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An Empirical Investigation Of The Concept Of “Pornography”

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A thesis submitted in partial fulfillment of the requirements for the Doctor of Philosophy degree in Psychology

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AN EMPIRICAL INVESTIGATION OF THE CONCEPT OF PORNOGRAPHY

(Thesis format: Integrated Article)

by

Taylor Kohut

Graduate Program in Psychology

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctorate of Philosophy

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Abstract

“Pornography” as a concept remains unclear. The lack of consensus about the meaning of pornography is particularly problematic for empirical enterprises where inconsistent conceptualizations of pornography undermine the reliability and validity of research findings, impede the integration of knowledge across studies, and contribute to the miscommunication of research findings to the general public. With this in mind, the goal of this dissertation was to explore the concept of pornography, particularly as it was understood by lay individuals, with the hope of uncovering insights that would strengthen research practices in this field. To this end, seven studies were conducted using both qualitative and quantitative methods to explore the meaning and use of pornography as a construct. This research found that while 14 different conceptual elements were used to define pornography among academics, open-ended responses provided by lay persons tended to describe pornography as the depiction of sexual content, particularly sexual behaviour and nudity. Further, closed-ended quantitative measures confirmed the importance of sexual behaviour and nudity for understanding pornography, and also indicated the importance of the sexually arousing properties of such materials for lay persons. When decisions about the extent to which various images could be considered pornographic or not pornographic were examined, pornography judgments were found to be very reliable and did not differ by gender, experience with sexually explicit materials, or extent of erotophobia or right-wing authoritarianism. Finally, 26 unique content-based features of photographic images were found to account for 69-72% of the variance in pornography judgments made in response to sexual images. In sum, across studies, there was evidence of surprising consistency in the ways that lay undergraduate respondents understood and employed the concept of pornography. For most individuals studied, pornography was simply about the depiction of sexual behaviour and nudity, and empirical researchers in this area would do well to align their conceptual and operational definitions of pornography accordingly.

Keywords

pornography, sexually explicit materials, erotica, obscenity, definitions, concepts, typicality, prototypicality, family resemblance

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Chapter 1

1 Introduction

Despite a great deal of research attention concerning the antecedents and consequences of pornography use, pornography itself remains an elusive concept. The lack of clarity surrounding the meaning of this concept is impeding research in this field by hampering the integration of research findings, and undermining the reliability and potentially the validity of research in this area. The overarching goals of this work were to provide a systematic analysis of pornography as concept, with particular attention paid to the ways that lay persons understand and employ this construct. This chapter provides an overview of the seven studies that follow, which describe the ways that pornography is defined, similarities and differences in the ways that individuals decide what is pornography and what is not pornography, and the extent to which pornography judgments can be explained by reviewing the content of such materials.

1.1 The State of Research

[p]orn is more like making hate to women, and to keep this from getting old, you need to keep increasing the hate...the dehumanization and debasement of women (Admin, 2009, para. 16)

I'd like to make a great line of pornography that would inspire people to have more loving, satisfying, healthy sex which would in turn make the world a better place. (Sprinkle & Tyme, 2008)

Despite the dramatic increase in the availability of online sexual content over the last two decades, distinct segments of Western society remain deeply divided when it comes to the appropriateness of pornography's place in our culture. The entrenchment of polarized attitudes towards pornography can also be found in the writings of social scientists who have been studying pornography, its use, and the consequences of its use. There are those, for example, who have adopted radical feminist theories of pornography (e.g. Brownmiller, 1975; Dines, Jensen, & Russo, 1997), and conducted research that purports

to show that pornography use undermines romantic relationships (Bergner & Bridges, 2002; Bridges, Bergner, & Hesson-McInnis, 2003), increases negative attitudes towards women and acceptance of rape (Allen, Emmers, Gebhardt, & Giery, 1995; Hald, Malamuth, & Yuen, 2010; Malamuth, Addison, & Koss, 2001), and contributes to violence (Allen, D'Alessio, & Brezgel, 1995), especially against women (Donnerstein & Hallam, 1978). On the other hand, other researchers are justifiably critical of this view and the related research (e.g. Ferguson & Hartley, 2009; Fisher & Barak, 1991; Fisher & Grenier, 1994; Fisher, Kohut, Di Gioacchino, Fedoroff, 2013), and some have gone even further by espousing the position that pornography can enhance sexual functioning (e.g. Wilson, 1978; Striar & Barlik, 1999). Research in this tradition has found that pornography use is associated with more egalitarian attitudes towards women (Kohut, Baer, & Watts, 2014; Padgett, Brislin-Slütz, & Neal, 1989), with improved body image and sexual esteem (Morrison, Harriman, Morrison, Bearden, & Ellis, 2004; Vanwesenbeeck, 2001). Similar studies have also found that pornography can be employed clinically to provide sexual information (Robinson, Manthei, Scheltema, Rich, & Koznar, 1999), to treat sexual anxiety (Wincze & Caird, 1976; Wishnoff, 1978), and inorgasmia (McMullen & Rosen, 1979), and to initiate sexual techniques that are likely to result in more pleasurable sexual experiences (Kohut & Fisher, 2013). Clearly, research consensus concerning the primary effects of pornography use remains unaccomplished.

To compound the problems that come with ideological differences in the motivations to conduct such research, consensus regarding the effects of pornography use is further hampered by inconsistent ideas about the nature of pornographic materials. For example, some researchers believe that the term “pornography” should be limited to the explicit depictions of genitals or sexual acts (e.g. Hald and Malamuth, 2008), while others argue that the term should be used more broadly to include any nudity or even *simulated* sexual behavior (e.g. Zillmann, 2000). Furthermore, problems with the definition of pornography are by no means limited to the breadth or specificity of the construct, as other perspectives have introduced additional variations of the definition of pornography; examples include the depiction of violence, dehumanization, and degradation (Fisher & Barak, 1991; 2001), the capacity for materials to result in sexual arousal (Malamuth & Huppert, 2005), or offence (Byrne, Fisher, Lamberth, & Mitchell),

or the extent to which materials are produced or distributed for commercial reasons (Mosher, 1988). Although concerns about the lack of clear definitional characteristics of “pornography” as a class of materials, are not new (see for example Amoroso & Brown, 1973), few if any researchers today adopt the same conceptual or operational definitions of pornography in their work (Short, Black, Smith, Wetterneck, & Wells, 2012). Considering that researchers have failed to reach an agreement about what pornography is, it is not surprising that they cannot seem to agree about what pornography does.

1.2 The Meaning of “Pornography”

Within the literature that focuses on the antecedents and consequences of pornography use, it is not uncommon to find a token discussion of the meaning of pornography. These spaces are used to acknowledge and describe the difficulties in reaching satisfactory agreement concerning the meaning of pornography (e.g. Kuhn, Voges, Pope, & Bloxsome, 2007; Traeen, Nilson & Stigum, 2006), to decry such attempts as hopeless, as the concept is too idiosyncratic (e.g. Manning, 2006), or are employed to assert researchers’ own personal definitions (e.g. Fisher & Barak, 1991, 2001; Mosher, 1988; Short et al., 2012). Occasionally, researchers sidestep the issue entirely by adopting alternative language to refer to identical materials (e.g. “sexually explicit materials” in Goodson, McCormack, & Evans, 2001; or “visual sexual stimuli” in Ley, Prause, & Finn, 2014). Unfortunately, this practice only serves to fragment the field further, as literature searches fail to yield all relevant articles when esoteric synonyms are employed. Few if any academics that study pornography, its use, or its consequences, appear willing to question the common wisdom that pornography is a tricky concept to define.

From an empirical standpoint, divergent definitions of pornography should be cause for concern. Clearly, discrepancies in the operationalization of pornography for research purposes impede the integration of research findings across studies and restrict the generalizability of some research findings to particular studies. More worrying still is that the diversity of definitions of pornography found among experts suggests that some variability in the meaning of pornography should be expected in the lay definitions that are held by the people who are studied. If lay definitions of pornography are as diverse

as those held by “experts,” there are clear ramifications for the reliability and validity of many research findings in this area. As many researchers fail to articulate the meaning of this concept to their participants (Short et al., 2012), answers to relatively simple questions such as, “How often have you used pornography in the last 12 months?” become uninterpretable if lay people hold divergent ideas about what constitutes pornography.

At this point, very little is known about the meaning of pornography as it is understood by lay persons as the dozen or so studies that inform this literature paint a very inconsistent picture. The results of some studies indicate that pornography is essentially a function of offence (Byrne et al., 1974), suggesting that pornography is synonymous with the concept of “obscenity,” and yet, more recent work indicates that pornography as a concept can be meaningfully distinguished from both “obscenity” and “erotica” (McDowall, 2008). Qualitative work by Eck (2001) is frequently interpreted as evidence that pornography is idiosyncratic and transient as it appears to be interpreted through different frames of reference. On the other hand, a small number of quantitative studies have marshaled convincing evidence that decisions about what is and is not pornography are similar across people (Amoroso, Brown, Pruesse, Ware, & Pilkey, 1970; Turnbull & Brown, 1977). Clearly, much remains to be learned about how lay people conceptualize pornography.

1.3 Dissertation Outline

As of yet, there have been no systematic attempts to determine what people consciously, or explicitly, believe pornography is, or the extent to which such views are similar or different across people. This gap in knowledge is addressed in Chapter 2 using both qualitative and quantitative descriptive methods. As much has been written about the various ways that academics have defined pornography, the first study set out to explore “expert” definitions of pornography. To this end, a thematic analysis of academic definitions of pornography was conducted to elucidate and organize the breadth of definitional elements and themes that have been used to define pornography. After establishing a broad set of definitional elements that have been used by experts, a second study was conducted to identify common patterns in the way that lay persons define

pornography. This study was conducted to describe similarities and differences in open-ended descriptions of pornography across lay persons, and to determine the extent, if any, that lay definitions of pornography overlapped with academic definitions of pornography. Unfortunately, open-ended descriptions of pornography, while likely capturing the most salient aspects of lay persons' understanding of pornography, may miss other relevant features of the concept. To address this concern, a third study was conducted with closed-ended questions to determine which definitional elements would be most strongly endorsed as the most central, or most important, aspects of lay persons' conceptualizations of pornography.

While thorough descriptions of peoples' beliefs about the meaning of pornography as a concept can be insightful, such descriptions have limited applicability when it comes to understanding how people decide which materials are pornographic and which materials are not. Chapter 3 presents two studies that examine pornography judgments made in response to photographic stimuli. Building on previous work in this area (e.g. Amoroso et al., 1970; Byrne et al., 1974; Turnbull & Brown, 1977), the first study addressed common assertions about the nature of pornography judgments in three ways. First, this study conducted the most thorough analysis of the reliability of pornography judgments that has been done to date. In doing so, it also sought to determine the extent to which individual difference factors such as gender, personal experience with sexual materials, erotophobia, and authoritarianism were associated with differences in pornography judgments. Finally, this study also explored the affective correlates of pornography judgments, with particular attention paid the joint roles of sexual arousal and negative affect. A second study was conducted to clarify a small number of ambiguous results that arose in the first study

In academic discussions of pornography, a great deal of attention is typically paid to individual differences in the conceptualization of pornography, while little attention is paid to the relevant content of such materials. The studies presented in Chapter 4 address this shortcoming by identifying content-based features of images that are associated with the degree to which images are considered more or less pornographic. In the first study, men and women were asked to identify salient features of various images which ranged

in their extent of sexual content. Techniques were used to determine the extent to which the presence and absence of features among these images were related to pornography judgments of the same images. A second study was conducted to determine if the features identified in the first study could be used to predict the degree to which an independent sample of images were pornographic.

Concluding remarks are made in the final chapter. This chapter begins by reviewing key findings across the seven studies conducted for this dissertation. With relevant limitations in mind, it offers reasonable conclusions about the nature of pornography as concept, and discusses implications for research practices.

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Chapter 2

2 Explicit Conceptualizations of Pornography

Some commentators within these circles argue that a clear definition of pornography cannot be agreed upon, while others claim that the content of the category is obvious. (Huntley, 1998, p. 69)

Pornography is a tricky concept to tie down. Depending on its definition, pornography can be seen as something that is ubiquitous or scarce, boundless or specific, or the source of great emancipation or great oppression. Given the myriad definitions of pornography that have been used by various commentators, legislators, judges, academics, and researchers, it is no surprise that key issues within the domain of pornography research remain unresolved, as the domain itself appears to be heterogeneously defined, and poorly demarcated. In some cases, the lack of research consensus borders on the absurd; after more than 40 years of empirical research, it is still not clear how many people use pornography or how frequently it is used (see Short, Black, Smith, Wetterneck, Wells, 2012), or whether or not its use contributes to sexual aggression or the reduction of sexual aggression (see for example Ferguson & Hartley, 2009; and Kingston, Malamuth, Fedoroff, & Marshall, 2009).

From both conceptual and methodological perspectives, the absence of a unified theoretical conceptualization of pornography is a problem. At the heart of this issue, different theoretical perspectives concerning what does and does not constitute pornography have given rise to different operationalizations of this construct across studies (Short et al., 2012). Unfortunately, these differences pose interpretive challenges for experts who seek to integrate findings from disparate sources, precluding meaningful generalizations that could result from such efforts. To further complicate matters, little is known about the definitions of pornography that are used by lay participants who contribute responses to this research. As discrepancies between academic and lay definitions of pornography represent further threats to the validity and generalization of research findings involving sexual materials, describing the nature of lay definitions of

pornography, and determining which, if any, expert definitions of pornography are adopted by lay persons, should be a research priority in this area.

2.1 “Pornography” According to the Experts

Traditionally, scholars concerned with the meaning of pornography have been preoccupied with identifying, and sometimes debating, the definitive elements of this concept – the features that are both necessary and sufficient for category membership. Unfortunately, because different disciplines are interested in this topic for different reasons, many of these discussions have been rather narrow in scope, and have tended to focus on aspects of the issue that are most important for authors’ respective fields (e.g. Longino, 1980; McElroy, 1995; Short et al., 2012; Weaver, 1994). Consequently, there appears to be a number of “accepted” definitions of pornography, and they vary considerably from discipline to discipline. For example, legal scholars often adopt the position that pornography involves sexual depictions that offend and violate community standards (e.g. Elliot, 1965), while contemporary empiricists believe that pornography is best understood as a sexual depiction that stimulates sexual arousal (e.g. Hald & Malamuth, 2008). Given this state of affairs, several attempts have been made over the years to integrate and organize different definitions of pornography in order clarify some of the confusion.

Rea (2001), for example, has organized various attempts to define pornography around six different themes. According to this work, some academics believe that pornography concerns the sale of sex for profit (e.g. Huer, 1989 as cited in Rea, 2001), an approach that highlights the similarity of pornography to prostitution. In contrast, scholars steeped in legal philosophy often focus on the association of pornography with obscenity (e.g. Elliot, 1965). Broadly speaking, obscene materials are those that are legally proscribed by a society, and while the precise definition of obscenity has varied culturally and historically, it often revolves around the assumption that the materials in question cause offence and or harm (see for example, obscenity as defined by *Miller v. California*, 1973). In a related vein, some writers point out that pornography involves representations of sexuality which lack serious literary or artistic value (e.g. Berger, 1977), and it is on this basis that pornography is sometimes contrasted with erotica.

Academics familiar with feminist theory point to the portrayal of men or women as sexual objects as the defining characteristic of pornography (e.g. Longino, 1980; McElroy, 1995). Those with radical feminist leanings tend to extend this definition of pornography further by defining pornography as an expression of patriarchy that serves to maintain male oppression of women (e.g. Dworkin, 1992; Longino, 1980; MacKinnon, 1984; Steinem, 1980). Finally, there are those who define pornography as material that produces sexual arousal, or sexual gratification (e.g. Kuhn, Voges, Pope, & Bloxsome 2007; Kronhausen & Kronhausen, 1961; Kutchnisky, 1991; Mosher, 1988; Short et al., 2012; Soble, 1985; Stoller, 1976; Rea, 2001).

Social scientists have also made efforts to clarify the conceptual meaning of pornography. However, and in contrast to Rea's (2001) multidisciplinary thematic approach, such attempts have typically structured their definitions of pornography around the manifest content of sexual materials. For example, Weaver (1994) and Fisher and Barak (1991, 2001) have outlined largely overlapping tripartite typologies of pornography that distinguish between coercive or violent pornography, degrading pornography (referred to as "mainstream" by Weaver, 1994), and idealized sexual themes or erotica. According to this view, violent pornography is understood to include sexually explicit material that portrays or endorses sexual violence, while degrading pornography is said to involve non-violent sexual material that degrades or dehumanizes its subjects, though it has been acknowledged that "degrading" is also an inherently difficult and variable concept to articulate (Fisher & Barak, 2001). Finally, in these frameworks, erotica is defined as sexually explicit materials that are non-degrading and non-violent. While these tripartite typologies involve a fine-grain approach to the definition of pornography by distinguishing between sub-categories of sexual materials, it is important to note that all three distinctions share an element in common. Within each of these distinctions, the sexual content of the materials is a major focus, as it is among other (e.g. Berger, 1977; Elliot, 1965), though by no means all definitions of pornography (e.g. Kuhn et al., 2007). Unfortunately, because "pornography" is used by some experts to refer to any and all depictions of sexual content, reserving the term "pornography" for sexual depictions involving socially undesirable behaviour, as when violent or degrading pornography is contrasted with "erotica," only adds to the confusion in this area.

More recently, attempts have been made to organize the diversity of conceptual definitions of pornography into two distinct categories which emphasize either the structural aspects of pornography, or the functional nature of pornography (Mundorf, D'Alessio, Allen, Emmers-Sommer, 2007; Kohut & Fisher, 2012). From this perspective, *structural definitions* of pornography describe the content of materials, their physical properties, or their medium of presentation (e.g. written, photographed, videotaped, etc.). Examples of definitions that discuss the content of pornography frequently mention depictions of nudity, sexual behavior, and to a lesser extent, violence and dehumanization. In contrast, *functional definitions* of pornography are those that describe the intended function, the actual function, or the effects of exposure to pornography. Examples often emphasize the use of such materials for sexual arousal or gratification, or the elicitation of affective responses following exposure, but can also describe other uses, such as the role of pornography in the maintenance of patriarchy (e.g. Brownmiller, 1975). Moreover, many definitions of pornography combine both structural and functional elements.

Despite repeated calls for coherent conceptual definitions of pornography (e.g. (Fisher & Barak, 2001; Mosher, 1988; Short et al., 2012), no unified definition or operationalization of pornography has emerged among experts. In fact, the extent of disagreement appears to be so high that a recent review of research involving self-reported pornography use could not find two studies published in the last decade that have employed the same conceptual definition of pornography (Short et al. 2012). Even worse, many of these authors failed to explicitly discuss their understanding of this construct in their publications, perhaps because they assumed that the definition of pornography was so clear that it did not need to be made explicit, or because they believed that they held the same definition as their peers.

2.2 Thematic Analysis of Academic Definitions (Study 1)

It does not take much effort to see that several common themes are repeated across the various explicit academic definitions of pornography (e.g. sexually explicit depiction, stimulus for sexual arousal, etc.). Indeed, previous attempts to organize expert definitions of pornography have relied on the presence of these themes to guide their

thinking (e.g. Mundorf et al., 2007; Rea, 2001). What has been lacking in this regard, however, is a comprehensive effort to organize the themes that characterize academic definitions of pornography using a systematic method of qualitative analysis. To this end, the current study employed thematic analysis of a heterogeneous sample of explicit academic definitions of pornography, sampled from publications in various fields, in order to identify and organize key definitional themes and elements. Thematic analysis is a commonly used—though infrequently cited—method that is employed to help organize, analyze, and report patterns within sources of qualitative data (Braun & Clarke, 2006), and thus, was ideally suited for this task.

2.2.1 Method

2.2.1.1 Data Sources

Initially, attempts were made to collect definitions of pornography through traditional literature search channels (e.g. PsychInfo, Scopus, Google Scholar) using appropriate keywords (e.g. “(porn* OR sexually explicit m* OR erotic*) AND (defin* OR concept*)”), but such searches yielded many returns with no relevant articles. After extensive reviews of several dozen abstracts, only 11 articles appeared to offer any discussion of pornography as a construct. Upon accessing these 11 sources, only four articles offered formal definitions of pornography that could be used in the planned analysis (i.e. Fisher & Barak, 1991; Kuhn et al., 2007; Rea, 2001; Short et al., 2012). To supplement these searches, the citations from the four articles collected through traditional literature search channels were also reviewed, and definitions were added from these sources as well. This process resulted in the inclusion of 21 definitions (see Table 1) from a total of 20 different sources. While this is not an exhaustive list of definitions, it was heterogeneous with respect to the academic discipline of origin, and it actually tripled the number of published definitions that Short and colleagues (2012) reported in their review of the literature on pornography use.

Table 1. Expert Definitions of Pornography

Source	Definition
Berger (1977, p. 184)	“art or literature which explicitly depicts sexual activity or arousal in a manner having little or no artistic or literary value”
Byrne, Fisher, Lamberth, & Mitchell (1974, p. 112)	“obscene or licentious; foul, disgusting, or offensive; tending to produce lewd emotions”
Elliot (1965, pp. 74-75)	“the representation of directly or indirectly erotic acts with an intrusive vividness which offends decency without aesthetic justification”
Fisher & Barak (1991, p. 66)	<i>Violent pornography</i> : “sexually explicit material that depicts and endorses the utility and normativeness of sexual violence, usually directed by men against women”
Fisher & Barak (1991, p. 66)	<i>Degrading pornography</i> : “sexually explicit material which degrades, debases, and dehumanizes people, generally women, although lacking in explicit depictions of aggression”
Hald & Malamuth (2008, p. 616)	"any kind of material aiming at creating or enhancing sexual feelings or thoughts in the recipient and, at the same time containing explicit exposure and/or descriptions of the genitals, and clear and explicit sexual acts, such as vaginal intercourse, anal intercourse, oral sex, masturbation, bondage, sadomasochism, rape, urine sex, animal sex, etc...materials containing men and women posing or acting naked such as seen in Playboy/Playgirl did not contain clear and explicit sexual acts and were to be disregarded as pornography"
Huer (1989, p. 186)	“[a]ny object mass produced and distributed with the purpose of marketing it for profit by appealing to our sexual interests”
Kronhausen & Kronhausen (1961, p. 849)	"The aim of pornographic writing is to evoke erotic imagery in the reader in order to bring about sexual arousal. In other words, pornographic writings are “meant” to function as psychological aphrodisiacs and are successful only to the extent to which they accomplish this particular purpose"
Kuhn et al. (2007, p. 168)	<i>Intentional pornography</i> : "is a communication material provided for the purpose of sexually arousing or gratifying a user in isolation from others"
Kutchinsky (1991, p. 62)	“an aphrodisiac, that is, food for the sexual fantasy of persons – mostly males – who like to masturbate...”
Longino (1980, p. 42)	“verbal or pictorial explicit representations of sexual behavior that have as a distinguishing characteristic ‘the degrading and demeaning portrayal of the role and status of the human female...as a mere sexual object to be exploited and manipulated sexually”

Source	Definition
MacKinnon (1984, p. 176)	"as the graphic sexually explicit subordination of women through pictures or words that also includes women dehumanized as sexual objects, things, or commodities; enjoying pain or humiliation or rape; being tied up, cut up, mutilated, bruised, or physically hurt; in postures of sexual submission or servility or display; reduced to body parts, penetrated by objects or animals, or presented in scenarios of degradation, injury, torture; shown as filthy or inferior; bleeding, bruised or hurt in a context which makes these conditions sexual."
Malamuth & Huppin (2005, p. 315)	"refers to sexually explicit media that primarily is intended to arouse the viewer sexually"
McElroy (1995, p.51)	"the explicit artistic depiction of men and/or women as sexual beings"
Mosher (1988, p. 68-69)	"as a commercial product in the form of fictional drama designed to elicit or enhance sexual arousal...Explicit sexual imagery in itself is not the defining feature. Instead, it is the conjunction of a single purpose – to elicit or enhance subjective sexual arousal – and structure – a lightweight version of fictional drama – that is crucial. Thus, the conjunction of an identifiable purpose and structure is the essential feature that defines pornography."
Rea (2001, p.134)	<p>"Part 1: x is used (or treated) as pornography by a person S = DF, (i) x is a token of some sort of communicative material ~picture, paragraph, phone call, performance, etc.!, (ii) S desires to be sexually aroused or gratified by the communicative content of x, (iii) if S believes that the communicative content of x is intended to foster intimacy between S and the subject(s) of x, that belief is not among S's reasons for attending to x's content, and (iv) if S's desire to be sexually aroused or gratified by the communicative content of x were no longer among S's reasons for attending to that content, S would have at most a weak desire to attend to x's content.</p> <p>Part 2: x is pornography 5DF it is reasonable to believe that x will be used (or treated) as pornography by most of the audience for which it was produced."</p>
Short et al. (2012, p. 21)	"any sexually explicit material displaying genitalia with the aim of sexual arousal or fantasy"

Source	Definition
Soble (in Rea, 2001)	“refers to any literature or film (or other art-technological form) that describes or depicts sexual organs, preludes to sexual activity, or sexual activity (or related organs and activities) in such a way as to produce sexual arousal in the user or viewer; and this effect in the viewer is either the effect intended by both producer and consumer or a very likely effect in the absence of direct intentions.”
Stoller (1976, p. 901)	“material made available (openly or secretively) for those who derive sexual stimulation by representations of sexual objects and erotic situations rather than the objects and situations themselves”
Træen, Nilsen, & Stigum (2006, p. 245)	“the description of, or pictures of, naked or nearly naked bodies in genital contact”
Wilson (1978, p.162)	“refers to depictions of genitalia and sexual activity, either verbal or pictorial, that are potentially sexually arousing for substantial segments of the population.”

2.2.1.2 Thematic Analysis

The current analysis followed the first 5 steps of thematic analysis outlined by Braun and Clarke (2006). The definitions were first read and re-read in their entirety to gain familiarity with their content. Next, initial codes were generated that described interesting elements in the definitions, and definitions were reviewed to identify textual extracts that exemplified each element. The resulting elements were then reviewed in an effort to establish connections between elements and identify overarching themes. In the next two steps, textual abstracts were reviewed with respect to overall themes that were generated, and iterative steps were taken to generate final definitions for each theme and element. The results of this process are described below.

2.2.2 Results

The qualitative analysis of 21 expert definitions of pornography yielded a total of 14 different conceptual elements that were associated with 6 main themes and 2 superordinate themes (see Table 2). The main themes identified among expert definitions of pornography included pornography as a depiction of sexual content, the intended or

actual impact of pornography, pornography in relation to art, depictions of anti-women content, pornography as a commercial product, and finally, pornography as a depiction of fantasy. The associations between these 6 themes, along with their constituent elements suggested two superordinate themes which distinguished between the depicted content of pornography and the function of pornography (see Figure 1).

