (retrieved December 2nd 2016).


Toyne, Derek (1975). Requests at Falmouth School of Art. ARLIS Newsletter, 24, 7–9.


APPENDIX 1: Online questionnaire

The information-seeking behavior of science fiction and fantasy writers

Background information

Writing genre: *
○ only scifi
○ mostly scifi
○ both scifi and fantasy equally
○ mostly fantasy
○ only fantasy

Writing experience: *
○ 0-1 years
○ 2-5 years
○ 6-10 years
○ 11-20 years
○ over 20 years

Gender:
○ male
○ female
○ prefer not to say

Age: *

Occupation: *

Country of residence: *

Afghanistan

Highest completed level of education: *
○ less than high school / vocational school
○ high school / vocational school graduate
○ some college
○ undergraduate degree
○ postgraduate degree

Have you ever earned money from creative writing? *
Earnings include any professional sales, government/non-government funding, or writing prizes (greater than $500).

○ yes
○ no

Where would you place yourself between these two statements regarding writing a work of fiction?

What is your approach to writing?

1 2 3 4 5 6 7

It’s generally better to seek too much than too little information

It’s generally better to use spontaneous creativity whenever possible.

Please list up to ten information sources that you have used while doing research for any aspect of your writing or writing life. *
These can be anything from libraries to listening to music or looking at nature. You can also list individual websites that you find useful.

If you can, please list up to ten information sources that other science fiction or fantasy writers are likely to use but you have not.

Has something ever kept you from using an information source or obtaining information? If so, please specify.

These may include, for example, a lack of money, time or other resources, language or cultural barriers, or past inexperience as a writer.

If you can, please describe a memorable incident where obtaining a particular piece of information moved your writing project forward in a significant way.

What the piece of information was and how did you find it?

Information sources (Category 1: Writing material)
How important do you see the following information sources and channels for finding things to write about? This category includes information about worldbuilding, place and character descriptions, building magic systems, creating themes and motifs, writing about minorities and different cultures, and making references to real life and other works, among others. Accidentally finding something that inspires you in your project also falls into this category.

1 = not at all important  
2 = not that important  
3 = neither important nor unimportant  
4 = important  
5 = very important

Information organizations: *

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Information sources (Category 2: Writing techniques)

How important do you see the following information sources and channels for getting information on how to write polished text? This category includes information about plot structure, creating conflict, effective dialogue, viewpoint, word use, grammar and spelling, pacing, and word economy, among others. Finding the right creative mood with the help of background music, taking a walk, etc. also falls into this category.

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4 = important  
5 = very important

Information organizations: *

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</tr>
<tr>
<td>Media-sharing services (Youtube, Pinterest, Instagram, etc.)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>News services (NBC News Digital, Huffington Post, Ars Technica, etc.)</td>
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<td></td>
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<tr>
<td>Discussion forums</td>
<td></td>
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</tr>
<tr>
<td>Social media (blogs, social networking services, podcasts, etc.)</td>
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</tbody>
</table>

**Writing-related sources and channels:** *

<table>
<thead>
<tr>
<th>Writer friends and writing groups</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conventions and writers' associations</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Writing guides (books, web resources, etc.)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fanzines</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>My literary agent or editor</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**Art, entertainment and educational works:** *

<table>
<thead>
<tr>
<th>Fiction (prose, poems, fan fiction, etc.)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-fiction (biographies, textbooks, encyclopedias, old diaries etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newspapers and periodicals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Movies, TV and video games</td>
<td></td>
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</tr>
<tr>
<td>Other visual art (paintings, photography, sculpture, etc.)</td>
<td></td>
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</tr>
<tr>
<td>Music</td>
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<tr>
<td>Radio</td>
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</table>

**Interpersonal channels (personal contacts):** *

<table>
<thead>
<tr>
<th>Family members, friends and relatives</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experts and scholars</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Information sources (Category 3: Career information)

How important do you see the following information sources and channels for getting information on career-related matters? This category includes information about the business of writing, publishing and self-publishing, marketing, current trends in science fiction and fantasy, finding the right audience, networking, and finding the right editor or agent, among others. Finding information on how to balance your writing and non-writing time also falls into this category.