Table 2. Summary of the Definitional Elements Associated with the Six Themes Identified in the Thematic Analysis of Expert Definitions of Pornography

Superordinate Theme:	Theme:	Element:	Content:
I. The Content of Pornography	A. Sexual Content	1. General or vague	mentions that pornography has sexual content, but fails to elaborate on the nature of this sexual content
		2. Nudity	describes nudity but does not mention sexual behaviour
		3. Sexual Behavior	describes sexual behaviours but does not mention nudity
		4. Nudity and Sexual Behavior	describes both nudity and sexual behaviour
		5. Excludes Nudity	makes a point of specifically defining pornography as something that is more than the depiction of nudity alone
	B. Anti-women Content	1. Degradation / Dehumanization	describes how pornography depicts exploitation, debasement, dehumanization
		2. Violence	describes how pornography depicts violence, or violent acts
	C. Depiction of Fantasy	1. Depiction of Fantasy	describes the content of pornography is unreal, staged or faked, or that it involves the depiction of fantasy
	II. The Function of Pornography	D. Impact of pornography	1. Sexual arousal
2. Oppression			describes how pornography is intended to, or is used to, or actually does, promote oppression
3. Offence			describes how pornography is offensive, repulsive, inappropriate or obscene
E. Commercial product		1. Commercial Product	describes how pornography is bought, sold, or made/distributed to generate money, revenue or business
F. Art		1. Failed Art	contrasts pornography with art, or describes how pornography is a depiction with little or no artistic merit
		2. Expression of Art	describes pornography as an expression of art or an artistic depiction

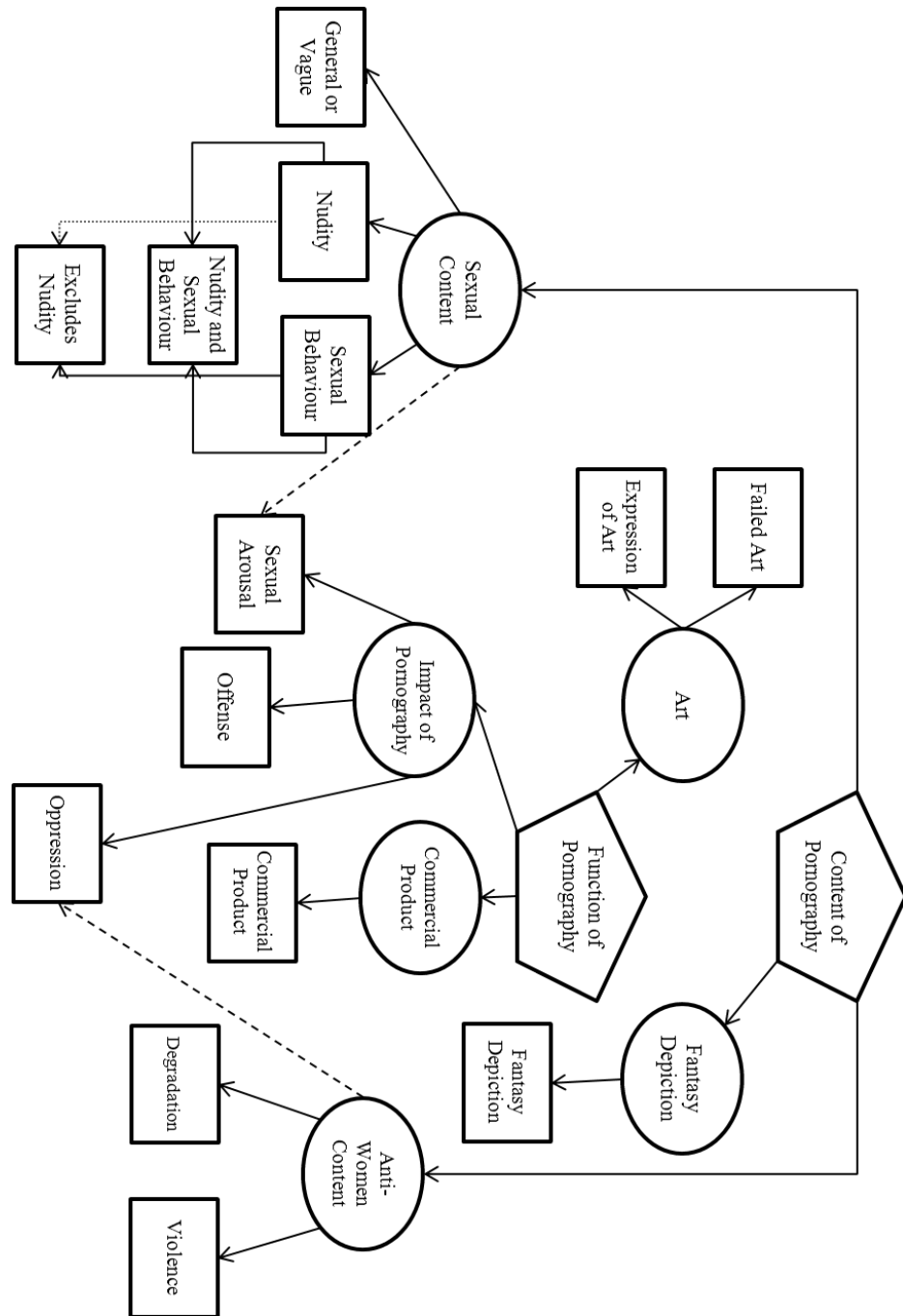


Figure 1. A depiction of the interrelationships between definitional elements, themes, and superordinate themes identified in the thematic analysis of explicit expert definitions of pornography. Definitional elements are represented by rectangles, main themes by ovals, and superordinate themes by pentagons. The dotted line designates a specific exclusion of the preceding element, while the hashed lines represent assumed relationships.

Taken together, the conceptual similarities between two prominent themes involving the depiction of sexual content and the depiction of anti-women content, and to a lesser extent, the main theme discussing pornography as a depiction of fantasy, suggested the presence of a relevant superordinate theme involving expert definitions that discuss the content of pornography. Of the three main themes that make up this superordinate theme, the most prominent by far was the depiction of sexual content. Indeed, most expert definitions of pornography were premised on the foundation that some form of sexual content is being depicted, portrayed, or communicated in these materials. However, it is also worth noting that some definitions of pornography failed to explicitly mention the sexual content of the material (e.g. Huer, 1989; Kuhn et al., 2007), and some writers have explicitly downplayed the importance of sexual content (e.g. Mosher, 1988), or rejected its relevance outright (e.g. Rea, 2001). Among definitions that mention sexual content, there is some variation in how the issue of sexual content is addressed, with 5 distinct patterns identified (see Table 2). Some definitions employed only vague mentions of sexual content by referring to “sexually explicit material” (Fisher & Barak, 1991, pp. 66), “sexually explicit media” (Malamuth & Huppin, 2005, pp. 315), or the “explicit depiction of men and / or women as sexual beings” (McElroy, 1995). In contrast, other definitions explicitly mentioned nudity (e.g. Short et al., 2012), or sexual behavior (e.g. Berger, 1977; Elliot, 1965; Fisher & Barak, 1991; Longino, 1980), or both nudity and sexual behavior (e.g. MacKinnon, 1984; Wilson, 1978; Traeen, Nilson, & Stigum, 2006). Finally, at least one definition specifically excluded nudity unless it was accompanied by sexual behavior: “Note that materials containing men and women posing or acting naked such as seen in Playboy/Playgirl did not contain clear and explicit sexual acts” (Hald & Malamuth, 2008, pp. 616).

Interestingly, of the definitions of pornography that have been inspired by radical feminist positions in this sample, most tend to explicitly mention the actual depiction of anti-women content (e.g. Fisher & Barak, 1991; Longino, 1980; MacKinnon, 1984). As there were not many examples of such definitions to draw upon in this sample, it was really only possible to distinguish between two definitional elements here, despite the inherent complexity of this theme. First, some definitions of pornography appeared to equate pornography with the depiction of degradation or dehumanization, as in “the

graphic sexually explicit subordination of women through pictures or words that also includes women dehumanized as sexual objects” (MacKinnon, 1984, pp. 176; see also Longino (1980, pp. 42). Admittedly there are at least two inter-related definitional elements here, including the presence of power differences, and the presence of dehumanization or degradation, and both are important for feminist theorizing about pornography. Unfortunately, it is hard to know if these two elements can be untangled theoretically (e.g. can media depict degradation or dehumanization without inherent power differences?), and there were not enough relevant definitions in the sample to assess whether or not these definitional elements were ever presented separately. There was however one definition in this sample that firmly distinguished between the depiction of violence and the depiction of degrading or dehumanizing content (Fisher & Barak, 1991, pp. 66), which suggested that the depiction of violence could be treated as a separate definitional element.

The last main theme that fell under the superordinate content theme was exemplified by only one expert definition. Specifically, pornography as a depiction of fantasy was suggested by Mosher’s (1988) description of pornography as a “form of fictional drama” (pp. 68). This contribution, while infrequently mentioned among experts, is quite interesting, as it indicates that whether pornography is primarily about the depiction of nudity, sexual behaviour, or oppression (in any of its myriad forms), above all for some people, the depictions found in such materials are unreal, staged, or fake.

The second superordinate theme identified in the analysis of these definitions involved the function of pornography, either in terms of the function intended by its creators, or the use to which it is put by its consumers. In this sample of definitions, this superordinate theme was best exemplified by the main theme concerning the impact of pornography use, that is, its tendency to sexually arouse, oppress, and offend. Of these three functions, sexual arousal was more clearly expressed in this sample. Such definitions mentioned materials that are “an aphrodisiac” (Kutchinsky, 1991), that are “arousing or gratifying” (Kuhn et al., 2007, see also Rea, 2001), that “are potentially sexually arousing” (Wilson, 1978), or that have the “aim of sexual arousal or fantasy”

(Short et al., 2012). Although infrequently discussed in this sample of explicit definitions of pornography, radical feminists (e.g. Brownmiller, 1975; Longino, 1980) frequently argue that pornography is produced with the intention of oppressing women in order to maintain patriarchy. The only definition in this sample that explicitly indicated that the function of pornography is oppressive was provided by Fisher & Barak (1991) in their assertion that violent pornography “endorses the utility and normativeness of sexual violence” (pp. 66). Finally, the last prominent element that can be found among academic discussions of the impact of pornography is the extent to which definitions equate sexual materials with obscenity (Byrne, Fisher, Lamberth, & Mitchell, 1974; Elliot, 1965). Byrne and colleagues (1974), for example, clearly defined pornography as “obscene or licentious; foul, disgusting, or offensive” (pp. 112), incidentally, a definition that they adopted from a dictionary entry at the time of their research.

Another theme describing a separate facet of the function of pornography involves the commercial aspects of pornography, or the potential for such materials to turn a profit. The only definition in this regard came from Huer (1989), who stated that an object is pornographic when it is “distributed with the purpose of marketing it for profit by appealing to our sexual interests” (p. 186). While it is tempting to nest this theme into the grouping involving the impact of pornography exposure, it seems better to separate this theme from the others, as it describes a function of pornography that is altogether less immediate than the impacts discussed previously.

Finally, discussions of the relationship between pornography and art tend to exemplify the superordinate functional theme found among expert definitions as they focused on the evaluative qualities (e.g. aesthetic value) of these materials, rather than the properties of their content (e.g. form, composition, arrangement, etc.). Interestingly, pornography was both contrasted to and equated with artistic depictions of sexuality. For example, Elliot (1965) describes pornography as sexual materials, “without aesthetic justification” (pp. 74-75), and Berger (1977) claims that such materials have, “no artistic or literary value” (Berger, 1977, pp. 184). On the other hand, a further definition stood in explicit contrast by stating that pornography is actually “the explicit artistic depiction of men and/or women as sexual beings” (McElroy, 1995, pp. 51).

2.2.3 Discussion

A qualitative analysis of expert definitions of pornography identified 6 main themes in which 14 separate definitional elements were situated. These definitional themes included *pornography as a depiction of sexual content*, *depictions of anti-women content*, *pornography as a fantasy depiction*, *the intended or actual impact of pornography*, *pornography as a commercial product*, and finally, *pornography in relation to art*. The conceptual similarities among these 6 themes suggested the relevance of two higher-order themes involving the *content* and *function* of pornography.

These superordinate themes have much in common with reviews that have described structural and functional definitions of pornography (see Mundorf et al., 2007; Kohut & Fisher, 2012), and the current analysis has illuminated these two overarching themes by identifying subordinate main themes that contribute to, and indeed help define, these two approaches. While this is an important contribution to discussions involving the structure and function of pornography, the results of this analysis should not be entirely equated with such distinctions. Importantly, the current analysis did not encompass a detailed discussion of the types of media that can be considered pornographic. It is interesting to note that while many expert definitions refer to materials, representations, or media, few definitions explicitly expanded on specific media channels (e.g. pictures, words, etc.) that can be considered pornographic, and none appeared to do so in an exclusionary fashion. Perhaps this suggests that among experts, the content of materials is an important definitional feature of pornography, while the medium through which it presented is not. This of course, does not mean that the medium that is used to present pornography is considered irrelevant by such persons, only that it is not essential for understanding the concept. Fisher and Barak (2001), for example, offer a detailed theoretical discussion of potential differences between the impact of Internet and pre-Internet pornography on those that consume pornography.

Also absent from the current analysis was any clear indication of whether the functions of pornography should primarily concern the intended functions of the producers of this material, or the use to which these materials are actually put, which appears to be a somewhat contentious issue in the literature. On one hand, some have

suggested that intentions of the original creators for a particular representation can be difficult to gauge (Rea, 2001; Kronhausen & Kronhausen, 1961), or have argued that the intentions of creators have little bearing on how such representations are used by consumers (Kuhn, et al., 2007; McElroy, 1995). On the other hand, intentions of the creators do appear in some definitions of pornography (e.g. Kronhausen & Kronhausen, 1961), presumably because a failure to consider the intentions of the creators can make it difficult to distinguish between pornography and other depictions of nudity, semi-nudity or sexuality (e.g. art, medical diagrams, advertisements). In other words, for some academics, it appears unreasonable to consider National Geographic or the lingerie section of department store catalogues to be pornographic simply because some young men use them as masturbatory aids. Regardless, since it is not always clear from expert definitions of pornography whether there is a preference between intended or actual use, it was not possible to explore this distinction further in the qualitative analysis of the definitions we have sampled.

While the content and function of pornography were presented as distinct higher-order themes that underlie expert definitions of pornography in this analysis, it is also important to emphasize their theoretical connections. For example, if pornography is defined solely as a material that depicts nudity or sexual behaviour, it would be ludicrous to assume that exposure to such materials does not result in sexual arousal. Similarly, if pornography is fundamentally defined as the depiction of anti-women content, then oppression of women through the maintenance of patriarchy would seem to be the natural function of pornography. Clearly then, while discussions of the content and function of pornography can occur independently, and capture different facets of the construct, in a practical sense these facets are quite related, with function or impact the likely consequence of content. To represent and reinforce these connections, hashed lines illustrating specific connections between the themes involving the depiction of sexual content and the depiction of anti-women content and their respective functions were added to the illustrative summary of the analysis (see Figure 1).

While efforts were made to include as many heterogeneous definitions of pornography as possible, the sample of definitions was not exhaustive. Although the

extent of definitions was adequate for the current purpose, it should be acknowledged that an analysis with a different or larger list of definitions would likely result in different pattern of results. Indeed, even an independent analysis of the same definitions might result in a somewhat different pattern of results. However, as only manifest content—as opposed to latent content—was analyzed in the current study, alternative or future efforts would likely identify similar main themes. That is not to say that future efforts in this direction with more exhaustive lists of definitions would be in vain, but they would likely only improve the capacity to make finer distinctions between the lowest level of definitional elements than was possible in the current study. Specific improvements for example, might be readily possible if more radical feminist definitions of pornography were included, as it is often difficult to disentangle ideas like the depiction of power imbalances and the depiction of degradation from one another.

With these shortcomings aside, the current analysis provides a systematic effort that identifies and organizes common and important definitional elements that are discussed in explicit definitions of pornography. Unlike previous efforts in social science which seem to rely on limited theoretical orientations, the current approach identified overarching and underlying themes among a set of multidisciplinary definitions of pornography in an effort to provide the most heterogeneous perspective possible. The result is a synthesized overview of relevant discussions of expert conceptualizations of pornography. It is important to note that the results of this study should not be taken as an argument for particular theoretical conceptualizations of pornography. Instead, it is hoped that the knowledge gleaned in this effort will help to further refine future debates concerning the conceptual meaning of pornography among experts, and provide a useful guide for exploring explicit lay definitions of pornography.

2.3 Content Analysis of Lay Definitions (Study 2)

While it is clear that diversity exists among expert definitions of pornography, it is not known if, and to what extent, these variations are reflected in the conceptualizations of non-expert lay definitions of pornography. Examining how everyday people explicitly define pornography should be a priority, as a lack of fit between expert and lay definitions of pornography can reduce the validity of research

findings. Asking participants to report on constructs that exist primarily among experts and not among laypersons will increase measurement error, contribute to explanatory gaffes, and reduce the legitimacy of using research findings to inform social policy.

It is clear, for example, that studies that have examined personal experiences with pornography have often failed to define this concept for their participants (Short et al., 2012). As lay definitions of pornography may be as diverse in scope as those held by academics more generally, measuring the extent of personal experience with pornography without defining the construct for participants is problematic. If one participant believes, for example, that depictions of nudity or simulated sexuality as presented on cable television constitute pornography, they will report a very different set of experiences with such materials (e.g. use, enjoyment, etc.), than will participants who reserve the term “pornography” for materials that clearly depict genital stimulation in a violent and degrading context. In this way, it seems likely that idiosyncratic definitions of pornography held among lay persons could be contributing to measurement error in studies that examine personal experiences with pornography and may help explain why estimates of the prevalence of pornography use among males have ranged from as high as 93% of males to as low as 44% of males (see Short et al. 2012 for review).

Unfortunately, even if lay definitions of pornography are less diverse than those of experts, a lack of fit between researcher-held definitions of pornography and lay definitions of pornography still poses challenges to the validity of interpretations of some research findings. For example, we could accept at face-value that 67% of young men and 49% of young women feel that viewing “pornography” is acceptable (Carroll, Padilla-Walker, Nelson, Olson, Barry, & Madsen, 2008), but it is not clear how this finding should be interpreted. At one extreme, it could be the case that many young adults believe that viewing representations depicting nudity and sexual behaviour is acceptable, and yet at the other, it could also be the case that many young adults believe that viewing sexual violence, degradation, and dehumanization is acceptable. Clearly the interpretations of findings such as this would benefit—indeed, *must* benefit—from knowing how lay individuals define pornography.

The failure to consider lay definitions of pornography when reporting empirical findings to the general public also creates problems when empirical findings are used to inform the development of social policy. In one egregious example, the Meese Commission Report on Pornography (Attorney General's Commission, 1986) conflated the deleterious effects of sexualized horror films with the deleterious effects of pornography in their final report. In this case, if sexualized horror films are not a part of the lay persons' understanding of pornography, then research findings have been miscommunicated to the public, and public perceptions of the negative effects of pornography have been unduly influenced by this information.

In order to explore lay definitions of pornography, a content analysis was performed on a sample of explicit definitions of pornography elicited from a large number of undergraduate students. To this end, the thematic analysis conducted in Study 1 was consulted to develop the organizing framework that guided this analysis. This approach, while somewhat restricted by its top-down nature, was more practical than bottom-up thematic analysis on a large number of definitions. As a researcher who is steeped in academic discussions about the nature of pornography, a true bottom-up thematic analysis of lay persons' definitions of pornography that would not be biased by academic nuances about this construct was not possible. Furthermore, academics have been discussing the construct of pornography for decades, and in this time have likely developed, articulated, and argued about most of the relevant aspects of this concept. While it is possible that a thematic analysis of lay definitions of pornography would reveal something new, it did not seem likely that any new facets would be strongly endorsed by most lay persons without having been mentioned in academic discussions. Finally, the use of content analysis in place of thematic analysis has the added benefit of revealing which conceptual elements discussed in expert definitions of pornography were most commonly found among lay definitions.

2.3.1 Method

2.3.1.1 Participants

Between September 2011 and April 2012, a total of 429 unique participants (217 men and 212 women) were recruited from Western University's undergraduate research pool. These participants volunteered to participate in one of three studies (for Letters of Information and Ethics Approval see Appendix A – Studies 1 through 3), all of which were advertised as involving attempts to understand the lay conceptualization of pornography. In an effort to obtain a diverse sample, the advertisements for these studies explicitly encouraged people with little as well as with much previous experience with pornography to volunteer for these investigations. All participants received course credit for taking part in this research.

2.3.1.2 Materials and Procedure

The initial portion of each of these three studies was identical. Participants began these studies by completing a demographic questionnaire (see Appendix B) followed by a series of questions that probed their previous experience with sexually explicit materials (see Appendix C). Finally, participants were asked the open-ended question: "How do you define pornography?" All measures were completed online. At the end of each study, participants received appropriate debriefing information (see Appendix D)

2.3.1.3 Coding Frame for the Content Analysis

The open-ended responses were initially subjected to qualitative coding using a rubric designed to reflect the 6 themes identified in thematic analysis of expert definitions of pornography (e.g. pornography as a depiction of sexual content, pornography as a depiction of anti-women content, the impact of pornography, pornography as a commercial product, pornography in relation to art, and pornography as a fantasy depiction) conducted in Study 1. Initially, three pairs of coders worked with 2 themes each, and were tasked with identifying the presence or absence of each theme in each of the participants' definitions. Unfortunately, the results of this effort were disappointing,

as inter-rater reliabilities were low, particularly for coding of the theme concerning the impact of pornography.

Upon further reflection, problems appeared to arise from a small number of common coding errors. For example, coders had trouble reliably distinguishing between definitions which described *depictions of anti-women content*, and definitions that described *the function of oppression*. There was further confusion in distinguishing between depictions of violence, and depictions of dehumanization or degradation. Similarly, there were also problems distinguishing between definitions that described the *function of sexual arousal*, and definitions that described the *depiction of sexual content*.

For the most part, these confusions appeared to be largely the product of a poorly articulated coding framework, rather than the nature of the categories themselves. There was really only one theme, *the impact of pornography*, that needed to be refined further. There were two issues here. First, as many responses lacked the careful articulation that is found among expert definitions, coders sometimes found it difficult to differentiate between responses that described pornography as a material that is offensive and responses where participants were expressing their own value judgment of pornographic materials (“pornography is bad”). In a similar vein, a small number of participants mentioned that either they themselves, or people in general, enjoy pornographic materials. As the ambiguities in these responses made it unclear if they represented personal attitudes or descriptions of the materials themselves, the element of “offence” was removed from the impact of pornography theme, and organized as a separate theme that coded for descriptions involving offence or enjoyment of materials.

After careful consideration, a revised coding scheme was created to reduce coding ambiguities by clarifying the definitions of each category, adding examples of each, and adding a small number of additional response categories (e.g. offence or enjoyment). This process resulted in coding scheme that contained seven non-mutually exclusive response categories including: (a) the depiction of sexual content; (b) the impact of pornography; (c) the depiction of anti-women content; (d) pornography as a commercial product; (e) the expression of fantasy or reality; (f) pornography as art or failed art; and

(g) offence or enjoyment. Also, because conceptual distinctions have been made between structural and functional approaches to the definition of pornography (see Kohut & Fisher, 2012; Mundorf et al., 2007) an eighth category was added to code for the presence of these themes. Each of these categories was further broken down into a number of definitional elements (between 3 – 5 for each category), that to a large extent matched the definitional elements identified in Study 1 (see Appendix E for the complete coding scheme). For example, the category that matched the theme, *the depiction of sexual content*, was broken down into the following 5 sub-elements: i) vague mentions of sexual content, ii) specific mentions of nudity, iii) specific mentions of sexual behavior, iv) specific mentions of nudity and sexual behavior, v) the rejection of nudity (as a sufficient characteristic of pornography).

Pairs of independent coders compared each of the participants' responses to one or more of the eight coding categories, and indicated which, if any, of the sub-elements were present in each response. Across the coding categories, agreement between pairs of coders was moderate to high, as indicated by Cronbach's Kappas that ranged from .79 to .94. The description of the results that follows considers only the responses for which the two independent coders could agree. That is, cases on which coders could not agree were treated as missing data when proportions of responses were tabulated for that category. In this way, the proportions of responses presented below reflect only the cases for which both coders agreed.

2.3.2 Results

Of the 429 participants, 209 men (95.87%) and 200 women (94.79%) provided a definition of pornography. Most of the participants in these samples reported previous experience with sexually explicit materials (88.75%; 99.04% males vs. 77.50% females), and were primarily Caucasian (63.57%) or Asian (23.23%), tended to identify themselves as Christian (46.67%), Atheist, Agnostic or not religious (33.25%), and had a mean age of 18.7 years. Neither the degree of experience with sexually explicit materials, nor the other demographic characteristics differed significantly across the three samples; so the data were pooled.

2.3.2.1 The depiction of sexual content

When asked to define pornography most participants (83.62%; 82.81% males vs. 85.71% females; Kappa = .86) mentioned the sexual content of the materials in some way, though like expert definitions, the specific nature of these references varied considerably. Of the responses that mentioned sexual content, 46.49% specifically indicated that pornography involved the depictions of sexual behavior without mentioning nudity (e.g. *“I define pornography as a sexual act captured in some visually [sic] meant to get a sexual response out of the viewer”*). General, broad, or vague mentions of sexual content were the second most popular form of response in this category, occurring in 21.63% of definitions that described sexual content (e.g. *“Sexually-explicit imagery or film for the purpose of arousal”*). Discussions of nudity (e.g. *“it is stuff where people are naked.”*), and nudity in combination with sexual behavior (e.g. *“photos or videos of people naked or performing sexual acts”*) were less common, and occurred in 14.61% and 16.96% of these responses respectively. Only one response (0.29%; male response) explicitly rejected simple nudity as a defining feature of pornography (e.g. *“... i don't view artistic nudes as pornography nor ones with scientific purposes”*).

2.3.2.2 The impact of pornography

Compared to discussions of sexual content, far fewer participants (28.29%; 30.89% males vs. 26.16% females; Kappa = .79) explicitly mentioned the impact of pornographic materials in their definitions of pornography. The majority of such responses (55.17%) described how pornography was intended or used to promote, or actually promoted sexual arousal, or sexual gratification (e.g. *“... used to stimulate sexual feelings within a person.”*). Also common, occurring in 41.38% of such definitions, were descriptions of other, non-arousal, non-oppression oriented functions of pornography, such as entertainment, or education (e.g. *“Pornography is the exposure of genitals and/or sexual intercourse for the purpose of entertainment”*). Only 2.59% of these responses described the role of pornography in oppressing women or minorities

(e.g. “... *pornography dehumanizes individuals particularly females as it gives a negative stigma for woman and how they should be with men sexually.*”).

2.3.2.3 The depiction of anti-women content

Only six of the definitions of pornography (1.55%; 0.48% males vs. 2.52% females; Kappa = .82) described the depiction of oppression, dehumanization, violence or sexual pleasure. Among such definitions, five (85.71%) concerned the depiction of oppression, dehumanization or violence (e.g. “*Sexual Images exploitation of females and males*”). To serve as a point of contrast for depictions of anti-women content, coders were also asked to look for explicit mentions of depictions of sexual pleasure, and only one such response (14.29%; female response) was found in the sample (e.g. “*Sexual acts voluntarily done for pleasure...*”).

2.3.2.4 Pornography as a commercial product

Definitions that emphasized the commercial profitability of pornography were also relatively infrequent, occurring in 14 responses (2.67%; 4.34% males vs. 2.50% females; Kappa = 0.93). All such responses concerned the generation of revenue (e.g. “*Business where individuals have intercourse for money*”), while none mentioned the free distribution or availability of such material.

2.3.2.5 Expression of fantasy

Only five participants in the sample defined pornography as an expression of fantasy or as a fictional depiction of sexuality or as a representation of a real sexual encounter (1.11%; 0.96% males vs. 1.53% females; Kappa = .80). Among the definitions that mentioned these elements, the responses were focused entirely around depictions of sexual fantasy, or staged fictional depictions (e.g. “*Watching sex mainly in a video, that shows an exaggerated act*”) rather than realistic portrayals of sexuality.

2.3.2.6 Artistic or non-artistic depictions

The artistic or non-artistic qualities of pornography were mentioned in only 14 of the definitions (3.30%; 4.81% males vs. 2.51% of females; Kappa = .94) provided by participants. Among such responses, 73.33% described pornography as an artistic expression of sexuality (e.g. “It is a medium through which sexual acts can be portrayed creatively and distributed to all sorts of viewers”), rather than a non-artistic expression of sexuality (20.00%; e.g. “*Sexual writing drawing pictures and video media that have little artistic merit*”).

2.3.2.7 Offence or enjoyment

Seventeen (4.81%; 5.50% males vs. 4.17%; Kappa = .96) definitions mentioned offence or enjoyment of pornography. In line with most formal definitions of pornography, indications of offence (e.g. “*not a good thing*”) were slightly more frequently mentioned (52.38%) and more frequently mentioned by females than indications of enjoyment (48.09%; e.g. “*Pornography is a fun way to spend your time...*”) which occurred primarily in definitions provided by males.

2.3.2.8 Structure and Function

Most definitions of pornography could be categorized as being structural, functional, or both structural and functional approaches to the definition of pornography (95.26%; Kappa = .79; 95.19% males vs. 96.47%). Structural definitions (e.g. “*visual material that contains descriptions and/or pictures which are of the naked body*”) were by far the most common type of definitions provided by participants, occurring in 66.23% of those that could be classified. Definitions of pornography that combined both structural and functional approaches were much less common (24.36%) among the participants’ responses (e.g. “*Descriptive sexual media. Most popularly this is in the form of stories images and video; used to elicit arousal or potentially educate or communicate sexual feelings desires or understandings with others.*”). Finally, functional approaches to the definition of pornography on their own were fairly uncommon, appearing in only

9.42% of responses (e.g. *“Pornography in my opinion is sexual stimulus. It's just material that causes sexual arousal.”*).

2.3.3 Discussion

In contrast to the varied definitions presented by experts, a content analysis of lay definitions of pornography suggests that most people rely on relatively few themes when explicitly defining this construct. A large majority of participants in the sample mentioned the depiction of sexual content (84%), particularly the depiction of sexual behaviour (39%), in their definitions of pornography. In contrast, relatively few participants (16%) mentioned the importance of intended or elicited sexual arousal, despite the prominence of this definitional element among expert definitions (Rea, 2001). These results suggest that expert definitions that focus exclusively on the sexual arousal impact of pornography differ somewhat from the views held by lay persons.

It is also noteworthy that few of the other themes and elements captured in the thematic analysis of expert definitions of pornography were present in the explicit definitions reported by lay persons in this sample. Among participants, pornography was rarely defined as a depiction of anti-women content, a commercial product, a fantasy depiction, an artistic or non-artistic expression, or as the source of offence. These definitional elements, while variously important within specific academic disciplines (e.g. women's studies, law, etc.), were infrequently mentioned by lay participants in the current study.

It is also important to note that there were few meaningful gender differences in lay definitions of pornography across most of the response categories that were examined. Indeed, the only real gender differences that were found were among infrequently mentioned categories such as depiction of anti-women content, and the expression of offence or enjoyment. In these categories, women were somewhat more likely to indicate that pornography involves the depiction anti-women content, and that it is offensive than were men. These differences likely reflect, and may in fact contribute to known gender differences in attitudes towards pornography (Carroll et al., 2008).

Although it seems clear from these results that most explicit lay definitions of pornography described the depiction of sexual content and few described intended or elicited sexual arousal, it is unclear if explicit lay definitions adequately reflect all relevant characteristics of pornography that are associated with this construct among lay individuals. For example, the use of open-ended questions to assess the lay conceptualization of pornography allows participants to volunteer vague or ambiguous responses, which are of questionable utility for gauging the central and defining features of pornography. Additionally, it is possible that many participants failed to mention some of the infrequently described definitional elements (e.g. the depiction of oppression, dehumanization or violence), because they believed that such elements were self-evident, and did not need to be specifically included.

While these are serious limitations, it is comforting to note that other research domains employ open-ended assessments to identify the most salient beliefs associated with a subject, because it is believed that salient—rather than non-salient—beliefs are more useful for predicting concept-relevant attitudes and behaviours (see for example, Ajzen, 1991; Fishbein & Ajzen, 1975). From this perspective, the identification of the most salient beliefs concerning the nature of pornography through open-ended responses may be a useful and important approach, but admittedly, open-ended questions may not be the most appropriate method for assessing all concept-relevant beliefs.

The knowledge gained by this study of explicit lay definitions of pornography provides broad strokes that focus attention on a select number of salient aspects of the concept of pornography. First, pornography is primarily defined by lay individuals with structural elements concerning what pornography is, rather than functional elements concerning what it does, perspectives that are sometimes confused and conflated in academic discussions and debates concerning this concept (Huntley, 1998). Moreover, pornography was typically described as a depiction of sexual content involving nudity, and particularly, sexual behavior, which further circumscribes a class of materials with similar characteristics that to a large extent can be discerned from other unrelated materials. For most people in this study, a stimulus should not be considered pornographic if does not depict sexual content. If the results of this study are taken at

face value, participants who are responding to questions concerning their use (or perceptions) of pornography under conditions where no definitions of pornography have been provided to them (see Short et al., (2012) for review), may be doing so with a relatively consistent idea of what pornography entails.

2.4 The Central Elements of Pornography (Study 3)

Exploring lay definitions of pornography through the use of open-ended questions alone leaves some important research concerns unresolved. First and foremost is whether the relative prevalence of the various definitional elements found among explicit lay definitions of pornography reflects the most relevant elements of this construct, or simply the most salient features. While it may be tempting, for example, to conclude from the previous study that the depiction of sexual content holds more weight in lay decisions regarding what does and does not constitute pornography than the sexually arousing properties of such materials, it is unclear if such conclusions are warranted. It is possible, for example, that participants believed that the depiction of sexual content also implies the sexually arousing properties of such material, and therefore, did not feel the need to mention the sexually arousing properties explicitly. In this way, relative differences in the frequencies of separate definitional elements that occur among explicit lay definitions of pornography may not accurately or completely reflect the comparative importance that each element holds for such definitions.

Another important concern involves the interpretation of common ambiguous responses. For example, in Study 2, 18% of lay definitions of pornography mentioned “sexually explicit material,” or other similar phrasing. It is not clear if such phrasings are meant to encompass both nudity and sexual behaviour, or if they are an attempt to exclude nudity from the definition of pornography, as done by Hald and Malamuth (2008). If, for example, vague mentions of sexual content were to be interpreted broadly in this study as the depiction of nudity rather than the specific depiction of sexual behavior, then the difference between the number of definitions that mention the depiction of nudity and the number of definitions that mention the depiction of sexual behavior becomes quite small. On the other hand, if vague mentions of sexual content were interpreted in a strict sense as requiring the presence of sexual behavior, the

difference between the number of definitions that mention nudity and the number of definitions that mention sexual behavior becomes larger. Clearly, each interpretation has divergent consequences for understanding the results of the previous study.

To address these concerns, a survey consisting of close ended questions was used to determine the extent to which lay participants endorsed the inclusion of particular definitional elements in their conceptualizations of pornography. As the depiction of sexual behavior was the single most frequently mentioned definitional element found in Study 2, the endorsement of this element was compared with the endorsement of the remaining definitional elements. The decision to employ this set of apriori contrasts optimized the balance between the ability to resolve the research concerns outlined above and conducting too many tests (171 contrasts vs. 18).

2.4.1 Method

2.4.1.1 Participants

Between September and November 2012, a total of 120 participants (73 males and 47 females) were recruited from Western University's undergraduate research pool for a study involving lay conceptualizations of pornography (for Letter of Information and Ethics Approval see Appendix A – Study 4). Once again, the advertisements explicitly encouraged people with any degree of previous experience with pornography to volunteer. All participants received course credit for taking part in this research.

2.4.1.2 Pornography Definition Questionnaire

As the primary goal of this study was to determine if the content analysis of lay definitions of pornography failed to identify important definitional elements found among expert definitions of pornography because of the open-ended format of responses, the pornography definitions questionnaire was designed to probe participants' endorsement of specific definitional elements identified in Study 1 with closed-ended questions. To this end, participants were instructed to review 19 definitional elements which were presented after the stem "Pornographic materials..." and indicate the extent to which they believed that each element fit their definition of pornography (for full instructions,

see Appendix F). For example, “Pornographic materials...” was followed by “are materials that depict nudity”; “are materials that depict sexual behaviour”; and “are materials that promote violence.” Participants indicated their responses on 5 point scales that ranged from 1 (“Not a part of my definition”) to 5 (“Central to my definition”).

The *depiction of sexual content* was assessed with the following three items: “are materials that depict nudity,” “are materials that depict sexual behavior” and “are materials that require more than the depiction of nudity alone (e.g. sexual behavior) to be pornographic.” The *depiction of anti-women content* was assessed with four items; “are materials that depict the exploitation of women,” “are materials that depict gender inequality (e.g. men as more powerful than women),” “are materials that depict violence”, and “are materials that depict rape.”

The *impact of pornography* was assessed with eight items. The presumed impact of pornography on anti-women outcomes was assessed with the following items: “are materials that promote gender inequality in society (e.g. make men more powerful than women),” “are materials that promote violence,” and “are materials that promote rape.” In contrast, the presumed impact of pornography on sexual arousal and release was assessed with the items: “are materials that promote sexual arousal,” “are materials that promote sexual release, sexual gratification, or sexual pleasure,” and “are materials that are used for masturbation.” Finally, pornography as an offensive or restricted material was assessed with two items: “are materials that are offensive,” “are materials that are censored (e.g. not legally accessible for all people)”.

The three remaining definitional themes of pornography were assessed with one or two items each. *Pornography as a commercial product* was assessed with the item, “are materials that are made for commercial purposes (e.g. materials to be sold),” while pornography as a *depiction of fantasy* was assessed with the item, “are materials that depict unrealistic fantasy sex.” *Pornography in relation to art* was assessed with two items, each expressing one of the diametrically opposite definitions found among experts: “are materials that can be considered an artistic form of expression,” and “are materials with little artistic value.”

2.4.1.3 Procedure

All participation occurred online using the Qualtrics survey platform. After obtaining informed consent, participants began this study by completing a series of questionnaires that assessed their demographic information (see Appendix B), experiences with sexually explicit materials (see Appendix C), degree of right-wing authoritarianism (see Appendix G & Appendix H), and degree of erotophilia-erotophobia (see Appendix I). Chapter 3 contains a detailed rationale justifying the inclusion of these personality measures. These individual differences measures had little relation to the dependent variables at focus in the current study though they were used to assess research questions outlined in Chapter 3 – Study 2. They will not be discussed further. Participants next completed an image-rating exercise, where they reviewed and evaluated 27 images which ranged in sexual content (for a detailed description see Chapter 3: Study 2). Lastly, participants completed the Pornography Definition Questionnaire, and were debriefed (see Appendix D).

2.4.2 Results

Of the 120 initial participants, 5 participants failed to complete the dependent measures of interest. These participants did not differ significantly from those that completed the study on any of the demographic items ($p > .10$). Of the remaining 115 participants, most were males (61.74%), and reported some previous experience with sexually explicit materials (93.91%; 100.00% males vs. 84.44% females). Many identified their ethnicity as either Caucasian (67.83%) or Asian (20.86%), and they indicated their preferred world-view as Atheist, Agnostic or No Religion (46.96%) or as Christian (33.33%). Their mean age was 18.93 years ($SD = 1.46$).

The degree to which participants endorsed the centrality of the 19 different definitional elements of pornography varied considerably in this study. Mean acceptance on these measures ranged from a high of $M = 4.34$, for the item “are materials that promote sexual arousal,” to a low of $M = 1.55$, for the item “are materials that promote violence” (see Figure 2). Unsurprisingly, a repeated-measures ANOVA which compared the acceptance ratings across the 19 definitional elements was statistically significant,

Greenhouse-Geisser adjusted $F(8,922) = 107.42$, $p < .01$, partial $\eta^2 = .51$, indicating that the mean ratings varied more than would be expected by chance. The definitional elements that received the strongest endorsement (mean ratings greater than 4.0 on a 5-point scale), included materials that promote sexual arousal ($M = 4.34$), materials that promote sexual gratification ($M = 4.32$), and materials that depict sexual behaviour ($M = 4.22$). In contrast, the definitional elements that received the weakest endorsement (mean ratings less than 2.0 on a 5-pt scale) included materials that depict gender inequality ($M = 1.85$), materials that promote gender inequality ($M = 1.82$), materials that depict rape ($M = 1.64$), materials that depict violence ($M = 1.58$), materials that promote rape ($M = 1.56$), and materials that promote violence ($M = 1.55$).

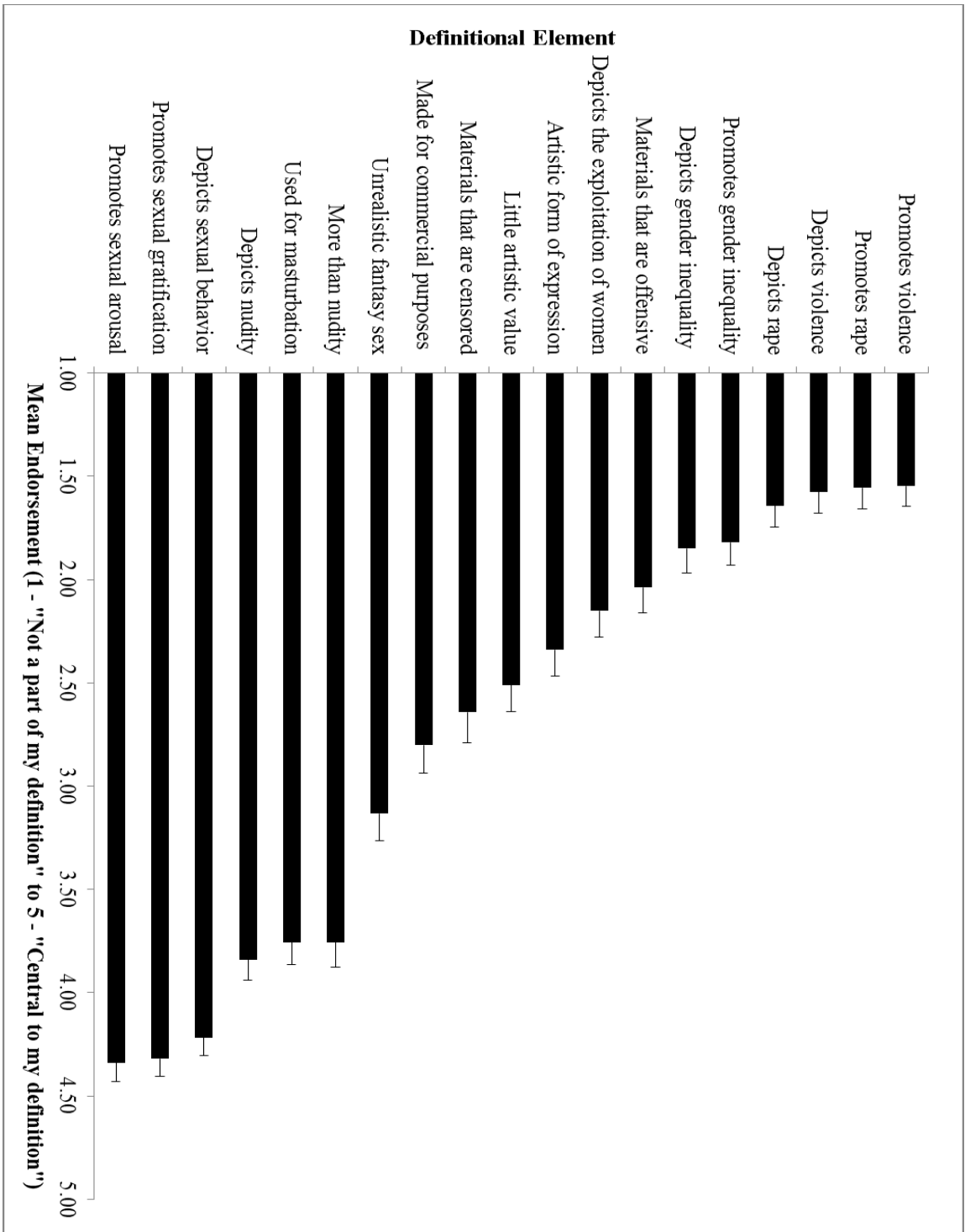


Figure 2. Mean endorsement of separate definitional elements that were applied to the concept of pornography. Associated standard errors are represented by error bars.

2.4.2.1 Exploratory gender comparisons

A multivariate analysis of variance (ANOVA) was conducted to explore gender differences in the endorsement of 19 definitional elements. The multivariate test was significant, $F(19,86) = 2.62, p < .01$, indicating the presence of one or more gender differences across the 19 elements. Subsequent univariate ANOVAs revealed significant gender differences in the endorsement of 6 definitional elements. Compared to men, women indicated that offensiveness, the depictions of gender inequality and violence, and the promotion of gender inequality, rape and violence were all significantly more central to their definition of pornography (see Table 3). There were no significant gender differences in the endorsement of the remaining 13 definitional elements.

Table 3. The Mean Endorsement* of Each Definitional Element of Pornography by Gender

	Males	Females	Sig.
Promotes sexual arousal	4.34	4.34	n.s.
Promotes sexual gratification	4.26	4.42	n.s.
Depict sexual behavior	4.15	4.32	n.s.
Depicts nudity	3.78	3.95	n.s.
Used for masturbation	3.85	3.61	n.s.
More than nudity	3.59	4.02	n.s.
Unrealistic fantasy sex	2.99	3.37	n.s.
Made for commercial purposes	2.82	2.78	n.s.
Materials that are censored	2.42	3.00	n.s.
Little artistic value	2.46	2.59	n.s.
Artistic form of expression	2.51	2.07	n.s.
Depicts the exploitation of women	1.95	2.46	n.s.
Materials that are offensive	1.79	2.44	< .01
Depicts gender inequality	1.62	2.22	< .05
Promotes gender inequality	1.55	2.22	< .01
Depicts rape	1.49	1.87	n.s.
Depicts violence	1.34	1.90	< .01
Promotes rape	1.29	1.98	< .01
Promotes violence	1.31	1.93	< .01

* Scales ranged from 1 – “Not a part of my definition” to 5 – “Central to my definition.”

2.4.2.2 Planned comparisons

The endorsement of the depiction of sexual behaviour as a central and important definitional element of pornography was compared to the endorsements of other

definitional elements of pornography using 18 paired t-tests with Bonferroni corrections for $k = 18$ contrasts. The results of these tests indicated that while the importance of the depiction of sexual behaviour was significantly greater than most other definitional elements examined in this study, it was not significantly more endorsed than definitional elements that define pornography as materials that promote sexual arousal, and materials that promote sexual gratification (see Table 4). As previously mentioned, all three of these definitional elements were strongly endorsed in this sample and none of them differed by gender, suggesting that these elements were central to lay conceptualizations of pornography.

Table 4. Apriori Paired Contrasts Comparing Acceptance of the Depiction of Sexual Behaviour as a Definitional Element of Pornography with All Other Definitional Elements

	<i>t</i>	<i>df</i>	Sig.*
Promotes sexual arousal	-.946	113	n. s.
Promotes sexual gratification	-.939	113	n. s.
Depicts nudity	5.009	114	< .001
Used for masturbation	3.834	114	< .01
More than nudity	4.463	114	< .001
Unrealistic fantasy sex	6.974	113	< .001
Made for commercial purposes	8.987	112	< .001
Materials that are censored	10.319	114	< .001
Little artistic value	12.108	114	< .001
Artistic form of expression	12.425	114	< .001
Depicts the exploitation of women	14.262	112	< .001
Materials that are offensive	15.621	113	< .001
Depicts gender inequality	16.839	114	< .001
Promotes gender inequality	17.970	114	< .001
Depicts rape	19.023	113	< .001
Depicts violence	20.336	114	< .001
Promotes rape	19.557	113	< .001
Promotes violence	20.415	114	< .001

* 2-tailed; Bonferroni correction, $k = 18$

Acceptance of pornography as a depiction of sexual behavior was found to be significantly higher than acceptance of the other two definitional elements that characterize the sexual content of pornography. Specifically, the depiction of sexual

behaviour was more strongly endorsed than the depiction of nudity, and was more strongly endorsed than depiction of something more than nudity alone (see Table 4). Despite these differences, it is important to keep in mind that these three definitional elements received moderate to strong endorsement (see Figure 2), which indicates that all three were perceived to be relatively important for understanding this construct.

Interestingly, moderate differences were found when the endorsement of pornography as a depiction of sexual behaviour was compared to other definitional elements that were infrequently mentioned among explicit lay definitions of pornography in Study 2. For example, endorsement of pornography as a depiction of sexual behaviour was significantly higher than endorsement of pornography as an unrealistic depiction of fantasy sex, as something made for commercial purposes, as a material that is censored, or as material that has little or some artistic value (see Table 4). Importantly, the endorsement of each of these elements ranged from moderate to low (see Figure 2), indicating some, albeit weak, general support for these conceptualizations.

Finally, the largest effects were found when endorsement of pornography as a depiction of sexual behavior was compared to endorsements of pornography as the depiction of anti-women content, or the promotion of anti-women consequences. Specifically, acceptance of pornography as a depiction of sexual behaviour was significantly greater than acceptance of pornography as a material that depicts gender inequality, promotes gender inequality, depicts rape, depicts violence, promotes rape, and promotes violence (see Table 3). Given the low average endorsements for these definitional elements, it appears that these elements do not feature centrally in lay conceptualizations of pornography, particularly for males in this sample (see Figure 2). Although it is noteworthy that females tended to endorse these elements more strongly than males, very few females in the sample indicated that any of these elements were central to their definitions of pornography (e.g. 4 or 5 on the scale).

2.4.3 Discussion

Taken together, the results of Study 3 partially clarify some of the outstanding concerns that arose following the content analysis of explicit lay definitions of

pornography. It appears from these results, for example, that the depiction of sexual behaviour may be a more important element for conceptualizing pornography than the depiction of nudity alone. With that in mind, the endorsement of depiction of nudity was still quite high, which indicates that the depiction of nudity is not a trivial component of lay persons' conceptualization of pornography.

The current study also revealed that the sexually arousing properties of materials may be a more important definitional element for understanding pornography than was suggested by the lack of explicit mention of this element in the content analysis of lay definitions. Of the three items designed to assess the importance of the sexual arousal function of pornography, two of the items were among the three most strongly endorsed definitional elements, both receiving average ratings near the top of the scale. These results stand in stark contrast to the results that followed the content analysis of explicit lay definitions of pornography where only 16% of 409 explicit definitions of pornography mentioned the function of sexual arousal, gratification or release. This discrepancy serves as an excellent reminder that the results of qualitative analyses of explicit definitions can miss non-salient or taken-for-granted characteristics that can be strongly endorsed if participants are asked about them directly. Of course, it remains possible that prompting lay persons with closed-ended questions allows them to endorse elements of pornography that would never have occurred to them otherwise. Unfortunately, these alternative perspectives cannot be resolved easily with the current data.

With the exception of the discrepancy regarding sexual arousal, the pattern of endorsement of the various definitional elements of pornography roughly mirrors the frequencies with which these definitional elements were mentioned in explicit lay definitions of pornography. Most notably in the current study, pornography as a depiction of sexual behaviour was much more strongly endorsed than pornography as a material that depicts anti-women content or promotes anti-women consequences. Similarly, in Study 2, over half of all definitions of pornography mentioned the depiction of sexual behaviour while fewer than 2% mentioned the depiction or promotion of anti-women behaviour. Taken together, it would appear that definitional elements of

pornography that have been inspired by radical feminist theory are not often found in lay conceptualizations of pornography, though admittedly, these elements appear to be somewhat more frequent among females than among males, at least among the undergraduate students studied so far.

It is important to note that the decision to have participants complete the endorsement exercise after they viewed and rated various sexual and non-sexual stimuli may have differentially influenced the endorsement of various definitional elements. Arguably, this decision may have made the endorsement of these items more consistent with the sample of materials they were shown than would have been the case had the materials not been presented. While admittedly not the ideal approach, the influence of the rating task on the endorsements was likely small in this study, as most participants (94%) had previous experience with sexually explicit materials, and the materials employed in this study were reasonably representative of the materials that are readily available (see Chapter 3 for sampling details). For most participants then, this rating task should have served as a reminder of the nature materials with which they were already familiar.

2.5 General Discussion

Three studies were conducted to help clarify the nature of pornography and examine the conceptual fit between lay and expert definitions of this construct. First, a thematic analysis was conducted on a heterogeneous sample of explicit expert definitions of pornography in an effort to identify and organize prominent and important definitional elements and themes. The results of this study should help inform researchers who are concerned with the conceptual meaning of pornography about the range of definitional elements that have been used to discuss this construct across different academic disciplines. Second, the themes that were identified in the expert definitions of pornography were used to guide a content analysis of explicit lay definitions of pornography. This study is the first of its kind, and provides a basis for a rudimentary assessment of the extent of correspondence between expert and lay definitions of pornography. Lastly, a third study was conducted to determine if relative differences in the frequencies of definitional elements found among lay definitions of pornography

represented meaningful differences in the importance of each definitional element for defining pornography. This last study replicates and extends some of the findings that emerged in second study, but also indicates that some caution may be warranted when interpreting the same results.

Despite the varied definitional themes and elements that emerged in the thematic analysis of expert definitions of pornography, most undergraduate participants mentioned relatively few of these features in their explicit definitions of pornography. In contrast to the predominant reliance on the sexual arousal and gratification function of materials that is found in explicit expert definitions of pornography (Rea, 2001), most participants explicitly defined pornography more simply as the depiction of sexual content, nudity or sexual behavior. Relatively few participants augmented this definition further by including a consideration of intended or consequent sexual arousal or gratification function of these materials, and virtually no participants discussed such functions without mentioning sexual content. Importantly however, when participants were queried directly after having viewed stimuli that varied in sexual content, most indicated strong endorsement for the view that pornographic materials are those that induce sexual arousal and gratification.

It is also noteworthy that few explicit definitions of pornography were like the explicit expert definitions inspired by radical feminism. Similarly, when asked directly, most participants indicated that depictions of anti-women content, and materials that cause anti-women impacts were not a part of their definitions of pornography. In both cases, lay males were less likely to conceptualize pornography in this light than lay females, though even among females, explicit definitions of this sort were infrequent, and the endorsement of such views was low. In stark contrast, some academics continue to insist that pornography involves the yoking of sexual representations to depictions of oppression, dehumanization and violence, while “erotica” describes sexual depictions that are free of such antisocial content (Kovetz, 2006 as cited by Kuhn et al., 2007; see also Longino, 1980; Steinem, 1980). The results of the current research suggest that radical feminist definitions of pornography are not a common feature of lay conceptualizations of such material. On the basis of this information, continued reliance

on such conceptual definitions of pornography by empiricists is unadvisable. For those working in areas that involve a consideration of violent, degrading or dehumanizing sexual depictions, such materials should be clearly identified as a particular subset of the broader pornographic genre, which appears from the current analysis to be more appropriately conceptualized as the depiction of sexual content.

Although lay and expert definitions of pornography appear to differ in many particulars, it is interesting to see evidence that superordinate themes differentiating between the content and function of pornography are apparent in both groups. Unfortunately, on the whole, it remains unclear if lay individuals adopt more content- or function-based definitions of pornography. In Study 2, discussions of the content of pornography occurred almost three times more frequently than discussions of the function of pornography. However, of the six definitional elements that received average endorsement ratings above the scale midpoint in Study 3, three elements (e.g. promotes sexual arousal, promotes sexual gratification, used for masturbation) involved functional descriptions of pornography. Further research would be needed to clarify the predominant superordinate theme employed by lay persons, and to determine what, if any, real-world implications follow from such distinctions.

Taken together, these results suggest that for lay persons, pornographic materials are those that depict sexual content and impact sexual arousal. Such cognitive representations likely reflect a lifetime of incidental experiences with the concept of pornography and these conceptualizations may help inform the study of attitudes towards, as well as experiences with pornographic material. From the current results, it would appear that positive attitudes towards pornography indicate an endorsement of depictions of nudity and sexual behaviour that enhance sexual arousal, rather than an endorsement of materials that express creativity, that depict fantasy, exploitation, rape or violence, or materials that oppress, offend, or produce profit.

The results of these studies are also useful for those who wish to develop a standardized operational definition of pornography. While the field can simply assert an arbitrary definition based on a reasoned debate of imperative definitional elements, there

is an elegant simplicity to adopting a definition that is aligned with participants' perceptions of such materials. It seems likely that measurement error would be unnecessarily high if participants were tasked with answering questions regarding pornography while using a definition of pornography that was largely discrepant from their own. In addition to the reduction in measurement error, adopting a lay-informed definition of pornography would also clarify the interpretations of many findings, and reduce the possibility that miscommunicated findings will prejudicially impact social policy. On the basis of the current results, researchers with such an interest would do well to consider defining pornography as a depiction of nudity and sexual behavior that is likely to increase sexual arousal.

2.5.1.1 General Limitations

It should be clear to most readers that the studies described here represent a preliminary exploration of both expert and lay definitions of pornography, and should not be considered an exhaustive analysis of the subject. More expert definitions of pornography exist than were reviewed, and an inclusion of additional definitions may result in the identification of additional definitional elements that were not studied here. Further, the reliance on convenience samples of undergraduate students in introductory psychology courses may not adequately capture lay definitions of pornography held by the Canadian population at large. With so little empirical work to draw on, however, it is difficult to even speculate on how much or little these samples' specific characteristics would limit the generalizability of the current findings. With this limitation in mind, however, most studies concerning the use or impact of pornographic materials still primarily employ undergraduate samples, and so at the very least, the results of the current work should still usefully inform such ends.

2.5.1.2 Future Directions

While explorations of lay definitions of pornography have some utility, it is imperative that work in this area move towards studying how materials are actually judged or categorized as pornographic or non-pornographic. It is one thing to gain an understanding of how participants believe that they are applying a concept, but there is no

guarantee that such beliefs accord with how people actually apply the concept in practice. Indeed, the view that concepts more generally can be adequately represented by definitions that contain all of the necessary and sufficient qualities that identify category membership and non-membership has been found to be thoroughly insufficient for explaining category representation and judgment (Smith & Medin, 1981).

On the basis of the current research, examinations of how pornography judgments are made should consider the extent of sexual content that is depicted and the extent to which such materials evoke sexual arousal in viewers, rather than the degree to which materials depict anti-women content or contribute to anti-women consequences or offence. Further, given the gender differences found in the current studies, a consideration of the impact of gender and other relevant individual difference factors (e.g. experience with pornography) on pornography judgments would also be prudent.

2.5.1.3 Conclusions

Despite a history of rather diverse and nuanced definitions of pornography formulated by experts concerned with the study or the meaning of this concept, most participants in the current sample espoused a much more streamlined view; for lay individuals, pornography appears to be the depiction of nudity and sexual behavior for the purpose of sexual arousal. While it may be premature to do so, social scientists who are searching for a clear conceptual definition of pornography should consider adopting a similar view, as it would be more aligned with participants' working concept of pornography.

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Chapter 3

3 Pornography Judgments

I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description [hard-core pornography]; and perhaps I could never succeed in intelligibly doing so. But I know it when I see it, and the motion picture involved in this case is not that. (*Jacobellis v. Ohio*, p. 197)

“I know it when I see it” may be the most famous phrase in the history of American jurisprudence. It was first popularized in 1964 by Justice Potter Stewart’s concurring opinion in the US Supreme Court’s decision to appeal the obscenity conviction of Nico Jacobellis who had shown a film called “The Lovers” at a public cinema. In this case, it was Justice Stewart’s belief that “The Lovers” did not exemplify “hard-core pornography,” and thus could not be found obscene. Interestingly, it was his discussion concerning the nature of obscenity, and not his ruling with regard to the film in question, that has received the most attention. For Stewart, obscenity—which he characterized as hard-core pornography—was something that was difficult to define in the abstract but more easily determined in practice.

Although Stewart’s admitted difficulty with clearly defining obscenity was poorly received by many legal scholars at the time (Gewirtz, 1996), little progress has been made on this front despite repeated refinements by the courts. Interestingly, the inability to advance a clear definition of obscenity may not be a unique failure of American jurisprudence, as formal definitions of a construct that attempt to specify the necessary and sufficient conditions for category membership often fail to adequately differentiate examples of category members from category non-members (Smith & Medin, 1981). Indeed, Stewart raises a similar point in some of his later writing about obscenity:

Although we have assumed that obscenity does exist and that we 'know it when we see it,' we are manifestly unable to describe it in advance except by reference to concepts so elusive that they fail to distinguish clearly

between protected and unprotected speech (*Paris Adult Theater 1 v. Slaton*, 1973, p. 84)

From this perspective, attempts to understand which materials constitute obscenity, or which materials constitute the closely related construct of pornography—the focus of the current research—are doomed to fail if they do not move beyond the study of formal definitions by examining how actual category judgments are made in practice.