1 = not at all important  
2 = not that important  
3 = neither important nor unimportant  
4 = important  
5 = very important

Information organizations: *

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>public libraries</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>academic and specialty libraries</td>
<td></td>
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<td></td>
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<tr>
<td>archives and museums</td>
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<td></td>
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<tr>
<td>bookstores (both physical and online)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>your personal library</td>
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Digital sources and channels: *

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>search engines and online indexes (Google, Web of Science etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>online encyclopedias and databases (Wikipedia, EBSCO, Google Maps, Merriam-Webster dictionary etc.)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>media-sharing services (Youtube, Pinterest, Instagram, etc.)</td>
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</tbody>
</table>
Writing-related sources and channels: *

<table>
<thead>
<tr>
<th>Source</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>writer friends and writing groups</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>writing courses</td>
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<tr>
<td>writing guides (books, web resources, etc.)</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>fanzines</td>
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</table>

Art, entertainment and educative works: *

<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>fiction (prose, poems, fan fiction, etc.)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>non-fiction (biographies, textbooks, encyclopedias, old diaries etc.)</td>
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<td></td>
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<tr>
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<tr>
<td>movies, TV and video games</td>
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<tr>
<td>other visual art (paintings, photography, sculpture, etc.)</td>
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<tr>
<td>music</td>
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<td>radio</td>
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</table>

Interpersonal channels (personal contacts): *

<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>family members, friends and relatives</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>experts and scholars</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>first-hand accounts and people with specific experience</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>reference librarians</td>
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</tbody>
</table>

Other: *

<table>
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<tr>
<th>Source</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>my work or studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>my life experiences</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nature, environment, people-watching</td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Something else not listed? (please specify)
You can also write comments here.
**Statements**

How well do the following statements apply to you?

1 = not at all  
2 = not very well  
3 = somewhat well  
4 = well  
5 = very well

Please note that the 1-5 scale is worded differently here!

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>The information must come from a trustworthy source.</td>
<td></td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I prefer the print format over the electric format.</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I require information with a high level of detail and quality of presentation.</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>Access to information must require as few resources as possible (money, time to learn).</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I prefer using information sources that are familiar to me.</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I prefer sources that are easy to use and are in close proximity to me.</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>I want access to the information I need as quickly as possible.</td>
<td></td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
</tbody>
</table>

**Final task:** Please put the following characteristics of information sources from most (1st) to least (6th) important.

1st: Has been useful to me before  
2nd: Is reliable  
3rd: Has a short waiting time
Feedback about the survey?
APPENDIX 2: Country of residence distribution

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>USA</td>
<td>79</td>
<td>60.8</td>
</tr>
<tr>
<td>Canada</td>
<td>12</td>
<td>9.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>10</td>
<td>7.7</td>
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<tr>
<td>Australia</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>3</td>
<td>2.3</td>
</tr>
<tr>
<td>China</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Ireland</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Sweden</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Austria</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Czech Republic</td>
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<td>0.8</td>
</tr>
<tr>
<td>Finland</td>
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<td>0.8</td>
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<tr>
<td>France</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Georgia</td>
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<td>0.8</td>
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<tr>
<td>Germany</td>
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<td>0.8</td>
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<tr>
<td>Macedonia</td>
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<td>0.8</td>
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<tr>
<td>Malaysia</td>
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<td>0.8</td>
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<tr>
<td>Norway</td>
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<td>0.8</td>
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<tr>
<td>South Africa</td>
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<td>0.8</td>
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<tr>
<td>Spain</td>
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<td>0.8</td>
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<tr>
<td>Switzerland</td>
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<td>0.8</td>
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<tr>
<td>Thailand</td>
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<tr>
<td><strong>Total</strong></td>
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<td>100.3</td>
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