3.1 The Reliability of Pornography Judgments

Historically, a small body of research has examined how lay individuals decide what sorts of materials are considered pornographic and what sorts of materials are not. A small number of studies, for example, have asked participants to review various stimuli and provide judgments using continuous rating scales that ranged from “not at all pornographic” to “extremely pornographic” (e.g. Amoroso, Brown, Pruesse, Ware & Pilkey, 1970; McDowall, 2008; Turnbull & Brown, 1977; see also Wallace, 1973 for a similar approach to the study of obscenity). Interestingly, such studies have reported evidence of high inter-subject agreement in pornography judgments (e.g. Amoroso et al., 1970, Turnbull & Brown, 1977; see also McDowall, 2008). For example, Amoroso and colleagues (1970) asked two groups of men to rate the extent to which 27 photographic slides were pornographic using continuous rating scales. One group of men produced these ratings while they were hooked up to machines that purportedly measured their physiological reactions, while another group of men did so without such presumed monitoring. These researchers reported high internal consistency of the mean ratings within each group, as well as a high rank order correlation between the ratings made by each group, $\rho = .87$. Taken together, these results indicate strong agreement in the relative pattern of average pornography judgments received by each image. Similarly, Turnbull and Brown (1977) have reported substantial relative agreement in the average pornography judgments of 19 photographic slides across four groups of raters that varied both by gender (e.g. male vs. female), and attitudes towards homosexuals (e.g. negative vs. positive).

These results are clearly at odds with theoretical conceptualizations of pornography that assert that pornography is idiosyncratic at the level of the individual (Kuhn, Voges, Pope, & Bloxsome, 2007), which are extensions of the argument that pornography is a cultural expression and therefore relative and temporally unstable (Attwood, 2002; see also Reed & Reed, 1972). Theorists who adopt these positions reject a bounded view of pornography by pointing out that it is difficult to identify clear boundaries that differentiate pornographic from non-pornographic materials. To illustrate, consider the assertion that pornography is simply the depiction of nudity or sexual behaviour. From this perspective, representations that feature nudity or sexual behavior are examples of pornography, while representations that lack nudity and sexual behaviour are not. Unfortunately, the parameters of this definition indicate that nude representations that appear in fora such as National Geographic, anatomy textbooks, and even the Louvre, should be considered examples of pornography. Clearly, such an argument is not likely to be accepted by many people. Trying to develop systematic definitional rules to deal with these “grey-case” exceptions is difficult, as the nature of the rules seem arbitrary, idiosyncratic, and culturally relative.

However, evidence of “grey-case” examples of a category does not necessarily imply that category judgments cannot be made reliably. Indeed, “grey-case” examples are only problematic when one assumes that categories *should* have clearly demarcated boundaries. This assumption, however, does not accord with empirical evidence concerning category judgment. When *continuous* ratings of category membership are used, category exemplars tend to line up along a membership-continuum with no clear demarcations that distinguish category members from non-members (Hampton, 1979), and ratings of individual exemplars using continuous scales tend to be similar across people (Rosch, 1973). In contrast, when *dichotomous* category membership judgments are asked for, “grey-case” examples are found to exist, which are not reliably classified as members or non-members of a category by different individuals, or even by the same individuals over time (McCloskey & Gluckesberg, 1978). By adopting the view that pornography membership is a graded rather than a clearly demarcated phenomenon, it is possible to accept the notion that pornography is not a clearly defined category without assuming pornography judgments cannot be made reliably.

3.2 Individual Difference Characteristics

A small number of studies have instructed participants to make dichotomous category judgments when determining whether particular stimuli are pornographic or not pornographic (e.g. Byrne, Cherry, Lamberth, & Mitchell, 1973; Byrne, Fisher, Lamberth, & White, 1974; Eliasberg & Stuart, 1961; Reed & Reed, 1972; Stuart & Eliasberg, 1962). In contrast to the studies that have employed continuous rating scales, these studies have often found differences in pornography judgments across participants. Further, some of these studies have also found that differences in pornography judgments are systematically associated with individual difference factors. For example, Reed and Reed (1972) reported that women indicated that more sexual stimuli could be classified as pornography than men. Similarly, studies have also found that people who are very authoritarian (Byrne, Cherry, Lamberth, & Mitchell, 1973; Byrne, Fisher, Lamberth, & Mitchell, 1974; Eliasberg & Stuart, 1961), and people who react to sexual stimuli with high negative affect (e.g. erotophobes; Byrne et al., 1974), judge more sexual stimuli to be pornographic than people who are not authoritarian, and who react to sexual stimuli with low negative affect.

Theoretical explanations for such findings (e.g. Byrne et al., 1973; Byrne et al., 1974; Eliasberg, & Stuart, 1961) tend to assume that pornography judgments are akin to negative evaluative statements indicating that the stimuli in question are undesirable and deserving of censorship. In other words, much like Justice Potter Stewart's judgment, such explanations equate the concept of pornography with the concept of obscenity. In two particularly problematic studies, participants were actually provided with definitions of pornography that made this connection explicit (e.g. "obscene or licentious, foul, disgusting, or offensive, tending to produce lewd emotions", from Byrne et al., 1973 & Byrne et al., 1974). If it is reasonable to assume that the concept of pornography is strongly associated with the concept of obscenity among most people, then it seems likely that participants who are female, erotophobic, or highly authoritarian would be inclined to view most sexual material as pornographic.

This assumption, however, does not hold up to scrutiny as research using semantic differential scales has found that the concept of pornography can be reliably differentiated from the concept of obscenity (McDowall, 2008). In this study, participants reported that obscenity, as compared to pornography, was more unusual, tasteless, displeasing, hard, dirty, bad, disturbing and ugly. As pornography can be clearly differentiated from obscenity, pornography judgments may not necessarily indicate that a person finds such material objectionable, in which case, the rationale that seeks to explain individual differences in pornography judgments through differences in negative affective responses to sexual materials lacks merit. This may explain in part why studies that have not explicitly told participants that pornography should be equated with obscenity have failed to find evidence that pornography judgments are associated with gender (McDowall, 2008; Turnbull & Brown, 1977), authoritarianism (Eliasberg & Stuart, 1961; Stuart & Eliasberg, 1962), and degree of erotophobia-erotophilia (McDowall, 2008). Importantly, while it is unclear at this time if pornography judgments differ reliably as a function of individual difference characteristics, there is substantial evidence indicating that individual difference characteristics correlate with affective responses to sexual materials.

3.3 Affective Responses

Exposure to sexual stimuli is known to trigger both positive and negative affective reactions in both men and women (Rosen & Beck, 1988; Schmidt & Sigusch, 1970). In an effort to gain a better understanding of the affective correlates of pornography judgments, Amoroso and colleagues (1970) asked male participants to judge 27 pictorial slides along three dimensions. For each image, participants were asked to provide a “pleasant-unpleasant” evaluative rating, a sexual stimulation rating, and a pornography judgment using continuous rating scales. Individual ratings were subsequently averaged across participants to create mean image-level evaluative ratings, sexual stimulation ratings, and pornography judgments for each image. Multiple regression of these ratings revealed that mean image-level pornography judgments were highly determined by mean image-level evaluative ratings and mean image-level sexual stimulation ratings, and these effects were replicated with a subsequent sample. From this evidence, the authors

concluded that “material is seen as highly pornographic when it is *both* highly stimulating *and* quite unpleasant” (emphasis added; Amoroso, et al., 1970, p. 16).

While this conclusion supports the argument that pornography judgments are fundamentally negative statements about sexual media, there are reasons to question the validity of this connection. Unlike previous research (e.g. Byrne et al., 1974), Amoroso and colleagues (1970) averaged the data they collected across participants to compute separate evaluative ratings, sexual stimulation ratings, and pornography judgments for each of their images. Consequently, the statistical relationships they established reflect the average perceptions of a group of individuals. In effect, this method indicates that as images were perceived as more pornographic by the group, the group’s mean evaluations became more negative and the group perceived a higher level of mean sexual stimulation. Under such conditions, only a handful of participants would have to indicate increasingly negative evaluations as images became more pornographic for there to be a significant correlation between mean pornography judgments and mean evaluative ratings. In these circumstances, a significant correlation can occur even if most participants did not evaluate more pornographic imagery as more unpleasant (an identical rationale can also be applied to the relationship between pornography judgments and sexual stimulation ratings). In this way, it is possible for strong associations to exist between mean pornography judgments, mean evaluative ratings, and mean sexual stimulation ratings, without implying that individuals perceive highly pornographic images as *both* sexually arousing, and unpleasant. In sum, the results produced by Amoroso and colleagues (1970) tell us very little about the connection between pornography judgments and negative evaluations *at the level of the individual*, and should not be taken as definitive support for the view that pornography judgments are negative evaluative statements about sexually stimulating material without further scrutiny.

There are also further theoretical and empirical reasons to doubt the co-occurrence of sexual stimulation ratings and negative evaluations within the individual in response to highly pornographic images. First, consider the reasonable assumption that seeking out and consuming pornography is goal-directed behavior. While accidental contact with sexual imagery undoubtedly takes place, the vast majority of experience

with this material occurs as the result of purposive action (for a similar view, see Allen, Emmers-Sommer, D'Alessio, Timmerman, Hanzal & Korus, 2007). If pornography itself is aversive, why do most men, and a sizeable minority of women, choose to consume it (Carroll, Padilla-Walker, Nelson, Olson, Barry, Madsen, 2008; Hald, 2006; Traeen, Nilsen, & Stigum, 2006)?

Clearly, the driving force behind most consumption of pornography is the pursuit of sexual arousal and sexual gratification. It is widely assumed by many experts that the primary function of pornography is sexual arousal or gratification (e.g. Kuhn et al., 2007; Kutchinsky, 1991; Rea, 2001; Short et al., 2012; Wilson, 1978), and indeed, when explicit lay conceptualizations of pornography have been studied, the vast majority of participants strongly endorse this view (see Chapter 2, Study 3). Further corroboration of this perspective can be found in a survey designed by the Kinsey Institute for the Public Broadcasting System (PBS), which found that the top two reasons for accessing pornography were “[to] masturbate to/for physical release”, and “[to] sexually arouse myself and/or others” (PBS, 2002).

While it may be tempting for some to argue that sexual drive is so powerful that it can easily overcome any avoidance motivation that is triggered by unpleasant qualities of pornography, it is far more parsimonious to simply accept that sexual arousal is mentally *incompatible* with negative affect for most people. In point of fact, the joint experience of sexual arousal and negative affect is actually inconsistent with several theoretical models of sexual arousal as well as with empirical evidence concerning the joint experience of sexual arousal and negative affect. Information-processing theories of sexual arousal claim that an individual's degree of experienced sexual arousal is primarily a function of the degree to which they focus on and immerse themselves in sexual stimuli, and the degree to which they experience positive emotions (Bancroft, 1989; Rosen & Beck, 1988). From an empirical standpoint studies involving affective states of men and women following exposure to sexual stimuli typically find that subjective sexual arousal is more strongly related to positive rather than negative affect (Byrne et al., 1974; Koukounas & McCabe, 1997), and a recent meta-analysis has found a positive relationship between physiological sexual arousal and positive affect, whether

assessed directly or via self-report (Allen et al., 2007). Further, experimental evidence has shown that sexual arousal induced by exposure to sexual stimuli can actually decrease disgust reactions to sexual cues known to elicit disgust under other circumstances (Stevenson, Case, & Oaten, 2011).

In light of this review, it seems unlikely that the conclusion that highly pornographic materials are perceived as both highly sexually stimulating and highly unpleasant holds true at the level of the individual. Instead, it seems more likely that cues indicating the degree that an image is pornographic (e.g. nudity, etc.) can trigger sexual arousal in some individuals with little or no accompanying negative affect, while in other individuals it can trigger negative affect with little or no sexual arousal. Under these circumstances, mean pornography judgments could still be highly correlated with mean sexual stimulation ratings and mean evaluative ratings, as both would increase at the group level as the images become more and more pornographic. The more appropriate conclusion, however, would be that images that are judged to be highly pornographic are perceived to be either very sexually arousing *or* very unpleasant. To examine this issue properly, a study would need to examine individual-level correlations between sexual arousal and negative affective responses to stimuli that are considered highly pornographic.

3.4 Pornography Judgments: Reliability, Individual Differences, and Affective Correlates (Study 1)

Much of the research concerning pornography judgments is now quite old and there are several reasons to wonder if similar results would be found today. First, there is historical evidence that the meaning of pornography has changed since its first inception (Kendrick, 1987). In what became known as the Oxford English Dictionary, pornography was initially defined as “a description of prostitutes or prostitution, as a matter of public hygiene” (Murray, 1909, p. 1131). Clearly, this definition departs substantially from the meaning of the concept today. Similarly, contemporary theoretical accounts of pornography as concept continue to insist that the meaning of this construct is neither fixed nor universal, as it is cultural expression that can only be understood by examining the values of the society that produces it (Attwood, 2002; Kendrick, 1987).

Taken together, these points raise some important questions about the reproducibility of studies involving pornography judgments as particular meanings of pornography may be tied to specific temporal periods or cultures. For these reasons, it is worth comprehensively revisiting the study of pornography judgments with a contemporary sample to determine the extent to which pornography judgments can be made reliably, to determine the extent to which pornography judgments are associated with individual difference factors, and to determine the extent to which pornography judgments are associated with ratings of sexual stimulation and unpleasantness.

When it comes to the reliability of pornography judgments, research that has used continuous scale ratings of pornography membership has indicated high relative agreement in pornography judgments across groups of raters. Assuming that high relative agreement in pornography judgments would be replicated across groups of men and groups of women, the current study examined a more stringent test of the reliability of pornography ratings by comparing pornography judgments made by groups of people with high or low experience with sexually explicit materials. Research in other concept domains has found that individuals with more experience with a category conceptualize that category differently, often much more extensively, than do individuals with little or no experience (Chi, Feltovich & Glaser, 1981; Medin, Lynch, Coley & Atran, 1997). Consequently, it was hypothesized that relative agreement in pornography judgments across groups would be lower if pornography judgments made by people with a great deal of experience with sexual materials were compared to pornography judgments made by people with less experience with such materials.

The consistency in pornography judgments between groups is only one of several ways to assess the reliability of such judgments. One issue with assessing consistency in pornography judgments with between-group correlations is that the data aggregation that is necessary for such assessments results in more stable estimates of each judgment, which in effect discards idiosyncratic variance as “error.” Consequently, the current study also explored the degree of agreement in pornography judgments across individual participants, and examined within-subject consistency by having participants make repeated judgments for some media. Theoretical accounts of pornography that emphasize

the idiosyncratic nature of this concept across people suggest that between-subject consistency in pornography judgments should be quite low.

As previously described, there is weak and inconsistent evidence that pornography judgments are related to gender, authoritarianism and erotophobia. Given the nature of this evidence, no strong hypotheses were warranted concerning the relationships between these variables and pornography judgments in the current study. However, as women, authoritarians and sexual conservatives tend to express more negative affect in response to sexual imagery than males (Rosen & Beck, 1978), non-authoritarians (Byrne et al., 1973), and erotophiles (Fisher, Byrne, White, & Kelly, 1988), these individual difference factors were expected to be associated with ratings of the unpleasantness of the stimuli. Consistent with this hypothesis, as well as with the view that pornography use is purposive behaviour, it was also expected that those with low experience with sexual materials would report that the stimuli were more unpleasant than those with high experience with such materials.

Given the strikingly high correlations reported by Amoroso and colleagues (1970), it was anticipated that mean image-level (synonymous with mean group-level) pornographic judgments would be highly determined by mean image-level sexual stimulation ratings and mean image-level evaluative ratings, at least among males in the sample. The current study also sought to determine if the generalizability of these associations could be extended to other participant groups including women, as well as to people with high and low experience with sexual materials.

Finally, to determine if pornography was experienced as both highly sexually stimulating and very unpleasant, correlations between negative evaluations and sexual stimulation ratings were assessed in three ways: at the level of the image by aggregating ratings across participants; at the level of the individual by aggregating ratings across all images; and at the level of the individual considering ratings for each image separately.

3.4.1 Method

3.4.1.1 Participants

This study recruited 149 participants ($n = 71$ males, $n = 78$ females, $n = 1$ unidentified) from Western University's psychology research pool (for Letter of Information and Ethics Approval, see Study 1 in Appendix A). Participants were asked about their previous experience with sexually explicit materials, and those who reported use within the previous month were designated high experience users ($n = 74$) while those who reported less frequent use or no use were assigned to the low experience group ($n = 74$; $n = 1$ unidentified).

As approximately 80% of men and 25% of women report relatively regular experience with pornography (e.g. within the last month, see Hald, 2006), extra effort was made to combat sampling deficiencies stemming from self-selection. For this reason, the recruitment poster did not mention the stimulus rating task described below, and both the recruitment poster and letter of information strongly emphasized the importance of recruiting individuals with a range of views regarding sexual representations (similar to the approach used by Wallace, 1973).

A total of 11 participants were excluded from further analysis. Participants were excluded if they failed to identify their gender or their previous experience with sexual materials ($n = 2$), or if they failed to follow instructions in the rating task described below, either by failing to participate in the task ($n = 1$), or by rating two non-sexual test images as moderately or more pornographic, indicating inattention to the task at focus ($n = 8$). These exclusions resulted in a total sample of $N = 138$, including $n = 29$ males with low experience with sexually explicit materials, $n = 37$ males with high experience with sexually explicit materials, $n = 42$ females with low experience with sexually explicit materials, and $n = 30$ females with high experience with sexually explicit materials. Excluded cases were marginally more likely ($p < .07$) to be non-Caucasian (66%) than the participants retained for study (40%), but were similar on other demographic

dimensions including gender, age, religion, religiosity, as well as previous experience with sexual materials.

3.4.1.2 Materials and Instruments

3.4.1.2.1 Sexually Explicit Images

This study used 50 digital images which ranged in content from not overtly sexual to sexually explicit. These images were obtained from a popular online conveyor of free sexually explicit materials (www.xnxx.com), which at the time of the study was ranked as the 123rd most frequently accessed website in the world by Alexa.com. On this website, links providing free access to sexual material were organized into 289 genre specific categories (e.g. 3d, amateur, high heels, wife, etc.). On July 26, 2011, the most recently posted image set from each of the 289 genre categories was downloaded. Image sets typically consisted of between 10 and 20 individual images. From these image sets, individual images were sampled by first randomly selecting 50 image categories (with replacement to ensure that each image had equal probability of being selected), and then randomly selecting an image within that category (without replacement). The resulting 50 image sample is reasonably representative of the variety of content that could be accessed through this web service on July 26, 2011. As it is typical for most pornographic image sets to contain one or more “establishing shots” depicting clothed models, a number of images sampled for use in this study did not depict nudity or sexual behavior. To reduce participant burden in the rating task, the 50 images were randomly divided into two different sets of 25 sexual images and each participant was only asked to rate the images from one set or the other.

An additional 5 images were arbitrarily selected from the remaining downloaded images to familiarize participants with the range and diversity of images that they could be asked to evaluate. Finally, two pictures that were not overtly sexual, one of a clothed female running along a beach and the other of a clothed heterosexual couple holding hands while out for a walk, were used to familiarize participants with the rating procedure.

3.4.1.2.2 Authoritarianism

Authoritarianism was measured with a shortened version of Altemeyer's Right-wing Authoritarianism scale (Altemeyer, 1996; see Appendix J). Those high in right-wing authoritarianism score high on measures of prejudice and ethnocentrism and tend to espouse conservative political and economic values (Altemeyer 1996, 1998). More relevant to the current research, law makers who are high in authoritarianism are also more likely to indicate that they would endorse laws limiting free speech and freedom of the press (Altemeyer, 1998). In this study, participants responded to 10 item statements (e.g. "Gays and lesbians are just as healthy and moral as anyone else."), with 9 point scales that ranged from -4 ("Very Strongly Disagree") to +4 ("Very Strongly Agree"). The responses to these 10 items were averaged with reverse coding where appropriate so that higher scores indicated greater right-wing authoritarianism. This scale had reasonable internal consistency (Cronbach's $\alpha = .81$).

3.4.1.2.3 Erotophobia-Erotophilia

Erotophobia-erotophilia was assessed with the short form of the Sexual Opinion Survey (Fisher et al., 1988; Appendix I) which was designed to measure the "learned disposition to respond to sexual stimuli with positive-to-negative affect and evaluations" (Fisher et al, 1998, p. 218). The short form of the Sexual Opinion Survey has been shown to be highly correlated with full SOS measure, which has good test-retest reliability ($r = .85$ for males and $r = .80$ for females) and extensive evidence of construct validity (see Fisher et al., 1988). To complete this measure, participants were asked to respond to 5 statements using 7-point Likert-type scales that ranged from 1 ("I strongly agree") to 7 ("I strongly disagree"). Item examples included "Almost all pornographic material is nauseating" and "The thought of engaging in unusual sexual practices is highly arousing." Responses to these items were summed with reverse coding as appropriate so that higher scores indicated more erotophilia (Cronbach's $\alpha = .69$).

3.4.1.3 Procedure

Participants completed this study online, and were asked to do so in private. Participants began by completing two questionnaires, one to assess demographic information (Appendix B) and the other to assess previous experience with pornography (Appendix C). Next, participants completed the short right-wing Authoritarianism scale (Appendix J), and the short-form of the Sexual Opinion Survey (Appendix I).

After these questionnaires were completed, participants began the stimulus rating task by reading instructions that explained the nature of the task (see Appendix K). Afterwards, participants were shown the 5 arbitrarily selected sexual images to standardize their mindset and to give them some indication of the range of images that would follow. Each of these images was presented individually and participants were able to advance through them at their own pace. Next, participants were given instructions to rate the two non-sexual images to familiarize themselves with rating procedure. Each image was rated using four 7-point rating scales that assessed the degree to which participants found the image pornographic, unpleasant, and sexually stimulating (see Appendix L). Low ratings on these scales indicated that the images were *extremely* pornographic, unpleasant, and sexually stimulating, while high ratings on these scales indicated that images were *not at all* pornographic, unpleasant, and sexually stimulating. This task also served to provide baseline ratings of non-sexual images that were used to eliminate participants who were not following instructions.

After the practice slides, each participant was shown one of the two sets of 25 sexual slides and asked to make ratings after each (see Appendix L). These pictures were shown in random order for each participant. To gauge within-person reliability in the ratings, once participants had finished the 25 ratings, they were asked to re-evaluate two of the images that they had previously rated. Once all ratings were completed, participants were forwarded to a debriefing page (see Appendix D: Study 1) that explained the nature of the study.

3.4.1.4 Data Structure

As a result of this procedure, each image within image set A was rated by $N = 72$ individual participants, while each image in image set B was rated by $N = 66$ individual participants. More specifically, each of the four groups defined by gender and experience with sexually explicit materials provided between 12 and 24 independent ratings for each of the 50 sexual images (see Table 5 below).

Table 5. The Number of Participants Who Provided Pornography Judgments for Each Image Set by Gender and Experience with Sexually Explicit Materials.

	All Participants	Low Experience		High Experience	
		Males (n)	Females (n)	Males (n)	Females (n)
Image set A	72	17	24	19	12
Image set B	66	12	18	18	18

3.4.2 Results

3.4.2.1 Demographic Information

Participants ranged in age from 18 to 31 years old ($M = 18.70$, $SD = 1.65$), and were primarily Caucasian (60.58%) or Asian (27.01%). The most commonly endorsed religious views were: Christian (38.24%); Atheist (23.53%); and Agnostic (14.71%). Most said that they never (39.13%) or only infrequently (40.58%) attended religious services or functions.

Observed right-wing authoritarianism scores ranged from -4.00 to +2.40, and the group mean was below the theoretical scale midpoint, $M = -1.20$. Observed scores on the short-form of the sexual opinion survey were more diverse, ranging from 0.00 to 30.00 (full scale range), and the group mean was slightly higher than the theoretical scale midpoint, $M = 16.84$.

All demographic and individual difference variables were compared across gender using chi-square analyses and t-tests as appropriate. There was a significant gender difference in ethnicity, $\chi^2(2) = 9.86, p < .01$, with more males reporting Asian ethnicity (37.88%) and fewer males reporting Caucasian ethnicity (46.97%) than females (16.67% vs. 72.22%). Males reported significantly higher right-wing authoritarianism than females in the sample ($M_{males} = -0.91, SD_{males} = 1.46; M_{females} = -1.47, SD_{females} = 1.20$), $t(133) = 2.48, p < .05$, but males and females did not differ in erotophobia-erotophilia. The remaining demographic variables were distributed evenly across gender.

All demographic and individual difference variables were also compared across different levels of experience with sexually explicit materials. These analyses found significant demographic differences between participants with high and low experience with sexually explicit materials. Compared to those with low experience, participants with high experience with sexually explicit materials were older ($M_{low} = 18.39, SD = 0.71; M_{high} = 19.03, SD = 2.21$), $t(78) = -2.25, p < .05$, and more likely to identify as atheist or agnostic (26.76% vs. 49.25%) than as Christian (47.89% vs. 26.87%). Those with low and high experience with sexually explicit materials also differed in the degree of reported right-wing authoritarianism, $t(133) = 2.75, p < .01$, and erotophobia-erotophilia, $t(135) = -5.17, p < .01$. Participants who reported low experience with sexually explicit materials were higher in authoritarianism ($M_{low} = -0.89, SD = 1.37; M_{high} = -1.52, SD = 1.28$), and lower in erotophilia ($M_{low} = 14.39, SD = 6.10; M_{high} = 19.33, SD = 5.03$), than participants who reported high experience with sexually explicit materials. These groups were not otherwise differentiable on the remaining demographic factors.

3.4.2.2 Reliability of Pornography Judgments

The reliability of pornography judgments was assessed using three methods. Replicating previous methods that have been used (see Amoroso et al., 1970; Turnbull & Brown, 1978), reliability was first assessed by examining between-group consistency in image-level mean judgments. Next, a more rigorous exploration of the reliability was conducted by examining between-subject consistency in pornography judgments. Finally, within-subject consistency in pornography judgments was also explored.

3.4.2.2.1 Between-group consistency

Between-group consistency was examined by comparing image-level means across the four groups defined by gender and experience with sexually explicit materials. Image-level means were calculated by averaging responses across participants for each image. Thus, image-level means were specific to each image and reflected the average judgments or ratings that the image received across all participants who viewed it. This process was done separately for each of the four groups and the resulting image-level means were then correlated between the groups. Thus, this method indexed the relative agreement in the ranking of image-level mean pornography judgments across the four groups of participants.

Between-group consistency in pornography judgments was assessed independently for each of the two image sets that were used in this study. The results revealed considerable between-group consistency in the image-level mean pornography judgments. Correlations between the mean pornography judgments made by males with low experience, females with low experience, males with high experience, and females with high experience ranged from $r = .94$ to $r = .97$ for participants who viewed image set A (Table 6: upper right diagonal). Similarly, the correlations between the judgments made by the same groups who viewed image set B ranged from $r = .97$ to $r = .99$ (Table 6: lower left diagonal).

Table 6. Between-Group Correlations of Image-Level Mean Pornography Judgments

	ML	MH	FL	FH
Males with Low Experience (ML)	-	.97	.95	.94
Males with High Experience (MH)	.98	-	.94	.95
Females with Low Experience (FL)	.97	.99	-	.96
Females with High Experience (FH)	.98	.98	.97	-

Notes: All correlations are significant $p < .05$; Correlations above the diagonal are for the groups who reviewed image set A while correlations below the diagonal are for the groups who reviewed image set B

3.4.2.2.2 Between-subject consistency

An examination of between-subject consistency requires a method that does not involve image-level mean judgments. By averaging pornography judgments across participants for each image, group-level variability in these ratings is produced at the cost of subject-level variability. To compare subject-level variability in pornography judgments across participants, an alternative aggregation method had to be devised. In this case, between-subject consistency in pornography judgments was examined by exploring inter-individual correlations in pornography judgments. To accomplish this, within each image set, each participant's pornography judgments were correlated with all of the other participants' pornography judgments. For each participant, this resulted in separate correlation coefficients that reflected the degree to which their individual pornography judgments matched the judgments made by all of the other participants who viewed the same images. Next, for each participant, these correlation coefficients were averaged to create means of the between-subject correlations. These means indicated the general degree of association between that participant's judgments and the judgments made by the other participants. The resulting means were very negatively skewed in both image sets ($Range_A = .15 - .80$, $Range_B = .03 - .86$), but in general, indicated very high

levels of agreement in pornography judgments across participants, $Mdn_A = .70$ and $Mdn_B = .81$ (see Figure 3).

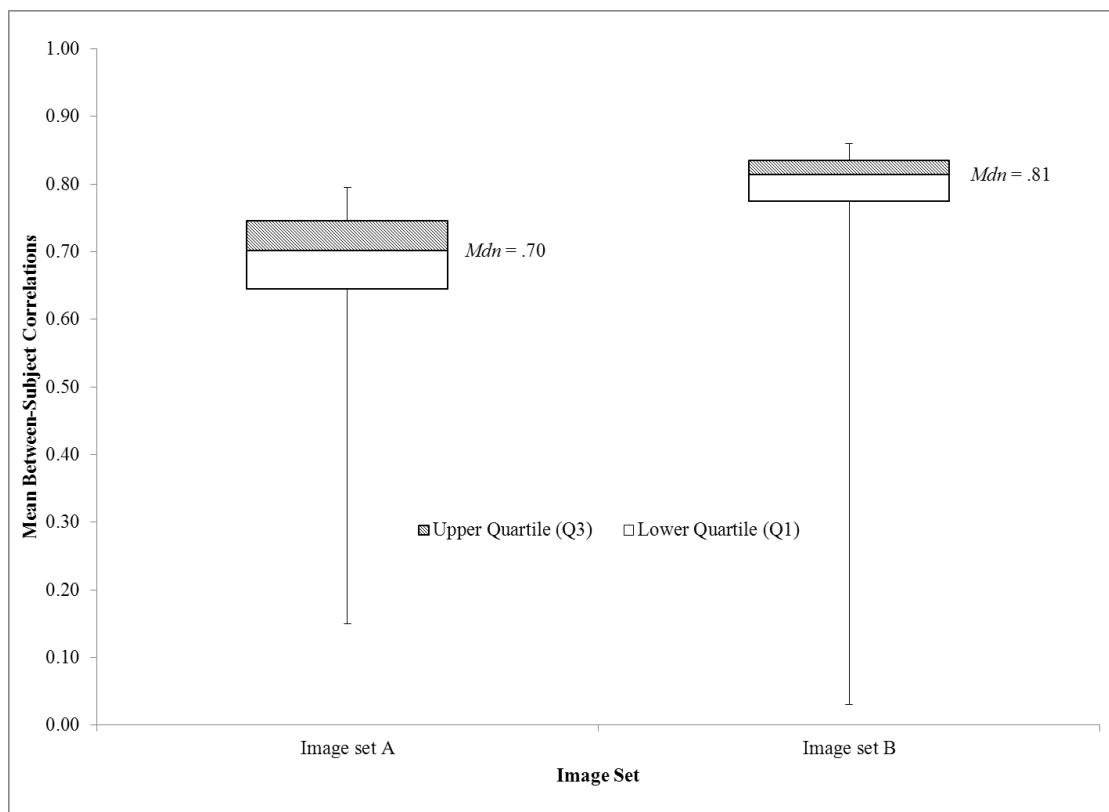


Figure 3. Boxplots depicting the distributions of mean between-subject correlations of pornography judgments by image set.

3.4.2.2.3 Within-subject reliability

Within-subject reliability in the pornography judgments was assessed by comparing repeated pornography judgments to the same stimuli. To this end, each participant was asked to rate two images twice, and correlations were calculated between the pornography judgments they provided. The resulting correlations were all significant and moderate to high in magnitude. For participants who reviewed image set A, the correlations for these repeat judgments were $r_{A15.A26} = .65$, and $r_{A16.A27} = .82$. For participants who reviewed image set B, the correlations for these repeat judgments were $r_{B15.B26} = .84$, and $r_{B16.B27} = .73$.

3.4.2.3 Individual Difference Variables

Individual-level mean aggregates of pornography judgments and unpleasantness ratings were created in order to examine the associations between individual difference variables and pornography ratings. For example, individual-level mean pornography judgments were calculated by aggregating judgments across the 25 images viewed by each participant. These aggregates reflected participants' average tendency to indicate that images were more or less pornographic. The same process was used to calculate individual-level mean unpleasantness ratings. A combination of Pearson product-moment correlations and t-tests were employed to assess the association of individual-level mean pornography judgments and unpleasantness ratings with individual difference variables.

3.4.2.3.1 Pornography Judgments

Before aggregating the individual-level mean pornography judgments, the internal consistency of the pornography judgments was assessed using Cronbach's α , and this was done separately for each image set. As shown in Table 7, the internal consistency of the pornography ratings was very high for both image sets ($\alpha > .85$), regardless of whether it was calculated across the full sample that rated each image set, or separately for each of 4 groups defined by gender and experience with sexually explicit materials. These results indicated some evidence for unidimensionality in the "pornography" construct across images.

Table 7. Cronbach α Reliabilities of the 25 Pornography Judgments

	All Participants	Low Experience		High Experience	
		Males	Females	Males	Females
Image Set A	.94	.94	.93	.90	.96
Image Set B	.95	.92	.85	.94	.96

Interestingly, individual-level mean pornography judgments were not reliably associated with any of the individual difference variables explored in this study (see Table 8 & Table 9). Among participants who viewed image set A, pornography judgments were significantly correlated with erotophobia-erotophilia, $r = .30$, $p < .05$, but were not associated with right-wing authoritarianism, $r = .02$, gender, $t(70) = -1.58$, or experience with sexually explicit materials, $t(70) = 0.23$. When the analyses were replicated for participants who viewed image set B, none of the associations remained significant: erotophobia-erotophilia, $r = .10$, right-wing authoritarianism, $r = .06$, gender, $t(63) = 0.51$, and experience with sexually explicit materials, $t(63) = -1.03$.

Table 8. Correlations of Right-Wing Authoritarianism (RWA) and Erotophobia-Erotophilia (SOS) with Individual-Level Mean Pornography Judgments and Individual-Level Mean Unpleasantness Ratings Among Participants in Chapter 3 - Study 1

	Image set A		Image Set B	
	Mean Porn.	Mean Unp.	Mean Porn.	Mean Unp.
RWA	.02	-.24*	.06	.10
SOS	.30*	.58**	.10	.50*

Note: * $p < .05$; ** $p < .01$

Table 9. Individual-Level Mean Pornography Judgments (and Standard Deviations) and Mean Unpleasantness Ratings (and Standard Deviations) by Gender and Previous Experience with Sexually Explicit Material Among Participants in Chapter 3 - Study 1

	Image set A		Image Set B	
	Mean Porn.	Mean Unp.	Mean Porn.	Mean Unp.
Gender				
Males	2.68 (0.80)	4.42 (1.30)*	3.07 (0.83)	4.90 (0.96)*
Female	2.98 (0.86)	3.22 (1.37)*	2.96 (0.88)	3.99 (1.61)*
Experience				
Low	2.85 (0.88)	3.25 (1.59)*	2.89 (0.81)	3.73 (1.33)*
High	2.80 (0.79)	4.57 (0.79)*	3.11 (0.88)	4.97 (1.25)*

Note: * $p < .01$

3.4.2.3.2 Unpleasantness Ratings

Stronger associations were found between individual difference variables and individual-level mean unpleasantness ratings (see Table 8 & Table 9). Among those who viewed image set A, unpleasantness ratings were significantly associated with right-wing authoritarianism, $r = -.24$, $p < .05$, erotophobia-erotophilia, $r = .58$, $p < .01$, gender, $t(70) = 3.81$, $p < .01$, and previous experience with sexually explicit materials, $t(62) = -4.60$, $p < .01$. A similar pattern was found among participants who viewed image set B, where unpleasantness ratings were significantly associated with erotophobia-erotophilia, $r = .50$, $p < .01$, gender, $t(57) = 2.82$, $p < .01$, and previous experience with sexually explicit materials, $t(63) = -3.86$, $p < .01$, but not right-wing authoritarianism, $r = -.10$. Across both samples, participants who were erotophobic, female, and relatively inexperienced with sexually explicit materials reported higher unpleasantness ratings than participants

who were male, erotophilic, and highly experienced with sexually explicit materials (see Table 8 & Table 9). In contrast, degree of right-wing authoritarianism was not reliably related to unpleasantness ratings across both samples.

3.4.2.4 Predicting Image-Level Mean Pornography Judgments

Consistent with methods employed by Amoroso and colleagues (1970), image-level mean pornography judgments were regressed on image-level mean unpleasantness and sexual stimulation ratings. Within image set A, mean pornography judgments were strongly and uniquely predicted by mean unpleasantness ratings, $b = 1.22$, $t(22) = 11.75$, $p < .01$, and mean sexual stimulation ratings, $b = 1.87$, $t(22) = 16.29$, $p < .01$, and these predictors accounted for approximately 92% (adjusted) of the variance in pornography judgments. Similarly, within image set B, mean pornography judgments were strongly predicted by mean unpleasantness ratings, $b = 1.35$, $t(22) = 14.86$, $p < .01$, and sexual mean stimulation ratings, $b = 1.68$, $t(22) = 15.80$, $p < .01$, and these predictors accounted for approximately 95% of the variance in image-level mean pornography judgments. In both cases, images were considered more pornographic when they were also rated as highly unpleasant, and very sexually stimulating.

3.4.2.4.1 Exploration of Potential Moderators

While the above analyses essentially replicated the findings of Amoroso and colleagues (1970), it was not clear if the relative contributions of image-level mean unpleasantness ratings and image-level mean sexual stimulation ratings to the prediction of image-level mean pornography judgments were similar or different across both of the image sets. Consequently, a multi-way ANOVA using a combination of continuous and dichotomous factors was conducted to determine if the prediction of image-level mean pornography judgments by image-level mean unpleasantness ratings and sexual stimulation ratings differed as a function of image set. This analysis tested for main effects of image set (dichotomous: image set A vs. image set B), mean unpleasantness ratings (continuous, grand-mean centered), mean sexual stimulation ratings (continuous, grand-mean centered), as well as for the interaction between image set and

unpleasantness ratings, and the interaction between image set and sexual stimulation ratings. Significant main effects were found for image set, $F(1,44) = 76.49, p < .01$, unpleasantness ratings, $F(1,44) = 132.45, p < .01$ and sexual stimulation ratings, $F(1,44) = 254.25, p < .01$. However, the interactions between image set and unpleasantness ratings, $F(1,44) = 0.80$, and between image set and sexual stimulation ratings, $F(1,44) = 1.56$, were not significant. These results indicated that while the images in image set B were rated as significantly more pornographic ($M = 2.36, SE = 0.09$) than the images in image set A ($M = 3.46, SE = 0.09$) when controlling for unpleasantness and sexual stimulation, the relationship between pornography judgments and unpleasantness ratings, and between pornography judgments and sexual stimulation ratings were not moderated by image set.

Similarly, it was not clear if the relationships between image-level mean pornography judgments, image-level mean unpleasantness ratings, and image-level mean sexual stimulation ratings differed as a function of gender or previous experience with sexually explicit materials. To explore this question, image-level mean pornography judgments, image-level mean unpleasantness ratings, and image-level mean sexual stimulation ratings were retabulated separately for each of the four groups defined by gender and experience with sexually explicit materials. A multi-way ANOVA employing a combination of continuous and dichotomous factors was then conducted on the resulting image-level mean pornography judgments. This model tested for four main effects: gender (dichotomous: male vs. female), experience with sexually explicit material (dichotomous: low experience vs. high experience), mean unpleasantness ratings (continuous, mean centered), and mean sexual stimulation ratings (continuous, mean centered); five 2-way interactions: gender \times experience, gender \times mean unpleasantness ratings, gender \times sexual stimulation, experience \times mean unpleasantness ratings, experience \times mean sexual stimulation ratings; and two 3-way interactions: gender \times experience \times mean unpleasantness ratings, and gender \times experience \times mean sexual stimulation ratings. As image set was not found to moderate the slopes of the regression of pornography judgments on unpleasantness and sexual stimulation ratings in the previous analysis, image set was ignored as a potential moderator for this analysis. The

decision to exclude image set substantially decreased the number of parameters in the model from 24 to 12.

As can be seen in Table 10, there were no significant main effects for gender or experience with sexually explicit material, and there was no significant interaction between gender and experience with sexually explicit material. These results indicated that men and women and participants with high and low experience with sexually explicit material reported similar image-level mean pornography judgments. Consistent with previous analyses, this method also revealed significant main effects for image-level mean unpleasantness ratings, $F(1,188) = 68.59, p < .01, \eta^2_{\text{partial}} = .27$, and image-level mean sexual stimulation ratings, $F(1,188) = 130.43, p < .01, \eta^2_{\text{partial}} = .41$, indicating that both of these aggregates were positively correlated with image-level mean pornography judgments. In addition to these main effects, a significant 2-way interaction was found between experience and unpleasantness ratings, $F(1,188) = 4.82, p < .05, \eta^2_{\text{partial}} = .03$, and a significant 3-way interaction was found between gender, experience and unpleasantness ratings, $F(1,188) = 8.66, p < .01, \eta^2_{\text{partial}} = .07$. These results indicated that the relationship between image-level mean unpleasantness ratings and image-level mean pornography judgments was moderated by gender and experience with sexually explicit materials. In contrast, gender, experience with sexually explicit materials, and their interaction were not found to moderate the relationship between image-level mean sexual stimulation ratings and image-level mean pornography judgments (see Table 10).

Table 10. Parameters, F-ratios, and Effect Sizes for a Multi-Way ANOVA Which Tested the Moderation of the Regression of Image-Level Mean Pornography Judgments on Image-Level Mean Sexual Stimulation and Unpleasantness Ratings by Gender and Experience with Sexually Explicit Materials

	Parameter	F-ratio	Partial η^2
Intercept (Grand Mean)	2.99	728.39	.80
Gender	0.18	0.43	.00
Experience	-0.10	0.37	.00
Gender by Experience	-0.05	0.02	.00
Unpleasantness (Unpl.) Ratings			
Unpl.	0.88	68.59**	.27
Gender by Unpl.	0.31	3.79	.02
Experience by Unpl.	0.34	4.82*	.03
Gender by Experience by Unpl.	-0.88	14.60**	.07
Sexual Stimulation (Stim.) Ratings			
Stim.	1.39	130.43**	.41
Gender by Stim.	0.20	0.66	.00
Experience by Stim.	0.17	0.93	.00
Gender by Experience by Stim.	-0.47	2.41	.01

Note: * $p < .05$; ** $p < .01$

To clarify the nature of the significant 3-way interaction, further post-hoc tests were conducted by exploring 2-way interactions between experience with sexually explicit materials and image-level mean unpleasantness ratings within male and female participant groups separately. These tests indicated a significant interaction between experience with sexually explicit materials and image-level mean unpleasantness ratings among female participants, $F(1,95) = 12.32$, $p < .01$, but not among male participants,

$F(1,95) = 3.50, n.s.$ Specifically, when predicting image-level mean pornography judgments, women with a high degree of experience with sexual material had a somewhat smaller regression slope for image-level mean unpleasantness ratings ($b = 0.65, SE = 0.12$) than women with a low degree of experience with sexual material ($b = 1.19, SE = 0.12$), while male participants had statistical similar regression slopes across the experience groups ($b = 1.04, SE = 0.08$).

3.4.2.5 Unpleasantness and Sexual Stimulation Ratings

The associations between unpleasantness ratings and sexual stimulation ratings were explored using three different levels of analysis. First, correlations were calculated between image-level mean unpleasantness ratings and image-level mean sexual stimulation ratings. These correlations determined if images that were considered very unpleasant were also perceived to be very sexually stimulating. Next, correlations were calculated between individual-level mean unpleasantness ratings and individual-level mean sexual stimulation ratings. These correlations determined if individuals who generally thought that the images were very unpleasant were also the same individuals who generally thought that the images were sexually stimulating. Finally, as not all of the stimuli used in this study were considered pornographic, the associations between individual-level unpleasantness ratings and sexual stimulation ratings were also examined as a function of the degree that each image was judged to be pornographic.

3.4.2.5.1 Image-Level Correlations

If highly pornographic images are rated as both very unpleasant and very sexually stimulating, and non-pornographic image are rated as low in unpleasantness and sexual stimulation, there should exist a strong *positive* correlation between image-level mean unpleasantness ratings and image-level mean sexual stimulation. Instead, these ratings were negatively correlated in image set A, $r = -.42, p < .01$, and not significantly correlated in image set B, $r = -.11$.

These results are further qualified by observations that were made after inspecting scatter plots underlying these relationships (see Figure 4). First, *none* of the 50 images

used in this study had high average ratings of unpleasantness along with high average ratings of sexual stimulation (i.e. lower left quadrant of Figure 4). Second, a subset of images in both image sets had low mean unpleasantness ratings coupled with low mean sexual stimulation ratings (i.e. upper right quadrant of Figure 3). Importantly, these 10 images (3 from image set A, 7 from image set B) also had the lowest average pornography ratings within each image set respectively. When these outliers were excluded so that only images rated as moderately to extremely pornographic were considered, the magnitude of the correlations between image-level mean unpleasantness ratings and image-level mean sexual stimulation ratings increased in both image set A, $r = -.65, p < .01$, and image set B, $r = -.78, p < .01$.

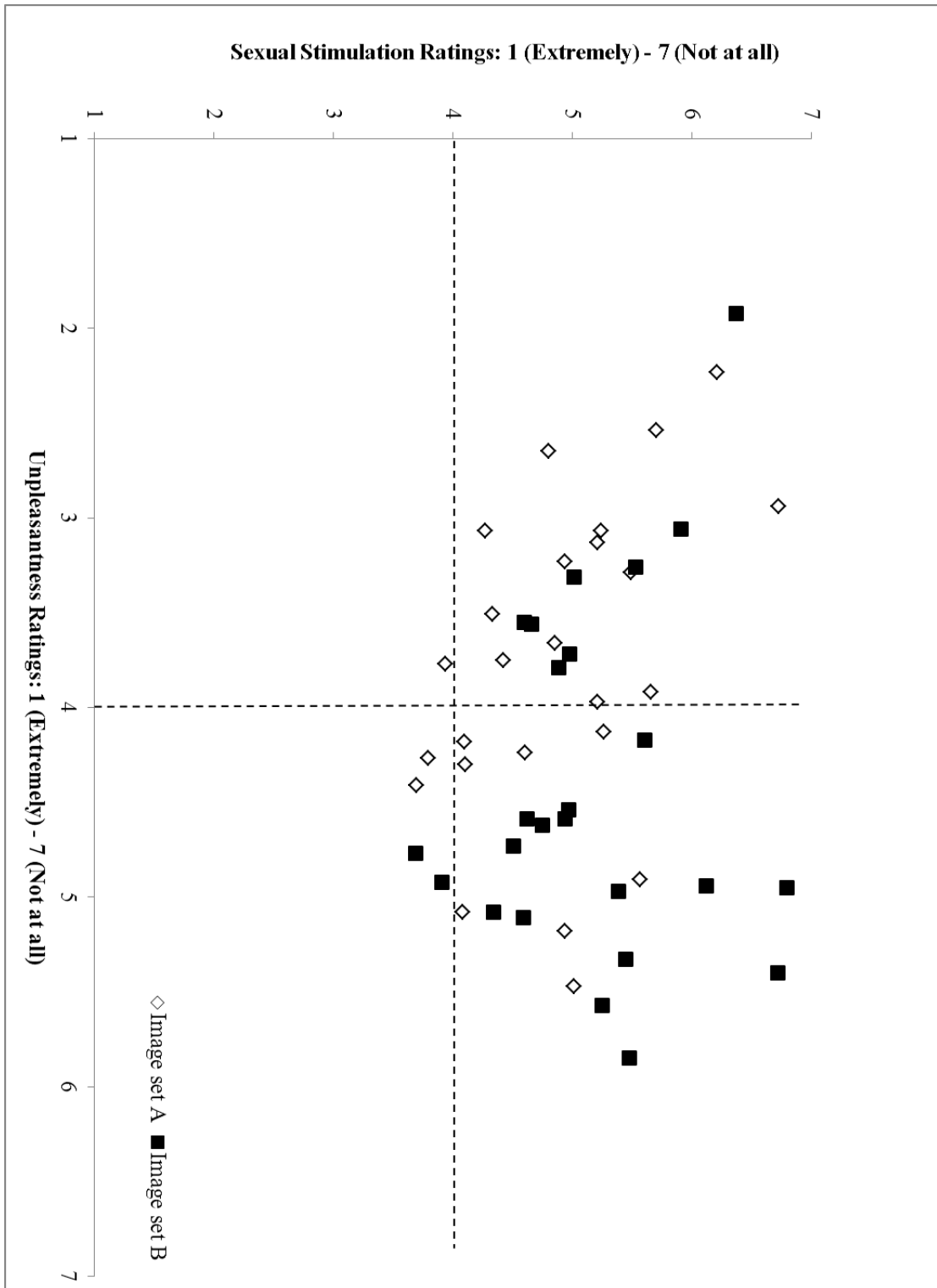


Figure 4. Scatter plot depicting the relationship between image-level mean unpleasantness ratings and image-level mean sexual stimulation ratings.

3.4.2.5.2 Individual-Level Correlations

Although the previous results indicated that some pornographic images were generally perceived as high in unpleasantness and low in sexual stimulation, while other pornographic images were perceived to be relatively higher in sexual stimulation and relatively lower in unpleasantness, it would be a mistake to assume from these results alone that the same relationship appeared at the level of the participant. Correlations were used to assess the relationship between individual-level mean unpleasantness ratings and individual-level mean sexual stimulation ratings. These results indicated that participants who reported that the images they reviewed were generally unpleasant also reported that the images were generally not sexually stimulating, and vice versa, within image set A, $r = -.53, p < .01$, and within image set B, $r = -.53, p < .01$.

3.4.2.5.3 Image-Specific Individual-Level Correlations

Although the correlations between the individual-level mean unpleasantness and sexual stimulation ratings were significant and negative among participants who viewed each image set, the magnitude of individual-level associations was also explored on an image-by-image basis. To this end, a two-level regression analysis was conducted using linear mixed modeling for repeated measures. On the lowest level, standardized unpleasantness ratings were predicted with standardized sexual stimulation ratings, without an intercept. This parameter is akin to a correlation coefficient that estimates the average association between individual-level unpleasantness ratings and individual-level sexual stimulation ratings. As these ratings constituted 25 within-person repeated measures, the residual covariance matrix was constrained using heterogeneous compound symmetry. This decision reduced the number of residual covariance parameters from 300 to 26 while still allowing image specific residuals to covary. At the level of the repeated measure, a further fixed interaction term was added between image-level mean pornography judgments (standardized) and standardized sexual stimulation ratings. This fixed effect parameter estimated the change in the magnitude of the association between individual-level unpleasantness ratings and individual-level sexual stimulation ratings as a function of the mean pornography judgment of each image. The results of this analysis

revealed significant parameter estimates for both effects in image set A, $\beta_{\text{stimulation}} = -0.44$, $t(1508) = -21.08$, $p < .01$, $\beta_{\text{interaction}} = 0.08$, $t(1126) = 4.02$, $p < .01$, and for both effects in image set B, $\beta_{\text{stimulation}} = -0.33$, $t(1376) = -16.27$, $p < .01$, $\beta_{\text{interaction}} = 0.23$, $t(1043) = 11.26$, $p < .01$. As illustrated in Figure 5, these results indicated that while associations between individual unpleasantness ratings and individual sexual stimulation ratings were moderately-to-strongly negative (e.g. $\beta_A = -0.52$, $\beta_B = -0.56$) among images that were perceived as more pornographic ($SD = -1.0$), these associations diminished in size (e.g. $\beta_A = -.36$, $\beta_B = -.10$) as the images that were rated became less and less pornographic ($SD = 1.0$).

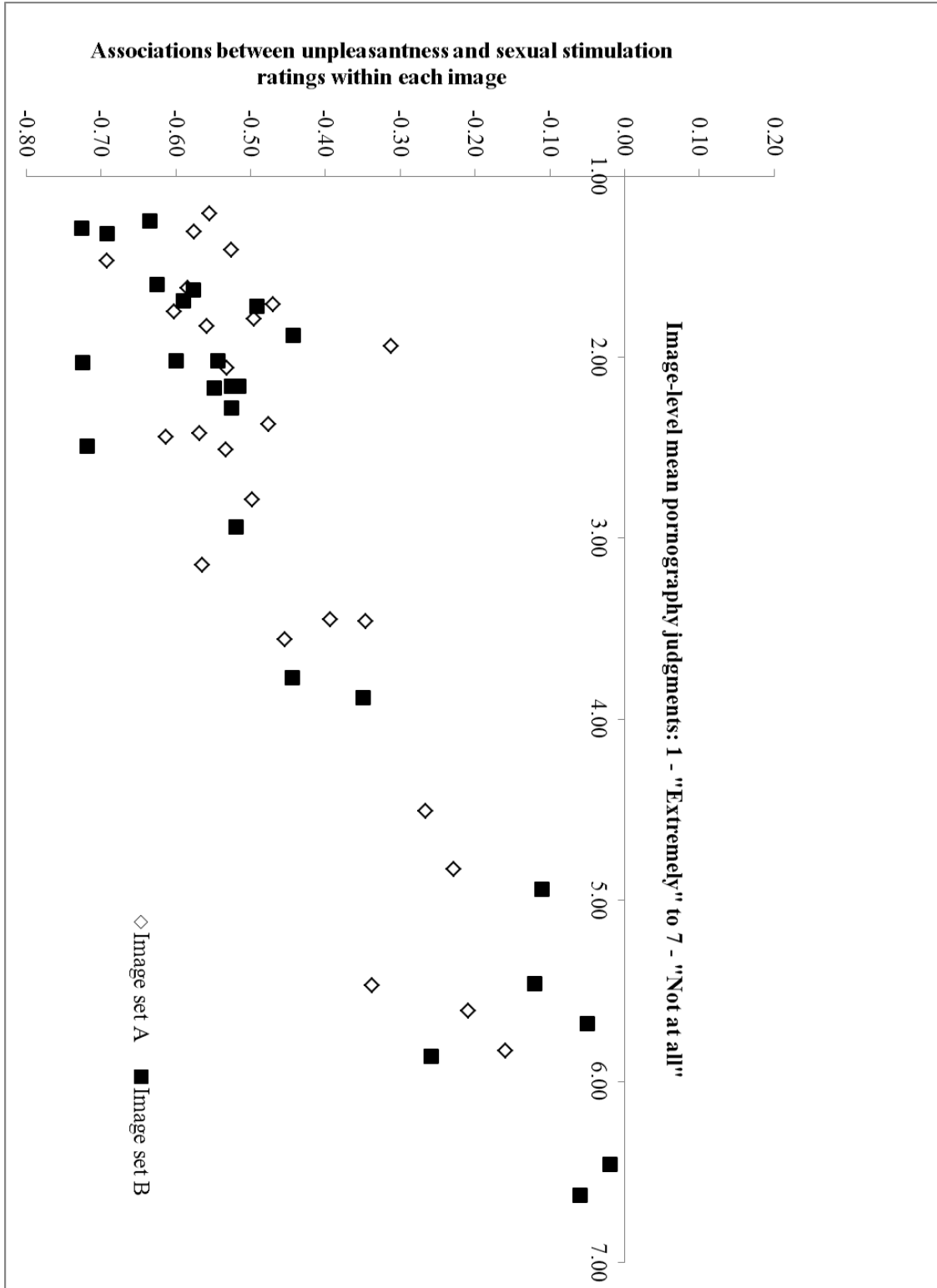


Figure 5. The associations between unpleasantness ratings and sexual stimulation ratings as a function of image-level mean pornography judgments.

3.4.3 Discussion

The current study found strong evidence for the reliability of pornography judgments using three different methods. As with previous research (Amoroso et al., 1970; Turnbull & Brown, 1977), between-group consistency in pornography judgments was found to be quite high. Specifically, when judgments were pooled across participants, men and women, and participants with high and low experience with sexually explicit materials, all agreed about which images were the most pornographic and which images were the least pornographic. As group estimates of the consistency of pornography judgments can overestimate inter-individual similarities in such ratings, this study also examined between-subject consistency by exploring average inter-individual correlations. As explained previously, these values provide a general index of how well participants' pornography judgments accorded with all of the judgments made by the other participants. While these values ranged from a low of .03 for some individuals, the distribution of values was strongly skewed and most participants had values exceeding .70 for image set A, and .81 for image set B. These results indicated that while a minority of participants made unique and idiosyncratic pornography judgments, most made judgments that were largely consistent with their peers. Finally, within-subject consistency was assessed by asking participants to rate two images twice. Here the results indicated high, but not perfect, within-subject consistency in pornography judgments.

These results reinforce past findings of between-group consistency in pornography judgments and the additional analyses fail to support the view that conceptualizations of pornography are largely idiosyncratic. While this evidence indicates that participants, when judging pornography, are responding to images in a similar fashion, it is not clear from this line of research what particular features of the images underlie these ratings. From the qualitative and descriptive research presented in Chapter 2, it seems likely that such judgments may be associated with the extent of nudity and or sexual behaviour that is being presented, though further research is warranted before hard claims are made.

Consistent with the evidence of the high reliability of pornography judgments, the current study found little evidence that individual difference factors correlated systematically with such ratings. Specifically, individual-level mean pornography judgments were found to be inconsistently associated with erotophobia-erotophilia, and not associated with gender, experience with sexually explicit materials, or right-wing authoritarianism. In this case, the lack of associations between these variables should not be solely attributable to measurement error, as pornography judgments had high internal consistency, and most of the individual difference variables were associated with affective responses to the stimuli used in this study. Specifically, female participants, participants with less experience with sexual materials, and participants who were more erotophobic indicated that the images were more unpleasant than did male participants, participants with more experience with sexual materials, and participants who were more erotophilic.

On the basis of these findings, it appears that pornography judgments may not be associated with gender, experience with sexually explicit materials, erotophobia-erotophilia, or right-wing authoritarianism. This conclusion is consistent with previous research which has typically failed to find associations between pornography judgments and gender (Turnbull & Brown, 1977), erotophobia-erotophilia (McDowall, 2008), and right-wing authoritarianism (Eliasberg & Stuart, 1961; Stuart & Eliasberg, 1962), and is consistent with the position that pornography judgments are not idiosyncratic in nature. However, the strength of this conclusion is partially marred by the inconsistent association found between pornography judgments and erotophobia-erotophilia, and the failure of the measure of right-wing authoritarianism to correlate with either pornography judgments or unpleasantness ratings. Consequently, further research is needed to verify this conclusion.

Revisiting the work of Amoroso and colleagues (1970), the current study found that image-level mean pornography judgments were highly determined by image-level mean unpleasantness, and sexual stimulation ratings. As found previously, images that were rated as being more unpleasant or more sexual stimulating were judged to be more pornographic. These relationships were explored further with the use of a multi-way

ANOVA. The results of which indicated that the relationships between pornography judgments, unpleasantness ratings and sexual stimulation ratings were quite similar across participant groups that varied by gender and previous experience with sexually explicit materials. Only one participant group, women with more previous experience with sexually explicit materials, departed slightly from the same general pattern. The remarkable stability of these findings—both temporally (e.g. Amoroso et al., 1970), and across different participant groups within this study—likely reflects enduring affective correlates of pornography judgments and somewhat undermines the notion that pornography is a dynamic ever-changing cultural construct.

Finally, the current research also provided an extensive exploration of the relationship between unpleasantness ratings and sexual stimulation ratings among sexual images. As predicted, evidence presented at the level of the image, the individual, as well as the individual as a function of the image, all indicated that images that were rated as extremely pornographic were perceived as unpleasant, or sexually stimulating, but not both. This is consistent with contemporary theorizing about the nature of sexual arousal (Rosen & Beck, 1988), as well as a host of past empirical studies concerning the simultaneous experience of negative affect and sexual arousal (see Allen et al., 2007).

Interestingly, the negative correlation between mean image-level unpleasantness and sexual stimulation ratings indicates that some pornographic images are generally perceived to be unpleasant and not very sexually arousing, while other pornographic images are generally perceived to be sexually arousing, and not unpleasant. When considered in the context of the high reliability of pornography judgments, these results suggest that while there may be image-level cues that most people consistently recognize as pornographic (e.g. nudity, sexual behaviour etc.), there may be additional cues that differentiate between images that are perceived by most people to be unpleasant and images that are perceived by most people to be sexually stimulating. For example, pornography can depict the act of fellatio in a number of ways, some of which may appear more consensual and some of which may appear less consensual. While representations of fellatio may be judged as similarly pornographic, differences in cues that indicate consent versus non-consent may differentiate images that are responded to

by most people with negative affect from images that are responded to by most people with sexual arousal. Indeed, among the stimuli used in the current study, two depictions of fellatio received very similar pornography judgments but different unpleasantness and sexual stimulation ratings. In one example, a woman is engaging in fellatio with one man, while two naked men with erect penises stand on either side of them, presumably “waiting their turn.” This image was perceived as very pornographic, unpleasant, and not very sexually arousing. In contrast, the second depiction of fellatio involved a heterosexual pair with no other people present. This image was perceived to be similarly pornographic, less unpleasant, and more sexually arousing. Future research should work towards identifying the nature of such cues, as they may help to differentiate theorized differences among sexually explicit materials that are assumed to moderate the consequences of exposure (e.g. erotica vs. degrading pornography, see Fisher & Barak, 2001; Weaver, 1994).

While it is clear that pornographic images are generally viewed as predominantly unpleasant or predominantly arousing, rather than both, it is important to recognize that such associations describe group-level associations which do not have direct implications for individual-level perceptions of such stimuli. Fortunately, and as predicted, the mean individual-level associations, as well as the analyses involving individual-level associations as a function of each image, both indicated that unpleasantness and sexual stimulation ratings were negatively associated at the level of the individual. These results provide clear evidence that pornographic images are not perceived as simultaneously unpleasant and sexually arousing by most people.

While this study was not designed to investigate differences between the people who respond primarily to pornography with negative affect and the people who respond primarily with sexual arousal, at the very least, the results of this study suggest that such people differ in key individual difference factors. Recall that this study found evidence that gender, previous experience with sexually explicit images, and extent of erotophobia-erotophilia were correlated with mean individual-level unpleasantness ratings. As individual-level unpleasantness ratings were also negatively correlated with sexual stimulation ratings, these results suggest that women, those with less experience

with pornography, and erotophobes may be responding to pornographic images with higher unpleasantness ratings and lower sexual stimulation ratings, than men, those with more experience with sexual materials, and erotophiles. While individual difference variables differentiate negative affective and sexual arousal responses in the current study, it is unclear if such differences best reflect general biological, motivational, or culturally acquired differences between these types of people.

Upon reflection, there are at least two proximal mechanisms through which individual difference factors may be contributing to differences in the evaluative and sexual arousal responses of participants. First, affective-cognitive models concerning information-processing suggest that individuals may be predisposed to examine pornographic materials in fundamentally different ways. For example, Feelings-as-Information theory (Schwarz, 2012) suggests that mood can profoundly affect mechanisms of information-processing. According to this theory, negative moods foster analytic bottom-up processing with greater attention to detail, while positive moods engage top-down processing involving less effort and attention to detail.

From an affective-cognitive processing perspective, it is possible that males, people with high experience with sexual materials, and erotophiles look forward to viewing pornography and tend to examine such material in a cursory fashion that fails to reveal subtle cues that may be present in such media. It is known that cues indicating nudity and sexual behaviour draw attention (Wright & Adams, 1999) and contribute to sexual arousal (Chivers, Seto, & Blanchard, 2007), which, when accompanied by positive affect, should maintain superficial processing of pornographic materials. In contrast, women, those with less experience with sexually explicit materials, and erotophobes may have more apprehension about viewing pornography and engage in more effortful processing when they view such materials. Such individuals may be more likely to notice and respond to cues that others miss, such as the presence of non-Duchenne smiles, which may be interpreted as faked interest among the models present in the sexual stimuli. Subtle cues indicating non-interest, power differences (e.g. relative physical positions of models; see Cowan & Campbell, 1994), or perhaps even coercion (e.g. lack of explicit consent), may maintain negative affect, suppress sexual arousal, and even

contribute to moral judgments about pornography more generally (see Cowan, Chase & Stahly, 1989; Haidt, 2001).

Alternatively, it is also possible people who differ by gender, experience with sexual materials, and erotophobia-erotophilia are reacting to the same visual cues with different affective and sexual responses. For example, men, those with more experience with sexual materials, and erotophiles may find depictions of nudity and sexual behaviour to be more sexually stimulating and less unpleasant than do females, those with less experience with sexual materials, and erotophobes. Interestingly, there is some evidence that individuals systematically differ in their responses to the same type of content, at least among studies that have examined gender differences in sexual arousal responses, where, for example, it has been found that male nudes induce far more sexual arousal among heterosexual women than among heterosexual men (Chivers, Seto, & Blanchard, 2007). While unpleasantness ratings were not presented by Chivers et al. (2007), it seems likely that men would find male nudes more unpleasant than women.

At the end of the day, while it is clear that individual-level affective responses to pornography are inversely related to sexual arousal responses, and that predominant responses are systematically related to individual difference factors, it remains unclear if these differences reflect reactions to the same or to different visual cues presented in the stimuli. To further this line of research, efforts need to be undertaken to identify features of pornographic stimuli that are evoking unpleasantness and sexual stimulation reactions. In the most simple case, discrete groups of features will be found to discriminate between sexual arousal responses and unpleasantness reactions, and individual difference factors will simply reflect differential attention paid to these different types of features. In a more complex situation, it is possible that few or no features will unambiguously contribute to sexual arousal and unpleasant reactions in most people; instead such research may find that most features contribute to either sexual arousal or unpleasantness responses, depending on the person.

3.5 Clarifying the Role of Individual Difference Variables (Study 2)

Although the results of the previous study clearly replicated and extended research involving the reliability of pornography judgments and their affective correlates (e.g. Amoroso et al., 1970; Turnbull & Brown, 1977), a small number of effects pertaining to the role of individual differences in pornography judgments were inconsistent across groups of participants who viewed different image sets. The current study was conducted to re-examine these relationships with a new sample of participants and more appropriate measures.

In the previous study, the degree of erotophobia-erotophilia was the only individual difference factor that was significantly correlated with individual-level mean pornography judgments, but a significant correlation was present only among participants who viewed image set A. Despite some evidence that participants who respond to sexual stimuli with high negative affect identify more images as “pornographic” than participants who respond with low negative affect in a dichotomous category judgment task (Byrne, et al., 1974), recent research using continuous ratings scales has failed to find significant associations between pornography judgments and erotophobia-erotophilia (McDowall, 2008). In this light, it appears possible that the significant association found in the previous study may have reflected chance variation rather than a reliable correlation between erotophobia-erotophilia and pornography judgments. To examine this issue further, the procedures used in the previous study were replicated so that the association between erotophobia-erotophilia could be re-examined with an additional sample of participants. In so doing, the current study employed the same measure of erotophobia-erotophilia, as it is a commonly used metric for this construct, and there is extensive evidence of its reliability and validity (Fisher et al., 1988).

Unlike pornography judgments, individual-level mean unpleasantness ratings were significantly associated with most of the individual difference variables explored in the previous study. Specifically, erotophobia-erotophilia, gender, and previous experience with sexually explicit materials were all associated with unpleasantness ratings among participants who viewed both images sets, but interestingly, right-wing

authoritarianism was only significantly correlated with unpleasantness ratings among participants who viewed one of the image sets. The instability of this correlation was somewhat more surprising than the inconsistency in the association between erotophobia-erotophilia and pornography judgments, as the connection between authoritarianism and negative affective reactions to sexual stimuli is well established in the literature (e.g. Byrne et al., 1973; Byrne et al., 1974; Eliasberg & Stuart, 1961). Upon reviewing the procedure used in the previous study, an apparent shortcoming was found in the operationalization of authoritarianism. To decrease participant burden, a shortened version of Altemeyer's (1996) right-wing authoritarianism measure was employed. While this shortened measure has been used by other researchers at Western University, it has never been empirically validated. It seemed possible, then, that the low and unstable correlations with right-wing authoritarianism may be attributable to the inadequate psychometric properties of the measure that was employed. To address this possibility, the current study reassessed the relationship between individual-level mean unpleasantness ratings and authoritarianism using two validated measures of this construct: Altemeyer's (1996) full 30 item right-wing authoritarianism scale and Zakrisson's (2005) short 15 item right-wing authoritarianism scale.

3.5.1 Method

3.5.1.1 Participants

Between September and November 2012, a total of 120 participants (73 males and 47 females) were recruited from Western University's undergraduate research pool for a study involving lay conceptualizations of pornography (for Letter of Information and Ethics Approval, see Appendix A – Study 4). Once again, the advertisements for this study explicitly encouraged people with little as well as much previous experience with pornography to volunteer. However, in this case, no effort was made to recruit equal numbers of people with high or low experience with sexually explicit materials. All participants received course credit for taking part in this research.

Of the 120 participants recruited for this study, 12 participants failed to complete all of the relevant measures or failed to follow instructions correctly and were

consequently excluded from the analyses of interest. Compared to those retained for analysis, participants who were excluded were significantly higher in right-wing authoritarianism as measured by Zakrisson's scale, $t(116) = -2.49, p < .05$, but did not differ on the other individual difference measures of interest.

3.5.1.2 Materials

3.5.1.2.1 Sexually Explicit Images

This study employed the same set of 50 digital images that were used in the previous study. Briefly, these images were randomly sampled from a larger set of images downloaded from a popular online source of pornographic images (www.xnxx.com). These 50 images were divided into two different sets of 25 sexual images and each participant was only asked to rate the images from one set or the other. As with the previous study, the current study employed the same set of 2 non-sexual images, and 5 sexual images, to familiarize participants with rating procedure and content of materials.

3.5.1.2.2 Authoritarianism

Authoritarianism was measured using with both Altemeyer's (1996; see Appendix G) full 30 item measure of right-wing authoritarianism and Zakrisson's (2005; see Appendix H) short right-wing authoritarianism scale. Altemeyer's (1996) 30 item Right-Wing Authoritarianism scale was designed to assess three facets of this construct, namely, conventionalism (e.g. "The only way our country can get through the crisis ahead is to go back to our traditional values..."), authoritarian aggression (e.g. "Once our government leaders give the 'go ahead,' it will be the duty of every patriotic citizen to help stomp out the rot..."), and authoritarian submission (e.g. "It is always better to trust the judgment of the proper authorities in government and religion..."). Extensive evidence of the scale's reliability and validity can be found in *The Authoritarian Specter* (1996), where Altemeyer also notes that his research has found that people who are high in right-wing authoritarianism tend to masturbate less frequently and are less tolerant of sexual diversity than those who are low in right-wing authoritarianism. In the current study, participants responded to these 30 items with a 9-point Likert like scale that ranged "very strong disagreement" to "very strong agreement with the item." Responses were

averaged with reverse coding as appropriate, to create an aggregate that ranged from 1, indicating low right-wing authoritarianism, to 9, indicating high right-wing authoritarianism (Cronbach's $\alpha = .78$).

The Short Right-Wing Authoritarianism scale (Zakrisson, 2005) was developed to improve upon some shortcomings found in Altemeyer's conceptualization of right-wing authoritarianism (Altemeyer, 1981, see also Altemeyer, 1996). Zakrisson's 15 item set taps the same three aspects of right-wing authoritarianism that have been outlined by Altemeyer. The response scales used for these items ranged from 1 ("very positive") to 7 ("very negative"). Responses were averaged with reverse coding as appropriate so that higher scores indicated more right-wing authoritarianism (Cronbach's $\alpha = .89$). Altemeyer's (1996) measure of right-wing authoritarianism was strongly correlated with Zakrisson's (2005) measure in this sample, $r = .84, p < .001$.

3.5.1.2.3 Erotophilia-Erotophobia

Individual differences in the disposition to respond to sexual cues with negative to positive affect were once again assessed with the short form of the Sexual Opinion Survey (Fisher et al., 1988; see Appendix I). The internal consistency of this measure in the current sample was adequate (Cronbach's $\alpha = .74$)

3.5.1.3 Procedure

Participation occurred online. After informed consent, participants completed a number of questionnaires that assessed their demographic information (see Appendix B), previous experience with sexually explicit materials (see Appendix C), degree of right-wing authoritarianism (see Appendix G & Appendix H), and degree of erotophobia-erotophilia (see Appendix I).

Participants then completed the same image-rating exercise that is outlined above (for instructions, see Appendix K). Briefly, participants reviewed one of the two sets of 25 sexual images. In response to each image, which were shown in random order, participants provided pornography judgments, unpleasantness ratings, and sexual stimulation ratings (see Appendix L) on seven point scales that ranged from 1

(“extremely pornographic” or “extremely pleasant” or extremely unpleasant” or “extremely sexually stimulating”), to 7 (“not at all pornographic” or “not at all pleasant” or “not at all unpleasant” or “not at all sexually stimulating”). Participants were then provided with debriefing information (see Appendix D: Study 4).

3.5.1.4 Data Analysis

Once again, individual-level mean aggregates were calculated to examine the association of individual difference variables with pornography judgments and unpleasantness ratings. Individual-level means were calculated for each participant by averaging their responses across all 25 of the images that they reviewed. Thus, individual-level means represented individual participants’ general tendencies to rate images as more or less pornographic, or more or less unpleasant. As before, Pearson product-moment correlations and t-tests were used to assess the relevant associations.

3.5.2 Results

3.5.2.1 Demographic Information

Participants ranged in age from 18 to 27 years old ($M = 18.94$, $SD = 1.48$) were primarily male (63.00%), Caucasian (69.44%) or Asian (20.37%), and identified their religious views as Atheist, Agnostic or No Religion (48.60%), or as Christian (33.64%). Most participants reported viewing sexually explicit material at least once a month or more frequently (64.81%; Males = 88.89% vs. Females = 29.17%).

3.5.2.2 Pornography Judgments

Individual-level mean pornography judgments were not reliably associated with any of the individual difference variables examined in this study (see Table 10 and Table 11). Among participants who viewed image set A, pornography judgments were not significantly correlated with erotophobia-erotophilia, $r = .16$, Altemeyer’s right-wing authoritarianism, $r = .14$, Zakrisson’s right-wing authoritarianism, $r = .20$, gender, $t(50) = 0.49$, or experience with sexually explicit materials, $t(50) = -0.92$. Similar results emerged among participants who viewed image set B, where none of the following associations were statistically significant: erotophobia-erotophilia, $r = -.05$, Altemeyer’s

right-wing authoritarianism, $r = .13$, Zakrisson's right-wing authoritarianism, $r = .03$, gender, $t(54) = -0.36$, and experience with sexually explicit materials, $t(54) = -0.91$. These results are largely consistent with the associations presented in Study 1, and corroborate the view that the solitary significant association between individual-level mean pornography judgments and erotophobia-erotophilia presented in the previous study may have simply been the product of chance variation.

Table 11. Correlations of Altemeyer's Right-Wing Authoritarianism (A-RWA), Zakrisson's Right-Wing Authoritarianism (Z-RWA) and Erotophobia-Erotophilia (SOS) with Individual-Level Mean Pornography Judgments and Individual-Level Mean Unpleasantness Ratings Among Participants in Chapter 3 – Study 2

	Image set A		Image Set B	
	Mean Porn.	Mean Unp.	Mean Porn.	Mean Unp.
A-RWA	.14	-.07	.13	-.12
Z-RWA	.20	.05	.03	-.24
SOS	.16	.34*	-.05	.42**

Note: * $p < .05$; ** $p < .01$

Table 12. Individual-Level Mean Pornography Judgments (and Standard Deviations) and Mean Unpleasantness Ratings (and Standard Deviations) by Gender and Previous Experience with Sexually Explicit Material Among Participants in Chapter 3 - Study 2

	Image set A		Image Set B	
	Mean Porn.	Mean Unp.	Mean Porn.	Mean Unp.
Gender				
Males	2.80 (0.50)	5.25 (1.06)*	2.94 (0.60)	5.31 (1.06)*
Female	2.71 (0.59)	2.97 (1.38)*	3.00 (0.44)	4.00 (1.30)*
Experience				
Low	2.66 (0.55)	3.03 (1.52)*	2.88 (0.46)	4.11 (1.48)*
High	2.81 (0.53)	4.98 (1.29)*	3.02 (0.59)	5.31 (0.92)*

Note: * $p < .01$

3.5.2.3 Unpleasantness Ratings

Again, unlike individual-level mean pornography judgments, mean unpleasantness ratings were significantly associated with most but not all of the individual difference variables explored in this study (see Table 11 and Table 12). Specifically, individual-level mean unpleasantness ratings were significantly associated with erotophobia-erotophilia, $r = .34, p < .05$, gender, $t(50) = 6.67, p < .01$, and previous experience with sexually explicit materials, $t(50) = -4.70, p < .01$, among participants who viewed image set A, and significantly associated with erotophobia-erotophilia, $r = .42, p < .01$, gender, $t(54) = 4.09, p < .01$, and previous experience with sexually explicit materials, $t(33) = -3.43, p < .01$. Somewhat surprisingly, the validated measures of right-wing authoritarianism that were used in the study were not reliably correlated with individual-level mean unpleasantness ratings. Among participants who viewed image set A, neither Altemeyer's long measure, $r = -.07$, nor Zakrisson's short measure, $r = .05$, of right-wing authoritarianism were significantly correlated with mean unpleasantness

ratings, and similar results were found among participants who viewed image set B: Altemeyer's $r = -.12$, Zakrisson's $r = -.24$. Taken together, these results indicate that right-wing authoritarianism is not reliably associated with individual tendencies to evaluate sexual media as more or less negative.

3.5.3 Discussion

After two studies it is clear that pornography judgments were not associated with relevant-seeming personality dimensions such as right-wing authoritarianism and erotophobia-erotophilia, or with individual difference variables such as gender, and previous experience with sexually explicit materials. While a weak association between pornography judgments and erotophobia-erotophilia was present among participants who viewed one of the two sets of images in Study 1, the replication of this study failed to reproduce this association. No other significant correlations emerged for the remaining personality dimensions or individual difference variables across 4 independent samples of participants.

One possible explanation for the null results among the individual difference factors is that previous studies that have found associations between such variables and pornography judgments have employed different operationalizations of these measures (e.g. Adorno's F Scale in Byrne et al., 1973; 1974). Additionally, the null findings might also be explained by a failure to recruit an adequately diverse sample of participants on measures such as erotophobia-erotophilia and right-wing authoritarianism. A closer inspection of the range of scores on these variables revealed that while there was a fair number of erotophobes in these studies, particularly among participants with less experience with pornography, there were virtually no participants who could be considered high on measures of right-wing authoritarianism. In other words, the sample contained mostly different degrees of non-authoritarians, and as a consequence, a restricted range may have prevented the establishment of robust correlations with right-wing authoritarianism. Measurement and recruitment issues alone, however, do not offer a completely satisfactory explanation. Recall that the individual difference variables of gender and previous experience with sexually explicit materials, which were found to be

correlated with authoritarianism and erotophobia-erotophilia, were also not related to pornography judgments.

While measurement and recruitment issues may have contributed somewhat to differences between these results and past findings, a more robust explanation emerges after carefully considering procedural differences between the current and past studies, particularly the studies conducted by Byrne and colleagues (1973; 1974). During the experimental procedure in these studies, Byrne and colleagues explicitly told participants that pornography was “obscene or licentious, foul, disgusting, or offensive.” In contrast, the instructions used in the current study specifically asked participants to avoid equating their category judgments with their personal feelings towards the images: “Notice that this kind of judgment has nothing to do with how well you like the thing; you can like a purple-red better than a true red but still recognize that the color you like is not a true red.” Consequently, the discrepancies between past and current findings may largely be the product of laboratory artifacts in both sets of studies. In one case, participants’ category judgments were explicitly confounded with evaluative judgments, while in the other, category judgments and evaluative judgments were specifically dissociated. While neither approach is ideal for accessing the “real-world” associations between individual difference factors and pornography judgments, it is still noteworthy that the current studies found that participants can make pornography judgments that are independent from their personal feelings towards such materials. Specifically, the results from current research indicate that sexual materials are not necessarily perceived as more pornographic just because people do not like them.

While right-wing authoritarianism was not expected to correlate with pornography judgments in this study, an association was expected with unpleasantness ratings. In actuality, neither of the validated measures of right-wing authoritarianism used in this study were significantly correlated with unpleasantness ratings. Further work needs to be conducted to determine if these null findings reflect a problem of restricted range of authoritarianism among students available at the current university, or a genuine lack of association between such measures. Unfortunately, as it is conceivable that right-wing authoritarianism may contribute to known self-selection biases for studies involving

human sexuality (e.g. Saunders, Fisher, Hewitt, & Clayton, 1985), obtaining an adequate sample to properly test this hypothesis may be difficult in practice.

Finally, these results are also noteworthy because individuals that differed in the extent of previous experience with sexually explicit materials once again provided relatively similar pornography judgments. Similar results were found in Study 1, and two explanations are offered to explain these null findings. First, previous research that has identified experience-based differences in the conceptualizations of constructs has come from studies that have examined how the internal structure of a category is organized (e.g. how types of physics problems are organized; see Chi, Feltovich, & Glaser, 1981), rather than studies that have examined judgments of category membership (e.g. to what extent should a problem be considered a “physics problem”). In this light, it seems possible that judgments of category membership are less sensitive to experience-based differences than are typologies that organize the internal structure of categories. Perhaps clearer differences would be found between experience groups if participants were presented with highly pornographic images and asked to organize them into different groups based on a system of their own devising. It is also possible that experience-based differences did not emerge in this study because the arbitrary cut-point used to distinguish individuals with high experience with sexually explicit material from those with low experience with sexually explicit material failed to differentiate these groups clearly. While possible, this explanation does not seem wholly satisfactory, as experience groups that were divided in this fashion were found to differ in their unpleasantness ratings.

3.6 General Discussion

The current studies replicate and extend previous research involving pornography judgments on several fronts. First, the reliability of pornography judgments was found to be quite high, regardless of how reliability was assessed. Further, this research found that individual difference factors were not found to be reliably associated with pornography judgments, though some individual difference variables were moderately associated with unpleasantness ratings of sexual images. Additionally, this research replicated the work of Amoroso and colleagues (1971) by finding that image-level mean pornography

judgments were highly determined by image-level mean unpleasantness ratings and image-level mean sexual stimulation ratings, and these relationships were largely unaffected by gender and previous experience with sexually explicit materials. Finally, this research determined that highly pornographic materials were typically perceived as highly unpleasant or as very sexually stimulating, but rarely both at the level of both image and individual.

3.6.1 Limitations

All of the standard caveats can and should be applied to the results of this research. The results of these studies are derived from convenience samples of undergraduate students, and consequently some would argue that the specific findings presented here may not generalize beyond this research institution. The samples used in the current research may have also suffered from a certain degree of self-selection bias, which likely occurs in most sex research and is known to influence sexual attitudes as well as responses to sexual images (Saunders et al., 1985). Self-selection may explain why there were so few right-wing authoritarians in the samples, and may have limited the ability to provide adequate statistical tests of the relationship between authoritarianism and responses to sexual materials. Although these issues warrant due caution when applying these results to other populations, it is worth pointing out that active efforts were made to recruit participants with low experience with sexually explicit materials, and this effort likely increased the number of authoritarian and erotophobic participants that were ultimately included in the samples.

Although the remarkable similarity between the current findings and those established by Amoroso and colleagues (1970) years ago strongly suggest that the current results are not limited to the relatively affluent and educated young adults who attend Western University, it should not be assumed that the results of the research are either temporally or culturally invariant. As with all research, the absence of evidence should not be taken as evidence of absence. There is very good historical evidence that the meaning of pornography has changed, at least among experts and scholars (see Kendrick, 1987). Then again, the qualitative material reviewed in Chapter 2 has indicated that expert definitions of pornography have little correspondence to lay definitions of

pornography. Perhaps extreme variations in the meaning of pornography exist only among experts, who are simply confusing the issue.

3.7 Conclusions

While difficult to ascertain concretely, the current studies find little evidence that “pornography” lies in the eye of the beholder. Instead, the high consistency of pornography judgments across participants that were studied, the consistency of the current results with those reported previously in the literature, and the generalizability of the findings across groups that differed by gender and previous experience with sexual materials suggests that pornography judgments may reflect enduring and observable intrinsic properties of the stimulus materials (e.g. nudity, sexual behavior, etc), that have stable relationships with affective and sexual arousal responses. Future research should move beyond assertions regarding the inherent subjectivity of pornography judgments in an effort to identify the observable properties that underlie such judgments.

3.8 References

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Chapter 4

4 How the Content of Sexual Materials Shapes Perceptions of Pornography

Researchers have shown more interest in studying the impact of pornography than in analyzing its contents. (Brown & Bryant, 1989, p. 22)

Over the years, writers from many academic disciplines have contributed conceptual definitions of pornography. Some have defined pornography in order to identify materials that are appropriate or inappropriate to censor (Kendrick, 1987) while others have defined pornography in an effort to emphasize the role that sexual materials play in the construction and maintenance of patriarchy (e.g. Dworkin & McKinnon, 1988). Still others have defined pornography in order to standardize the operationalization of this construct for the purpose of empirical study (Short, Black, Smith, Wetterneck, & Wells, 2012). Evidently, motivations for defining pornography have differed across writers and across disciplines, which has resulted in a considerable number of definitions that have little or no similarity with one another. Furthermore, as many of these definitions have been constructed by armchair theorists who have relied on arbitrary criteria, many definitions depart substantially from the definitions held among lay individuals, and in some cases, have almost nothing in common with the actual content of materials that they seek to describe (see Chapter 2). Rather than providing a rich theoretical foundation to draw upon, the diversity in opinions regarding the meaning of pornography has confused more discussions about this topic than it has illuminated.

Indeed, diverse opinions regarding the meaning of pornography among experts have likely contributed to the common assertion that this construct can never be well defined as it is too idiosyncratic in nature (see Berger, 1977; Manning, 2006). In stark contrast to this view, however, empirical research has repeatedly demonstrated evidence that people can reliably differentiate pornographic from non-pornographic material (see Chapter 3; see also, Amoroso, Brown, Pruesse, Ware, Pilkey, 1970; Turnbull & Brown,

1977). It is clear from this line of research that the conceptual meaning of pornography is not so idiosyncratic that it cannot be understood empirically.

Previous descriptive and qualitative research has shown that depictions of nudity and sexual behaviour and the promotion of sexual arousal and gratification are commonly used and important elements found among lay definitions of pornography (see Chapter 2). Further, research has also shown that images that are more pornographic are rated as more sexually stimulating and more unpleasant than images that are rated as less pornographic. Given the extent of evidence, it appears likely that pornography as a construct involves the depiction of nudity and sexual behaviour, which are known to trigger sexual arousal in both men and women. This of course is not a novel hypothesis and this relationship has been casually observed in the past (see Amoroso et al., 1970). However, at present, there are no studies that have attempted to examine this connection systematically.

The current research involves the application of prototypicality theory to study the concept of pornography in order to determine if pornography judgments are strongly associated with the depiction of specific sexual cues. In the first study, a family resemblance approach (Rosch & Mervis, 1975) was used to elicit and identify content-based features depicted in sexual images that were associated with pornography judgments. The generalizability of these findings was examined in a second study, where the features identified in the first study were used to predict the pornography judgments of a subsequent and independent set of sexual images.

4.1 Pornography and Prototypicality

According to prototypicality theory, a prominent perspective employed in the study of category learning and categorization more generally, some examples of a category tend to be considered more typical members of a category than others, depending on their degree of concordance with the category prototype (Rosch, 1975). From this perspective, category prototypes are considered abstractions, or patterns of learned association based on experience with different members of each category, particularly those that vary greatly from one another, rather than direct experience with

an idealized form or prototype per se (see for example, Posner & Keele, 1968; 1970). Applied to the concept of pornography, prototypicality theory suggests that personal experiences with different examples of pornography contribute to a working understanding of the qualities that are associated with more and less typical members of the category pornography.

In this tradition, exemplar typicality is determined empirically by directing participants to consider the match between particular exemplars and an overarching category. Within the instructions that are given to participants who complete this sort of task, examples of category nouns (e.g. “dog”) are often translated into adjectives (e.g. “dogginess”), and then applied to different examples of the category (e.g. “To me a Retriever or a German Shepard is a *very doggy* dog while a Pekinese is a *less doggy* dog.” Rosch & Mervis, 1975, p. 588). While these types of studies ultimately ask participants to rate exemplars on scales that range from “not at all typical” to “very typical” of a category (e.g. “not at all typical of a dog”), approaches that direct participants to consider the adjective quality of a noun category bear more than passing resemblance to studies that explicitly ask participants to rate individual exemplars on scales that range from “not at all pornographic” to “extremely pornographic.”

In this light, instructing participants to judge the degree that various images are pornographic may simply be another way to gauge how typical each image is of the category “pornography.” This argument is reinforced by comparing early research involving exemplar typicality or goodness of fit ratings (e.g. Rosch, 1973; Rosch, 1975; Rosch & Mervis, 1975) with research involving pornography judgments (e.g. Chapter 3; see also Amoroso et al., 1970; Turnbull & Brown, 1977). What emerges in both literatures is that individual exemplars range in average ratings from not at all typical/pornographic to very typical/pornographic, and that such ratings are made reliably across raters.

Reconceptualising pornography judgments as a specific form of typicality ratings may allow for insightful applications of cognitive theory and research that will help inform the construction and understanding of pornography as a concept. For instance,

studies involving non-sexual categories have found that exemplars that are rated as more typical of a category are learned to be members of the category more easily (Rosch & Mervis, 1975; Rosch, Simpson, & Miller, 1976), tend to be judged to be members of that category more quickly in category verification tasks (Rips, Shoben & Smith, 1973), and importantly, are more likely to be generated when participants are asked to generate examples of a category (Mervis, Catlin & Rosch, 1976; Rosch, 1975) than are atypical members of a category. This last point may be particularly relevant to the confusion surrounding the meaning of pornography. While the majority of people describe pornography as the depiction of nudity and or sexual behaviour, a vocal minority insist that pornography involves the sexual depiction of violence, dehumanization, and degradation (see Chapter 2). Such differences among explicit definitions of pornography suggest differences in the types of exemplars that are considered typical of the category. In essence, differences regarding the types of material that are believed to be typical of a category may be contributing to the cross-talk that has been observed during intractable debates concerning pornography and censorship as antagonistic positions may be talking about fundamentally different types of materials (for a similar argument, see McElroy, 1995).

Of further importance to this discussion, typicality ratings of category exemplars have also been found to be related to inferences that people draw about other category members. Rips (1975) found, for example, that participants were more likely to believe that a disease would spread to other birds when they were told that a more typical bird (e.g. a robin) had the disease, than a less typical bird (e.g. a bald eagle). This finding may be of particular relevance in the area of pornography research, where inferences (both academic and lay alike) are often expressed concerning the effects of exposure to particular types of content. If an effect is associated with a genre of content that is assumed to be quite typical of pornography, then people may be more inclined to generalize the effects to other forms of pornography than if they believe the effects are associated with a less typical genre of pornographic content.

4.2 The Structure and Content of Pornography

A prototypicality approach can also help inform the understanding of the structure and content of lay conceptualizations of pornography, which, at present, are somewhat unclear. For example, relatively few studies have examined the structure of the concept of pornography, though among those that have, evidence indicates that some exemplars are rated as not at all pornographic while other exemplars are rated as extremely pornographic with many exemplars falling in between these extremes (Chapter 3, see also Amoroso et al., 1970; McDowall, 2008; Turnbull & Brown, 1977). These results are very consistent with the general view that category membership is graded, with no clearly demarcated boundaries that differentiate category members from non-members (Hampton, 1977), and suggests that decisions concerning what is, and what is not, pornographic may be poorly captured by binary category judgments tasks (i.e. pornography vs. not pornography).

Currently, even less is known about the specific content characteristics that play a role in the determination of pornography judgments. Casual observations by some researchers have suggested that both the degree of sexual interaction (from kissing to intercourse), and presence or absence of same-gender sexual behaviour may influence pornography judgments (see Amoroso et al., 1970 and Turnbull & Brown, 1977). Certainly these observations fit nicely with results indicating that pornography judgments are strongly associated with sexual arousal responses and negative evaluations (Chapter 3; see also Amoroso et al., 1970), as sexual arousal is known to increase with more explicit presentations of sexual content (Chivers, Seto & Blanchard, 2007), and presentations of homosexual behaviour, particularly male homosexual behaviour, tend to be rated as more unpleasant than presentations of heterosexual behaviour (Turnbull & Brown, 1977). These unsystematic observations alone, however, are not adequate to explain pornography judgments in their entirety, as some images are perceived to be highly pornographic without containing overt sexual activity or homosexual content (e.g. Slide 8: “Female on bed, genitals and anus exposed,” from Amoroso et al., 1970; Slide 113: “heterosexual couple embracing in a shower,” McDowall, 2008). As pornography

judgments of these thematically outlying images are still made reliably, there is still much to learn about why some images are considered more pornographic than others.

4.2.1 Family Resemblance

Of relevance to this discussion, Rosch and Mervis (1975) have previously claimed that exemplars that are more typical of a category have a higher degree of family resemblance with other exemplars in that category than exemplars that are less typical. In their seminal work, they describe family resemblance as a constellation of attributes or features that an individual exemplar shares with other exemplars in the same category. In this view, exemplars that contain a large number of features that are commonly found among other members of the same category are thought of as more typical members of the category than other exemplars that have few features that are common to members of that category. For example, an apple shares many features that are common to other members of the category fruit (e.g. it is sweet, has seeds, has a skin color that contrasts with green, etc.), whereas an olive has fewer features that are common to other fruit. According to family resemblance theory, an apple should be considered a more typical member of the category fruit than an olive.

Importantly, Rosch and Mervis (1975) found evidence for this position when they elicited attributes from participants for a number of exemplars that belonged to 6 different categories. For example, they found that the 5 most typical exemplars from the category “fruit” shared 16 attributes in common, while the 5 least typical exemplars of this category shared no attributes in common. Furthermore, within each category, feature scores derived for each exemplar, based on number of attributes that exemplar shared with other exemplars in the category, were found to be highly correlated with ratings of category typicality (Rosch & Mervis, 1975).

4.3 Exploring the Family Resemblance Structure of Pornography (Study 1)

A family resemblance approach can also be used to identify the attributes and features that are commonly found among pornographic media. Using the methods outlined by Rosch & Mervis (1975), features can be elicited from participants who view

various pornographic images that have been pre-rated in the degree that each is pornographic. According to family resemblance theory, pornographic images that contain a large number of features that are commonly shared by other members of the category will be rated as more typical of that category (e.g. pornographic) than will images that contain few features that are commonly shared by members of the category. Operationalized with feature scores – a metric that indexes the number of commonly shared features among exemplars – there should be a strong correlation between pornography judgments and feature scores based on the presence and absence of features found among pornographic images.

Importantly, identifying the nature of the features that are commonly found among extremely pornographic images will help describe the nature of pornography as a concept, at least for the medium of sexual images. Given the qualitative and descriptive findings discussed in Chapter 2, it was expected that cues indicating nudity and sexual behaviour would be commonly found among images that were considered extremely pornographic and not present among images that were considered not at all pornographic.

4.3.1 Gender

A number of studies have found moderate gender differences in ratings of sexual imagery. For example, research has found that men tend to evaluate sexual content as marginally more sexually arousing than women (Schmidt & Sigusch, 1970; Turnbull & Brown, 1978) while women, on average, tend to evaluate sexual imagery more negatively and report more negative affect following exposure than do men (Schmidt & Sigusch, 1970; Turnbull & Brown, 1978). At this time, studies that have specifically examined pornography judgments have failed to find mean gender differences (Chapter 3; Turnbull & Brown, 1978). Moreover, these studies have also found that men's and women's pornography judgments correlate very highly with one another across different images (Chapter 3; Turnbull & Brown, 1977). These results suggest that both genders are responding to the same stimulus properties of sexual images in a similar fashion. Given the current evidence, it seemed unlikely that the relationship between feature scores and pornography judgments would differ by gender or other individual difference factors.

4.3.2 Method

4.3.2.1 Participants

This study recruited participants from the psychology research pool at Western University (for Letter of Information, see Appendix A – Study 2). In keeping with the recruitment strategy employed in Chapter 3 - Study 1, efforts were made to recruit men and women with both high and low experience with sexually explicit materials (e.g. reported typically using sexually explicit materials less than once a month vs. once a month or more frequently). Initially, 90 participants were recruited to generate features for a subset of 20 of the 52 sexual and non-sexual images employed in Chapter 3. As the design outlined below required participants to review and respond to only 10 images, a minimum of 80 participants was required so that each image was reviewed by 10 different participants in each of four groups differing by gender and experience with sexually explicit materials. An additional 10 participants were recruited to compensate for missing data.

Although the initial results based on these 20 images were very promising, additional participants were subsequently recruited to provide data for the remaining 32 images for which pornography judgments had previously been collected (see Chapter 3). While only 128 participants were sought initially, an additional 212 participants were actually recruited. This was due, in part, to incomplete data provided by the initial 128 participants, but was further compounded by an elevated sign-up rate that took place in the closing week of the winter semester in 2012. As a consequence, quotas were filled and exceeded before the online study could be closed.

In total, 287 unique participants contributed data for the following analyses. Of these participants, $n = 56$ were males with low experience with sexually explicit materials, $n = 96$ were males with high experience with sexually explicit materials, $n = 80$ were females with low experience with sexually explicit materials, and $n = 55$ were females with high experience with sexually explicit materials.

4.3.2.2 Materials

This study made use of the same 50 sexual images as well as the 2 non-sexual control stimuli that were employed in Chapter 3. The sexual images were sampled from a popular Internet portal for free pornography (www.xnxx.com), which at the time of the study was ranked as the 123rd most accessed website on the Internet (see Chapter 3 - Study 1 for further details).

4.3.2.3 Procedure

This study was conducted online on a website designed for this purpose. After informed consent, participants began by completing a demographic questionnaire (Appendix B), a questionnaire probing their previous experience with sexually explicit materials (Appendix C), and the short-form of the Sexual Opinion Survey (Fisher, Byrne, White, & Kelley, 1988; Appendix I). Once these questionnaires were completed, participants were prompted with instructions on how to conduct the feature generation task (Appendix M). These instructions were adapted from those employed by Rosch & Mervis (1975). In essence, they asked participants to review a set of images one at a time, and for each image, to spend a few minutes listing the various features that could be found in that image. Participants were given an example, asked to avoid free-association, and instructed to separate individual features with a comma to aid the analysis that followed. After participants completed this task, they received debriefing information and were finished with the study (see Appendix D – Study 2).

In the feature generation task, each participant was presented with 10 randomly chosen images from the initial set of 20 pictorial stimuli, or the subsequent set of 32 pictorial stimuli used in this study, depending on when they participated. Each image was presented separately in a randomly determined order, and following each presentation, participants were asked to list features that they believed were characteristic of that image. The images were selected for each participant randomly so that no two participants generated features for the same set of 10 images.

4.3.2.4 Pornography Judgments

In previous research (Chapter 3 – Study 1), $N = 138$ undergraduate students provided pornography judgments for the 52 sexual and non-sexual images used in the current study. These participants included $n = 29$ males with low experience with sexually explicit materials, $n = 37$ males with high experience with sexually explicit materials, $n = 42$ females with low experience with sexually explicit materials, and $n = 30$ females with high experience with sexually explicit materials. Participants were randomly assigned to view one of two sets of 25 sexual stimuli (image set A or image set B), and in response to each image, were asked to indicate the extent to which the image was a good example of the category “pornography.” The scale used for this purpose ranged from 1 (“extremely pornographic”), to 7 (“not at all pornographic”). Using these responses, image-level mean pornography judgments were computed for each image by averaging responses across participants. For the purposes of this study, the scale direction of the image-level mean pornography judgments was reversed so that high values indicated that images were more pornographic.

4.3.2.5 Feature Scores

The method outlined above combined with study over-recruitment resulted in some images being described by more participants than others. Moreover, on an image-by-image basis, data were provided by more males with high experience with sexually explicit materials and females with low experience with sexually explicit materials than males with low experience with sexually explicit materials and females with high experience with sexually explicit materials. To prevent some images from being more described than others, simply by virtue of over-recruitment among particular sub-groups of interest, I decided to limit the data to be analyzed to 40 participants per image balanced so that there were 10 participants were drawn from each of 4 groups that differed by gender and experience with sexually explicit material. This was achieved by reviewing the data provided for each of 52 images separately and in instances where more than 10 participants from each of the subgroups provided data, eliminating participant contributions through random selection until only 10 participants from each of the subgroups remained. In this way, features were generated for each image by a total of

40 participants, and, as each participant generated features for different images, none of the 52 images were reviewed by the same group of 40 individuals. As previously mentioned, 2 non-sexual control images from Chapter 3 were also used in this study, but as the analyses below were restricted to the 50 sexual images, further discussion of these 2 images will be omitted from this point on.

Feature scores were calculated for each image using methods outlined by Rosch and Mervis (1975). First, participant responses were parsed into feature lists using the commas or comma equivalents (e.g. hyphens, semicolons, colons, etc.) that participants inserted in their answers. A small minority of participants did not use parsing techniques despite the request in the instructions. In these cases, efforts were made to parse their responses into discrete features that were as consistent as possible with the responses provided by other participants who had reviewed the same image.

Next, for each image, two judges (one male and one female) independently compared these lists of features with their associated images, to determine which features were objectively present in each image. These judges were instructed to keep features that were clearly present in an image and remove features that were (a) uninterpretable; (b) merely an evaluative reaction (e.g. “gross”); or (c) not clearly present in an image. When both judges were in agreement that a particular feature was present in a particular image, it was retained for further analysis. When the judges were not in agreement over a feature, it was discarded from further use.

Next for each image, individual feature lists were reduced by combining similar or synonymous features. For example, identical features that were separately listed by participants as “breasts,” “boobs,” “tits,” etc., were combined into single features like “breasts / boobs / tits / etc.” Occasionally, similar responses were kept separate when it was unclear if the responses were identifying the same features or different features in an image. For example, “white” and “white woman” were not combined when both the colour white and a Caucasian woman were present in a photograph. This process reduced the feature lists for each image to a more manageable number of unique features.

Even so, 1575 features remained across the 50 sexual images, or roughly 31 features for each image.

As participants often generated a feature in response to one image, but failed to list the same feature in response to subsequent presentations that depicted the identical feature, additional features had to be added to many of the image-specific feature lists. However, given the large number of features that needed to be cross-referenced across the 50 images, the task was deemed unmanageable. To simplify the process, I decided to focus my attention on features that were identified by at least one member of each of the four gender-by-experience subgroups, as these features arguably represent the most salient and reliable cues that were provided by participants in the feature generation exercise.

A master list of unique features was then constructed by pooling only these salient features across the 50 images. This was achieved by combining features using the same general method described above. Synonymous features were combined, but similar features with discernible differences were left separate. For example, noun features that were explicitly and verifiably singular for some images but plural in others were not combined (e.g. “single breast” was not combined with “breasts / boobs / tits / etc”). Similarly, when features that included both a noun and an adjective (e.g. “large breasts”) were verifiably distinguishable from a similar general noun (e.g. breasts), they were not combined with the general noun feature.

From this master-list, individual image-specific feature lists were reconstructed by determining which features were objectively present and which features were objectively absent in each image. Once again, this was necessary because participants often identified a feature in response to particular content in one image but failed to identify the same feature in other images which depicted the same content. Once this task was completed, each of the features was assigned a weight that corresponded to the number of images in the image set that depicted that feature. In this way, features present in only one image were assigned a weight of 1 while features present in all 50 images were assigned a weight of 50. Finally, feature scores were tabulated for each image by simply summing

the weights of its associated features. Consequently, images with a large number of features commonly shared by other images in the image set received higher feature scores than images with a large number of idiosyncratic features.

4.3.3 Results and Discussion

4.3.3.1 Demographic Characteristics

Of the 287 participants who contributed features for this study, there were approximately equal numbers of males and females (53.00% males), and equal numbers of people with high and low experience with sexually explicit materials (52.61% typically consumed SEM at least once a month or more frequently). More males (63.16%) than females (40.74%) had high experience with sexually explicit materials. Participants had a mean age of 18.91 years, primarily identified their ethnicities as either Caucasian (65.72%) or Asian (18.73%), and mostly indicated that either Christianity (49.13%) or Atheism, Agnosticism or No religion (33.10%) was their preferred worldview.

4.3.3.2 Number of Features

After consolidating similar features within each image a total of 1575 verifiable features remained across the 50 images, or an average of 31.5 features per image. Approximately 58% of the features that were generated by participants were generated by only 1 of the 4 groups defined by gender and experience with sexually explicit materials. In contrast, only 9.40%, or 148 of these features were listed by at least one member of each of the four groups. Of these 148 features, 65 were ultimately found to be redundant when feature lists were pooled across images, leaving 83 unique features (see Table 13) for use in the analyses presented below.

Table 13. Master Feature List of 83 Unique Features

Features:	Weight	Features:	Weight
female / girl / A woman ...	46	girl giving oral / girl is sucking cock ...	5
half naked / not fully nude ...	43	heels / stripper heels / high heels ...	5
mouth / lips / Lips ...	43	Small breasts / small boobs ...	5
hand / hand	40	Bikini / bikini ...	4
indoors / In a house	37	dildo / dildos / toy penis ...	4
naked / nudity ...	32	semen / cream / cum ...	4
eyes	31	sex toys / sextoys / toys {sex toys} ...	4
boobs / breasts / Two breasts ...	31	tattoo / tat ...	4
skinny / thin	29	wet / her vagina seems wet ...	4
nipple / nipples {one nipple}	28	bedroom	3
brown hair / hair is brown ...	24	blue shit {shirt} / blue shirt ...	3
blond hair / blond ...	22	Cow girl / man on bottom ...	3
vagina {vulva} / pussy ...	21	cum on boobs / cum on chest ...	3
red	20	ginger / red hair / redhead ...	3
man / male / A man ...	18	intercourse / vaginal sex ...	3
sex / having sex / displaying sex ...	18	pigtails / in pigtails / pig tails	3
shaved vagina / shaved {vulva} ...	18	two men's exposed genitals ...	3
ass / butt / bare bottom ...	17	3 female / three woman / 3 girls ...	2
male and female ...	17	4 people / 4some / foursome ...	2
young / Young / young looking ...	17	african american / black {ethnicity}	2
blue	16	anal intercourse / anal sex / anal ...	2
big boobs / large breasts ...	15	ballon / balloon / Balloon	2
masturbation / master bating ...	13	mask / wearing a mask	2
Penis / cock / dick ...	13	masturbation machine ...	2
pointy nipples / pointed nipples ...	13	vaginas {three vulvas} ...	2
under wear / undergarment ...	13	adult store / in a sex store or shop ...	1
balls	12	animation / anime / cartoon ...	1
Anus / ASSHOLE / anus showing ...	11	asian / asian? / Asian	1
hairy {male pubic area} ...	10	blow / blowing {not oral sex} ...	1
muscles / muscular	9	blowing up a balloon ...	1
fingering / fingerbang {vagina} ...	8	braces / brace-face	1
fingering herself ...	7	cream / lotion / shampoo ...	1
outdoors / outside ...	7	fist / Fisting / Fisting!!!!!!!!!!!! ...	1
vagina spread ...	7	flexibility / flexible / very flexible ...	1
3-some / 3 some / THREESOME ...	6	men appear to be kissing ...	1
leather	6	old man / guy looks older ...	1
oral sex / Oral {oral sex} ...	6	plate	1
2 girls / 2 women / Females {2} ...	5	sweat pants / sweatpants / sweats ...	1
2 males / two males / two men ...	5	three penis' / Three penis's ...	1
Belly button ring ...	5	tie / Tie	1
blow job / blow / Blowjob ...	5	tranny / guy as a girl / trans ...	1
bra / with bra	5		

4.3.3.3 Feature Scores

From the master list of unique features, feature scores were calculated for each image by summing the weights of all of the features that were present in that image. Features scores ranged from 174 (image B11) to 577 (image A17; see Figure 6). The zero-order correlation between the images' features scores and their mean pornography judgments was $r = 0.59$, $p < .01$, indicating, as predicted by family resemblance theory, that as images' features score became larger their image-level mean pornography judgments also increased.



Figure 6. Figure contrasting image B11, the image with the lowest feature score (174), with image A17, the image with the highest feature score (577).

Consistent with results of Rosch and Mervis (1975), images in the current study that were considered to be extremely pornographic also depicted a larger number of commonly shared features than images that were considered to be less pornographic. These results, coupled with the findings from the previous chapter which showed that pornography judgments are graded rather than categorical and have high between-person reliability, suggest: (a) that pornography judgments may be useful approximations of typicality ratings for category membership at least for this conceptual domain; and (b) that the internal structure of pornography as a category is similar to other categories that have been studied.

4.3.3.4 Nature of the Features

To describe the nature of the features depicted in the most and least pornographic images, the features found in the 2 most pornographic images were compared to the features found in the two least pornographic images. In total, 39 features were identified in at least one of the two most pornographic images (A9: mean pornography judgment = 6.79, feature score = 565; B12: mean pornography judgment = 6.75, feature score = 517; see Figure 7). As shown in Table 14, 59% of the features identified among the most pornographic images describe cues indicating nudity or sexual behaviour such as “Anus / ASSHOLE / anus showing ...,” or “masturbation / master bating ...” In contrast, of the 23 features identified among the least pornographic images (B22: mean pornography judgment = 1.54, feature score = 370; B11: mean pornography judgment = 1.37, feature score = 174; see Figure 7), only 2 features, or 9%, had any sexual connotations whatsoever (see Table 15). Both of these features suggested partial but not full nudity: “half naked / not fully nude ...” and “under wear / undergarment ...” Therefore, as expected, the most pornographic images depicted more cues of nudity and sexual behaviour than the least pornographic images. These results are consistent with the qualitative research presented in Chapter 2, where open- and closed-ended questions identified the depiction of nudity and sexual behaviour as the most salient and central aspects of lay conceptualizations of pornography.



Figure 7. Figure illustrating the images that were pre-rated as the two most pornographic images (A9 & B12) and the two least pornographic images (B22 & B11)

Table 14. Features Depicted in at Least One of the Two Most Pornographic Images

Features:	Sexual Feature	Features:	Sexual Feature
3-some / 3 some / THREESOME ..	Yes	two men's exposed genitals ...	Yes
anal intercourse / anal sex / anal ...	Yes	vagina {vulva} / pussy ...	Yes
Anus / ASSHOLE / anus showing ...	Yes	wet / her vagina seems wet ...	Yes
ass / butt / bare bottom ...	Yes	2 males / two males / two men ...	No
balls	Yes	Belly button ring ...	No
blow job / blow / Blowjob ...	Yes	brown hair / hair is brown ...	No
boobs / breasts / Two breasts ...	Yes	eyes	No
fingering / fingerbang {vagina} ...	Yes	female / girl / A woman ...	No
fist / Fisting / Fisting!!!!!!!!!! ...	Yes	hand / hand	No
girl giving oral / girl is sucking cock ..	Yes	heels / stripper heels / high heels ...	No
hairy {male pubic area} ...	Yes	indoors / In a house	No
half naked / not fully nude ...	Yes	leather	No
masturbation / master bating ...	Yes	male and female ...	No
naked / nudity ...	Yes	man / male / A man ...	No
nipple / nipples {one nipple}	Yes	mouth / lips / Lips ...	No
oral sex / Oral {oral sex} ...	Yes	muscles / muscular	No
Penis / cock / dick ...	Yes	red	No
pointy nipples / pointed nipples ...	Yes	skinny / thin	No
sex / having sex / displaying sex ...	Yes	tattoo / tat ...	No
shaved vagina / shaved {vulva} ...	Yes		

Table 15. Features Depicted in at Least One of the Two Least Pornographic Images

Features:	Sexual Feature
half naked / not fully nude ...	Yes
under wear / undergarment ...	Yes
2 males / two males / two men ...	No
ballon / balloon / Balloon	No
bedroom	No
blond hair / blond ...	No
blow / blowing {not oral sex} ...	No
blowing up a balloon ...	No
blue	No
brown hair / hair is brown ...	No
eyes	No
female / girl / A woman ...	No
hand / hand	No
indoors / In a house	No
male and female ...	No
man / male / A man ...	No
mask / wearing a mask	No
mouth / lips / Lips ...	No
muscles / muscular	No
outdoors / outside ...	No
red	No
skinny / thin	No
young / Young / young looking ...	No

4.3.3.5 Exploratory Post-Hoc Analyses

While reviewing the features found among the most and least pornographic images, I noted that several features were found to be common to both types of images (see Table 14 & Table 15). The co-occurrence of some of these features appears problematic as they have high feature weights but fail to differentiate pornographic images from non-pornographic images. For example, features such as “mouth / lips” (weight = 43), and “hand” (weight = 40), have high weights but are commonly present in *both* extremely pornographic images as well as non-pornographic images. The inclusion of such features in the calculation of feature scores seemed likely to introduce variance that was not systematically associated with pornography judgments, and consequently attenuate the correlation between the resulting feature scores and pornography judgments.

To examine this issue further, an exploratory procedure was devised to isolate the subset of features that were most predictive of mean pornography judgments. To this end, feature lists from the two most pornographic images (A9 & B12) were compared with the feature lists from the two least pornographic images (B22 & B11). Only features that were present in at least one of the most pornographic images but were not present in either of the least pornographic images were retained for further study. This process resulted in the retention of 26 of the 83 features (see Table 16). Using only these features, feature scores were retabulated for each image. The association between feature scores based on this subset of features and mean pornography judgments was $r = .85, p < .01$, once again indicating that larger features scores were found among the most pornographic images. To ensure that this correlation was not driven by the inclusion of the two most pornographic images and two least pornographic images, the zero-order correlation was also calculated using features scores and pornography ratings from 46 images that were not used to isolate this subset of features, and the resulting correlation remained strongly positive, $r = .84, p < .01$.

Table 16. Features Found in Most Pornographic Images but Not Found in Least Pornographic Images

Features:	Weight
naked / nudity ...	32
boobs / breasts / Two breasts ...	31
nipple / nipples {one nipple}	28
vagina {vulva} / pussy ...	21
sex / having sex / displaying sex ...	18
shaved vagina / shaved {vulva} ...	18
ass / butt / bare bottom ...	17
masturbation / master bating ...	13
Penis / cock / dick ...	13
pointy nipples / pointed nipples ...	13
balls	12
Anus / ASSHOLE / anus showing ...	11
hairy {male pubic area} ...	10
fingering / fingerbang {vagina} ...	8
3-some / 3 some / THREESOME ...	6
leather	6
oral sex / Oral {oral sex} ...	6
Belly button ring ...	5
blow job / blow / Blowjob ...	5
girl giving oral / girl is sucking cock ...	5
heels / stripper heels / high heels ...	5
tattoo / tat ...	4
wet / her vagina seems wet ...	4
two men's exposed genitals ...	3
anal intercourse / anal sex / anal ...	2
fist / Fisting / Fisting!!!!!!!!!!!! ...	1

4.4 Predicting Pornography Using the Family Resemblance Structure (Study 2)

The results of Study 1 reinforced the notion that pornography can be studied much like other conceptual categories. While these results offered a partial description of the content of pornography as a concept (e.g. pornographic images involve the depiction of nudity and sexual behaviour), it was unclear if the features generated by this study adequately captured the broader conceptual meaning of pornography among lay individuals. It seemed possible that features generated with this exercise might have been specific to the sample of images employed in the study, which consequently would tell us little about the meaning of pornography more generally. There was a concern that if this study were repeated with an alternative sample of images, or a different mode of media (e.g. text, film, etc.), different features would emerge. It also appeared possible that replications of Study 1 would identify similar features but with different distributions among the stimulus set. In such a case, alternative distributions of similar types of features would also have implications for the nature of pornography as a concept. Consequently, a replication study was considered to determine if the results of Study 1 could be generalized.

Unfortunately, the merits of replicating the exact methods of the Study 1 with an alternative sample of sexual images did not appear to outweigh the costs. The time it takes to prepare and analyze this type of data alone represented a large obstacle for a replication study, but the more pressing concern was that it was not clear how the results of two studies would be compared beyond a simple qualitative description of their similarity or dissimilarity. As an alternative to an exact replication, a second study was constructed to test apriori predictions regarding how pornographic a new sample of sexual images would be judged to be using the feature lists and weights identified in Study 1. It was assumed that if the pornography judgments of an independent sample of sexual images could be predicted with a high degree of reliability, then the features generated in Study 1 would not be specific to the sample of images used in that study, and could be applied more broadly to inform the understanding of the content of images that people perceive as pornographic.

Consequently, the purpose of the current study was to determine if the pornography judgments of a new independent sample of sexual images could be predicted by features scores derived from the features weights of features identified in Study 1. This research question was explored by examining the correlation of pornography judgments with feature scores derived from both the full set of 83 features and the restricted set of 26 features.

4.4.1 Method

4.4.1.1 Participants

This study recruited a total of $N = 75$ participants from an introductory psychology course at Western University in exchange for partial course credit (for Letter of Information, see Appendix A – Study 3). Three of the initial 78 volunteers for the study were excluded because of a failure to follow study instructions. Once again, attempts were made to recruit a similar number of males and females with both high and low experience with sexually explicit materials. This effort resulted in the recruitment of $n = 17$ males with low experience with sexually explicit materials, $n = 23$ males with high experience with sexually explicit materials, $n = 17$ females with low experience with sexually explicit materials, and $n = 18$ females with high experience with sexually explicit materials.

4.4.1.2 Materials

This study made use of 25 digital images which ranged in content from not overtly sexual to sexually explicit. These images were randomly selected from the same large pool of images that was used to create the sample of 50 images employed in preceding studies (e.g. Chapter 3, and Chapter 4 – Study 1). This large pool of images was initially collected from a popular online conveyor of free sexually explicit materials (www.xnxx.com). On this website, links to sexual material were organized into 289 genre-specific categories (e.g. 3d, amateur, high heels, wife, etc.). On July 26, 2011 the most recently posted image set from each of the 289 categories was downloaded. Image sets typically consisted of between 10 and 20 individual images. For the current study,

images were sampled by first randomly selecting an image set (with replacement), and then randomly selecting an image within that set (without replacement).

This study also made use of 5 arbitrarily selected sexual images to standardize participants' mindsets and to familiarize them with the range and diversity of images that they would be asked to evaluate. Finally, two non-sexual pictures, one of a clothed female running along a beach and the other of a clothed heterosexual couple holding hands while out for a walk, were used to help train participants on the rating procedure. These additional 7 images were identical to those used in previous studies (e.g. Chapter 3 and Chapter 4 – Study 1).

4.4.1.3 Procedure

Participants completed this study online and were asked to do so in private. After providing informed consent (see Appendix A – Study 3), participants began by completing two questionnaires, one to assess demographic information (Appendix B) and the other to assess previous experience with pornography (Appendix C). Next, participants completed a number of individual difference questionnaires that are not directly relevant to the current hypotheses including the Marlowe – Crowne Social Desirability Scale (Crowne & Marlowe, 1960), a short Right-Wing Authoritarianism Scale (Appendix J), the Openness to Experience subscale of the Big Five Aspects Scale (DeYoung, Quilty, & Peterson, 2007), the brief Bem Sex Role Inventory (Peng, 2006), and the short form of Sexual Opinion Survey (Fisher, Byrne, White, & Kelly, 1988; Appendix I).

Much of the remaining procedure was essentially identical to the procedure used in Chapter 3 – Study 1. After the individual difference questionnaires were completed, participants began the stimulus rating task by reading general instructions that explained the nature of the task (see Appendix K). Afterwards, participants were shown the 5 arbitrarily selected sexual images to standardize their mindset and to give them some indication regarding the range of images that would follow. Each of these images was presented individually and participants were able to advance through them at their own pace. Next, participants were given further instructions and asked to rate the two non-

sexual images to familiarize themselves with rating procedure (see Appendix K). Each image was rated using 7-point rating scales that assessed the degree to which participants found the image pornographic, unpleasant, and sexually stimulating (see Appendix L). A response of “1” on these scales indicated that an image was extremely pornographic, unpleasant or sexually stimulating, while a response of “7” on these scales indicated that an image was not at all pornographic, positive, negative or sexually stimulating. This task also served to provide baseline ratings of non-sexual images that were used to eliminate three participants who indicated that the non-sexual control images were moderately to extremely pornographic. After the practice slides, each participant was shown the remaining 25 sexual slides and asked to make ratings after each (see Appendix L). These pictures were shown in random order for each participant and participants were able to advance through the images at their own pace. Once all ratings were completed, participants were forwarded to a debriefing page (see Appendix D – Study 3) that explained the nature of the study.

4.4.1.4 Feature Scores

Feature scores were computed for each of the 25 sexual images used in the current study by using the feature lists and feature weights generated in Study 1. To this end, each of the 25 images was first reviewed for the presence or absence of the master list of 83 unique features (see Table 13). Feature scores were then tabulated for each image by summing the feature weights of features that were present in that image. A second feature score was then calculated for each image by repeating this process with the refined list of 26 features (see Table 16). The primary research question was examined by regressing the mean image-level pornography judgments for each image on their corresponding feature scores.

4.4.2 Results and Discussion

4.4.2.1 Demographic Information

Of the $N = 75$ participants, there were approximately equal numbers of males and females (53.33% males), and equal numbers of people with high and low experience with sexually explicit materials (54.66% typically consumed SEM more frequently than once a

month). Again, slightly more males with high experience with sexually explicit materials (57.50%) were recruited than females (41.43%). Participants had a mean age of 18.64 ($SD = 1.48$), and were primarily Caucasian (69.33%) or Asian (18.66%), and most frequently identified their religious views as Christian (44.59%), or Atheist, Agnostic or non-religious (36.49%).

4.4.2.2 Features Present in the New Sample of 25 Images

Of the master list of 83 features identified in Study 1, 58 features (69.88%) were also present in the new sample of 25 images. As can be seen in Table 17, the features that were not present in the new set of images involve both sexual and non-sexual themes. For the most part, the images that were not found in the new sample of images were represented infrequently in the original sample of 50 images (feature weight $Mdn = 1$; feature weight range = 1-9). To compare the distributions of the 58 features present in both sets of images, new features weights were calculated to reflect the number of images in the current image set that depicted each feature. The resulting feature weights of these 58 features were then correlated to the original feature weights derived from the set of 50 images. The resulting association was large, $r = .94$, $p < .01$, which indicated that the relative frequencies with which these 58 features were present in both image sets were very similar.

Table 17. Features Found in the 50 Images Used in Study 1 But Not Found in 25 Images Used in Chapter 4 - Study 2

Features:	Study 1
muscles / muscular	9
Cow girl / man on bottom ...	3
ginger / red hair / redhead ...	3
pigtails / in pigtails / pig tails	3
two men's exposed genitals ...	3
3 female / three woman / 3 girls ...	2
ballon / balloon / Balloon	2
mask / wearing a mask	2
masturbation machine ...	2
vaginas {three vulvas} ...	2
adult store / in a sex store or shop ...	1
animation / anime / cartoon ...	1
blow / blowing {not oral sex} ...	1
blowing up a balloon ...	1
braces / brace-face	1
cream / lotion / shampoo ...	1
fist / Fisting / Fisting!!!!!!!!!!!! ...	1
flexibility / flexible / very flexible ...	1
men appear to be kissing ...	1
old man / guy looks older ...	1
plate	1
sweat pants / sweatpants / sweats ...	1
three penis' / Three penis's ...	1
tie / Tie	1
tranny / guy as a girl / trans ...	1

The reduced list of 26 features was also analyzed in this fashion. A total of 24 of these 26 features (92.31%) were also present in the new sample of 25 images. In this

case, the two features that were not present in the sample of 25 new images included “fist / Fisting / Fisting!!!!!!!!!!!! ...” and “tranny / guy as a girl / trans ...” New feature weights were tabulated for these 24 features to identify their distribution in the new sample of 25 images, and these new feature weights were correlated with the original feature weights. The resulting association was also quite high, $r = .90$, $p < .01$, which indicated that the restricted list of features was also similarly represented in both image sets.

4.4.2.3 Feature Scores Predicting Pornography Judgments

To assess the generalizability of the feature lists and feature weights generated in Study 1, the feature scores derived from these features were used to predict mean image-level pornography judgments of the new sample of 25 sexual images. To this end, image-level mean pornography judgments were first regressed on the feature scores that were based on the 58 applicable features of the original full list of 83 features. The resulting standardized regression co-efficient $\beta = -0.58$ was statistically significant, $p < .01$, indicating that images with higher feature scores were perceived as more pornographic, and that feature scores derived from these features accounted for 34% of the variance in average pornography ratings in the new image set.

This analysis was also conducted with feature scores derived from the 24 features that were common to the restricted list of 26 features identified in Study 1. In this case, the standardized regression co-efficient was larger, $\beta = -0.83$, $p < .001$, and once again indicated that images with higher feature scores were perceived as more pornographic. In this analysis, feature scores accounted for a substantial 69% of the variance in image-level mean pornography judgments.

4.5 General Discussion

These studies provide the first systematic exploration of cues, features, or attributes that are found among sexual media, along with an understanding of how these features relate to pornography judgments. The family resemblance approach employed in Study 1 uncovered features depicted in sexual images that were commonly found among extremely pornographic images. In Study 2, the same list of features was used to predict

the extent that a second independent sample of sexual images would be judged to be pornographic.

Although it is clear from previous research that pornography judgments are strongly associated with sexual arousal and evaluative judgments (e.g. Chapter 3, Amoroso et al., 1970; Turnbull & Brown, 1977), the current research is the first to show that pornography judgments are also systematically associated with presence or absence of specific verifiably objective visual cues. While this may seem obvious and unsurprising to a casual reader of this work, assertions that perceptions of pornography are idiosyncratic (Kuhn et al., 2007), cultural productions (Attwood, 2002; Kendrick, 1987; Manning, 2006), or that perceptions of pornography change as a function of the context of presentation (Eck, 2001), suggest that few if any objective cues should be able to differentiate pornographic from non-pornographic material. The results of the current research, particularly the finding that 24 features identified in the images that were used in Study 1 accounted for 69% of the variance in mean image-level pornography judgments of an unrelated sample of sexual images, clearly stand against such an extreme view of pornography as a concept. Instead, it would appear that the concept of pornography is much like other noun categories that have been studied with this approach; typical examples of pornography share more features in common than less typical examples of the pornography, or examples that are not pornographic.

The current research also informs the understanding of the content of lay conceptualizations of pornography and strongly corroborates the qualitative and descriptive research presented in Chapter 2. Recall that earlier qualitative analysis of *expert* definitions of pornography found differences in the types of the content that were presumed to be depicted by such materials. The two most prominent distinctions along these lines were definitions that asserted that pornography involved the depiction of sexual content, and definitions that asserted that pornography involved the depiction of anti-women content. However, when *lay* definitions of pornography were subjected to content analysis, the depiction of nudity and sexual behaviour was found to be quite common while the depiction of anti-women content was rare. As can be seen in Table

13, the current research found many instances of cues depicting nudity or sexual behaviour, but few if any cues that clearly indicate violence, degradation, or humiliation.

Admittedly, some might argue that two of the features, “cum on boobs,” and “fisting” should be considered prima-facie examples of degradation and violence (see for example Cowan & Dunn, 1994). On the other hand, others have argued that the depictions like the “money-shot” have more to do with the presentation of unquestionable sexual pleasure than the depiction of sexual debasement (Williams, 1989), and there is no evidence that practitioners of such behaviours perceive such acts as clear examples of dehumanization or violence. In any case, as neither of these features were among the reduced set of 24 features that were used to strongly predict pornography judgments in the Study 2, it is clear from the current research that perceptions of pornography can be adequately predicted by considering the sexual content of the materials in question without referring to the depiction anti-woman content.

While the results of the current study are consistent with family resemblance theory, it is also worth noting that the methods used in the current research captured a number of commonly shared features that did not differentiate pornography judgments (e.g. hands, mouth, etc.). As demonstrated, excluding these features from the calculation of feature scores dramatically increased the correlation between feature scores and pornography judgments to $r = .85$. On its face, some might interpret evidence of the existence of a large number of commonly shared attributes among both typical and non-typical members of category as a conundrum for family resemblance theory.

Fortunately, in this case the theoretical challenge posed by such findings is more *apparent* than real. In the current research, all exemplars were drawn from a popular source of sexual materials, and as such, even the images that were rated as “not at all pornographic” shared many features in common with “highly pornographic images.” Had these studies included clear category non-members (e.g. a picture of a duck, a car, or cloud filled sky, etc.), the presence of features common to all pictures of human beings (e.g. hands, mouth, etc.) would have been less problematic, as they would have

differentiated clear non-member examples of pornography (e.g. a dog) from less typical members of the category (e.g. a scantily clad lingerie model).

4.5.1 Limitations and Future Directions

The current research was conducted with undergraduate psychology students and the results of the current research should only be generalized beyond such samples with caution. Similarly, as these results stem from a relatively limited analysis of sexual materials from a specific pictorial medium, it would be unwise to apply them broadly to all sexual media. With that said, the results of Study 2 clearly demonstrated that features elicited from one set of 50 sexual images could be used to account for an impressive amount of variance in pornography judgments made in response to an independent set of 25 sexual images. While the current research findings are preliminary, they strongly suggest that some generalization is warranted.

On a related note, it seems likely that some of the results would apply to more complex media such a video. For example, features indicating nudity and sexual behavior would likely still be useful for making crude distinctions in this form of media (e.g. difference between nude exercising, masturbation, and intercourse, see Chivers et al., 2007). However, the dynamic nature of video, where some features may be present in one frame but be changed or entirely absent in the next, presents a significant challenge for anyone that wishes to apply a similar approach to video.

4.6 Conclusion

In contrast to the assumptions underlying academic rhetoric that asserts that the concept of pornography can never be meaningfully understood, the results of the current research strongly suggest that the construct of pornography is similar to other categories that have been studied. Certainly, the concept of “pornography” is at least as concrete as the category “fruit,” and few people claim that the meaning of “fruit” can never be fully understood. For those wishing to further plumb the nature of pornography as a specific category, the judicious application of cognitive theories of concepts and categories and the methodologies employed to test these theories will likely prove insightful.

4.7 References

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Chapter 5

5 Concluding Thoughts

This work provides the most systematic examination of the meaning of pornography that has been conducted to date. While this research was informed by previous academic perspectives concerning the nature of pornography, it focused more on gaining a better understanding of lay conceptualizations of this construct. To this end, the concept of pornography was studied in three ways. First, open- and closed-ended descriptive research was conducted to elucidate both expert and lay beliefs about what pornography is in order to determine the extent to which such beliefs were similar or different across persons. Next, quantitative research was conducted to determine if people could reliably judge the extent to which different materials were pornographic, and to determine if there were systematic differences in such judgments that varied by individual difference characteristics such as gender and previous experience with sexual materials. Finally, further research was conducted to determine the extent to which differences in the content depicted in sexual materials could be used to explain the degree to which such materials are judged to be pornographic.

5.1 Summary of Findings

This research began with a qualitative analysis of formal definitions of pornography provided by expert academics who have discussed the concept of pornography, or who have studied the antecedents and consequences of pornography use. As expected, this analysis revealed that expert definitions of pornography involved a diverse range of definitional elements, including the depiction of sexual content (e.g. vague descriptions, any nudity, sexual behaviour only, or both nudity and sexual behaviour), the depiction of anti-woman content, the intended or actual function of pornography (e.g. arousal, oppression, or offence), the commodification of sexual depictions, the depiction or stimulation of sexual fantasy, and relationship between sexual depictions and art. Interestingly, the content analysis of lay definitions of pornography uncovered a great deal of consistency in the beliefs concerning the nature of such

materials. For most lay individuals studied, pornography involved the depiction of sexual content, particularly the depiction of sexual behaviour, but also to a lesser extent, the depiction of nudity. The relevance of these features of pornography was identified in the responses to an open-ended question in which participants were asked to define pornography, and was also confirmed with an independent sample of participants who were asked to rate the importance of different definitional elements for describing pornography using closed-ended items.

While the sexual arousal function of pornography was prominent among expert definitions of pornography (see Rea, 2001), this function was not spontaneously mentioned in most lay definitions of pornography. Despite the infrequent mentions, however, this function of pornography was strongly endorsed by participants who were asked to indicate the importance of different definitional elements with closed-ended questions. The issue of salience offers one possible explanation for differences between open and closed-ended descriptions of pornography. Pornography as a construct may be more closely linked to the depiction of sexual behaviour and nudity than to sexual arousal, and thus may be more salient when people are asked to describe this construct to others. On the other hand, it is also possible that differences between open- and closed-ended questions reflect differences in the effort that is required to describe each of these aspects of pornography. It may be easier to describe pornography in terms of what it is rather than what it does, perhaps especially because sexual arousal is not the inevitable result of exposure to pornography for all people or in all situations. Unlike the experiential aspects of some other categories (e.g. lemons are sour), reactions to pornography are far from universal. Perhaps the lack of explicit descriptions of the sexually arousing properties of pornography among lay definitions simply reflects the greater difficulty of describing this function (e.g. Should intended versus actual sexual arousal be considered? Does pornography require sexual arousal for some people, most people, or all people? etc.). Regardless of the reason behind this discrepancy, this particular difference between open- and closed-ended descriptions of pornography may have little practical significance. Subsequent research found that the presence of cues indicating sexual behavior and nudity could be used to predict pornography judgments reliably, and that pornography judgments were strongly associated with sexual arousal

ratings. Clearly both the depiction of sexual behaviour and the sexual arousal function of materials are closely associated with the nature pornography.

Interestingly, the quantitative research that followed suggests that the concept of pornography may be cognitively structured like many other concepts that have been studied. Like typicality ratings more generally, pornography judgments made with continuous rating scales were found to be very reliable both within and across individuals. Perhaps because of the high degree of agreement, there was little or no evidence for systematic differences in pornography judgments as a function of gender, experience with sexual materials, erotophobia, or right-wing authoritarianism. Also consistent with theoretical descriptions of the fuzzy boundaries of concepts (Hampton, 1979), the aggregated pornography judgments associated with the different images used in this research spanned the range from clear examples of the category (e.g. “extremely pornographic”) to clear non-members of the category (e.g. “not at all pornographic”) with no obvious demarcation point that divided pornographic stimuli from non-pornographic stimuli. The lack of clear boundary definition for the concept of pornography may partially explain the difficulties that have been identified in settling on a formal definition of this construct (e.g. Kuhn, Voges, Pope, & Bloxsome, 2007; Manning, 2006; Traeen, Nilson & Stigum, 2006). As with other constructs, seeking a perfect definition of pornography that contains all the necessary and sufficient clauses that are required to differentiate category members from non-members may be a fool’s errand (Murphy, 2005). In this respect, Justice Potter Stewart may have been right after all; most people have trouble defining pornography, but know it when they see it.

Also relevant to the cognitive structure of pornography, image-level mean pornography judgments were explained relatively well with a set of objectively discernible cues, particularly those indicating sexual behavior and nudity. These findings appear to be fairly robust, as the features identified in one set of images by one sample of participants were found to predict the pornography judgments made in response to a different set of images by a different sample of participants. Although the results of this research were very consistent with predictions made by the family resemblance theory of prototype structure (Rosch & Mervis, 1975), it remains possible that considerations of

competing theories of category structure (e.g. the exemplar view; see Medin & Schaffer, 1978), as well as more recent advances in study of concepts and categories more generally, would further inform the concept of pornography. For example, a research framework involving Stewart and Brown's (2005) similarity-dissimilarity exemplar model, which asserts that judgments of category membership involve both the degree to which an exemplar is similar to other members of the category as well as the degree to which it is dissimilar from category non-members may prove useful for disentangling the concept of pornography from the closely related concepts of erotica and obscenity.

Finally, pornography judgments were also found to be strongly associated with sexual arousal and unpleasantness ratings. Images that were generally considered extremely pornographic evoked stronger group reactions of sexual arousal and negative affect than images that were generally considered not at all pornographic, a finding that replicates previous work in this area (Amoroso, Brown, Pruesse, Ware, & Pilkey, 1970). However, it was also clear from the current research that individual instances of pornographic material did not evoke simultaneous experiences of sexual arousal and unpleasantness ratings at the level of the individual. Instead, some individuals (e.g. more often women, people with less experience with sexual materials, and those high in erotophobia) responded to pornographic images with high unpleasantness ratings and low sexual arousal, while other individuals (more often men, people with more experience with sexual materials, and those high in erotophilia) responded to the same images with high sexual arousal and low unpleasantness ratings. Importantly, regardless of the differences in sexual and emotional responses to pornographic imagery across participants, most participants were in high agreement about which materials were more pornographic and which materials were less pornographic. These findings highlight the inadequacy of relying solely on either sexual arousal or offence functions of media as the primary determinants of pornography as it is clear that people vary in their responses to pornography.

5.2 Conceptual and Operational Definitions of Pornography

There are several reasons to work towards a widely accepted and coherent conceptual definition of pornography. First, a standard definition of pornography would

clarify public and moral debates concerning the role of such materials in society, as those who hold opposing opinions on these matters also appear to have divergent views concerning the nature of the very materials that they are debating (McElroy, 1995; Rea, 2001). In a related matter, conceptualizations of pornography frequently connect with legal systems through the association of pornography with the concept of obscenity, and different formulations of each of these concepts can have profound effects on the extent and types of materials that are legally censored (McElroy, 1995). In fact, ambiguity in both of these concepts, and in particular, how they should be implemented, has contributed to the unequal—and some would argue, unreasonable—prosecution of gay and lesbian bookstores in Canada (Cossman, 1997). Furthermore, and more germane to the social scientist, a coherent conceptual definition of pornography that can be operationalized in a valid and reliable fashion would also be of some benefit to the research enterprise (Fisher & Barak, 2001; Mosher, 1988, Short et al., 2012).

Of course, as discussed repeatedly throughout this work, a perfect definition that identifies all of the necessary and sufficient conditions for category membership and non-membership is probably not possible. With that said, even consensus about an imperfect definition of pornography would still be useful for researchers. Theoretically, the consistent operationalization of the same conceptualization of pornography should improve the reliability and validity of research findings in this area. At the very least, a consistently used definition of pornography could rule out the possibility that differences in the operationalization of pornography underlie differences in results across samples or across studies, which would allow researchers to focus on more meaningful reasons for such differences. The consistent application of an agreed-upon definition of pornography would also potentially improve the integration of research findings and for similar reasons, reduce the probability of miscommunications when research findings are disseminated to the public.

How then should empirical researchers define pornography? From one perspective, any definition, provided that it is used consistently in the field would be of some benefit. From another perspective, the research presented in this work suggests that certain definitions of pornography are at odds with the working definitions that are

employed by lay persons that are used in research (e.g. the depiction or promotion of sexual violence, the commercialization of sex, artistic or non-artistic depictions of sex, etc.). And while all researchers who ask their participants questions about pornography should define what they mean by “pornography,” though many unfortunately do not (Short et al., 2012), there is an elegant simplicity in defining pornography in a fashion that resonates with the participants’ pre-conceived notions about what pornography is, especially as such beliefs appear to be so consistent. Taken together, the research presented in this work suggests that pornography is adequately defined as the depiction of sexual behaviour and nudity. Most people that were studied identified these elements in open-ended definitions of pornography and endorsed them strongly as centrally defining elements of their definitions of pornography. Further, the presence of cues of nudity and sexual behaviour proved very useful in predicting the extent to which various images could be considered pornographic. Some may be inclined to add a stipulation concerning the sexual arousal or gratification function, but the addition of this component would simply complicate the construct without providing any tangible benefits.

5.3 Limitations and Future Directions

Clearly this work can be reasonably criticized on the grounds that it relied exclusively on samples of undergraduate students to inform the understanding of “lay” conceptualizations of pornography. Indeed, the consistency in findings presented here may in fact be partially attributable to the use of samples that are relatively homogeneous with respect to factors like affluence or intelligence. Consequently, readers of this work should be cautious in applying these findings to lay conceptualizations more generally until further work can establish their relevance for the broader population. In addition to random sampling, future work in this area would do well to specifically recruit samples that are likely to hold divergent ideas about what constitutes pornography (e.g. persons who self-identify as radical feminists, immigrants, etc.) to contrast their beliefs and judgments with the results presented here.

As video pornography has now exceeded the popularity of still image pornography in many areas, there is further need to explore the nature of pornography judgments made in response to video stimuli. As video stimuli exhibit temporal and

audio dimensions not found in still images, such research would be much more complex in nature and may require novel methods not discussed in the current work.

Although the exploration of lay conceptualizations of pornography is an important task that can inform the improvement of research practices in this area, a preoccupation with the relatively superordinate category of pornography alone may obscure important differences in content among media that fall within this category. Indeed, previous attempts to define pornography have been criticized for their failure to consider content-based dimensions of sexual media (Fisher & Barak, 1991). Ultimately what is needed in this field is a conceptualization of pornography which ties specific content-based features of pornography to the psychological and behavioural outcomes that follow exposure to such materials. Future work in this area should move beyond the study of the higher-order category of “pornography” to develop empirically developed typologies of content that can be used to guide research.

5.4 References

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Appendices

Appendix A: Letters of information and ethics approval forms

Lay Conceptualizations of Pornography – Study 1



DEPARTMENT OF PSYCHOLOGY

Letter of Information

We are asking you to consider participating in an online study conducted by Taylor Kohut (PhD student in social psychology) under the supervision of Dr. William Fisher (Ph.D.) of the Department of Psychology at the University of Western Ontario.

The purpose of this letter is to provide you with the information you require to make an informed decision concerning participation in this research. Our research focuses on sex-related information, sexual thoughts/feelings and sexual behaviours. **Participation in this research is limited to men and women 18 years of age and older.**

The primary aim of this study is to better understand the way that people think about and define pornography. Participation in this study involves anonymously and privately answering a number of questions regarding personal sexual attitudes, beliefs and behaviors and evaluating a number of **sexual images**. This study begins with a number of straightforward questions that gather background information about each participant and then proceeds by asking about sexual attitudes, experiences and behaviors as well as other more general predispositions.

Participation in this study also involves the evaluation of a number of sexual and non-sexual images. These images cover a very diverse range of content including masturbation, oral sex, penile-vaginal intercourse and anal intercourse in both heterosexual and homosexual contexts. Potential risks of participation are considered minimal, primarily consisting of any discomfort with exposure to sexual stimuli or to responding anonymously and privately to questions about personal sexual behaviour or to questions concerning personal reactions to sexual stimuli. It is expected that each component of this study will be completed in private, and participants will be asked to verify that they are in a private location, away from other people, before they can initiate the study.

We are very interested in collecting ratings from a diverse range of participants, particularly those with little previous experience with sexual images. However, your participation is completely voluntary and you do not have to participate in this study if

the subject matter makes you uncomfortable. You are also free at any time to decline to participate, you may decline to answer any question, and you may withdraw at any time without loss of promised credit. The experimenter will provide a more detailed description and explanation of the study when it is over. Completion of this study is expected to take approximately 60 minutes and you will be granted one research credit for participating.

The information you provide during the study is entirely **anonymous** and will only be available to research personnel who are involved in this study. Your name and student number will never be associated with any of the responses that you provide

If you have any questions about the study, feel free to contact the experimenter or supervisor by email at the following address(s): Experimenter: [REDACTED] :
Supervisor: [REDACTED]



Department of Psychology The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Review Number	11 09 41	Approval Date	11 09 29
Principal Investigator	Bill Fisher/Taylor Kohut	End Date	12 04 30
Protocol Title	Lay conceptualizations of pornography – Study 1		
Sponsor	n/a		

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

The PREB is a sub-REB of The University of Western Ontario's Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario. (See Office of Research Ethics web site: <http://www.uwo.ca/research/ethics/>)

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the University's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the PREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of research assistant, telephone number etc). Subjects must receive a copy of the information/consent documentation.

Investigators must promptly also report to the PREB:

- changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- all adverse and unexpected experiences or events that are both serious and unexpected;
- new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to the PREB for approval.

Members of the PREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the PREB.

Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2011-2012 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and TBA (Graduate Student Representative)

CC: UWO Office of Research Ethics

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Lay Conceptualizations of Pornography – Study 2 & Study 2b



DEPARTMENT OF PSYCHOLOGY

Letter of Information

We are asking you to consider participating in an online study conducted by Taylor Kohut (PhD student in social psychology) under the supervision of Dr. William Fisher (Ph.D.) of the Department of Psychology at the University of Western Ontario. The purpose of this letter is to provide you with the information you require to make an informed decision concerning participation in this research. Our research focuses on sex-related information, sexual thoughts/feelings and sexual behaviours. **Participation in this research is limited to men and women 18 years of age and older.**

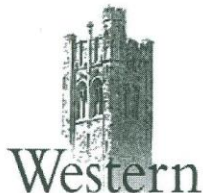
The primary aim of this study is to better understand the way that people think about and define pornography. Participation in this study involves anonymously and privately answering a number of questions regarding personal sexual attitudes, beliefs and behaviors and viewing and describing a number of **sexual images and nonsexual images**. This study begins with a number of straightforward questions that gather background information about each participant and then proceeds by asking about sexual attitudes, experiences and behaviors as well as other more general predispositions.

Participation in this study also involves looking at, and briefly describing the content of a number of sexual and non-sexual images. These images cover a very diverse range of content including masturbation, oral sex, penile-vaginal intercourse and anal intercourse in both heterosexual and homosexual contexts. Potential risks of participation are considered minimal, primarily consisting of any discomfort with exposure to sexual stimuli or to responding anonymously and privately to questions about personal sexual behaviour or to questions concerning personal reactions to sexual stimuli. It is expected that each component of this study will be completed in private, and participants will be asked to verify that they are in a private location, away from other people, before they can initiate the study.

We are very interested in collecting descriptions from a diverse range of participants, particularly those with little previous experience with sexual images. However, your participation is completely voluntary and you do not have to participate in this study if the subject matter makes you uncomfortable. You are also free at any time to decline to participate, you may decline to answer any question, and you may withdraw at any time without loss of promised credit. The experimenter will provide a more detailed description and explanation of the study when it is over. Completion of this study is expected to take approximately 30 minutes and you will be granted one half (0.5) of a research credit for participating. Note that it may take up to 48hrs for you to be credited.

The information you provide during the study is entirely **anonymous** and will only be available to research personnel who are involved in this study. Your name and student number will never be associated with any of the responses that you provide

If you have any questions about the study, feel free to contact the experimenter or supervisor by email at the following address(s): Experimenter: [REDACTED]
Supervisor: [REDACTED]



Department of Psychology The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Review Number	11 12 07	Approval Date	11 12 20
Principal Investigator	William Fisher/Taylor Kohut	End Date	12 04 30
Protocol Title	Lay conceptualizations of pornography – Study 2		
Sponsor	n/a		

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

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This approval shall remain valid until end date noted above assuming timely and acceptable responses to the University's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the PREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of research assistant, telephone number etc). Subjects must receive a copy of the information/consent documentation.

Investigators must promptly also report to the PREB:

- changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- all adverse and unexpected experiences or events that are both serious and unexpected;
- new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to the PREB for approval.

Members of the PREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the PREB.



Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2011-2012 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and Karen Dickson (Graduate Student Representative)

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Department of Psychology The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Review Number	12 03 10	Approval Date	12 03 13
Principal Investigator	Bill Fisher/Taylor Kohut	End Date	12 04 30
Protocol Title	Lay conceptualizations of pornography – Study 2b		
Sponsor	n/a		

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

The PREB is a sub-REB of The University of Western Ontario's Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario. (See Office of Research Ethics web site: <http://www.uwo.ca/research/ethics/>)

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Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2011-2012 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and Karen Dickson (Graduate Student Representative)

CC: UWO Office of Research Ethics

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Lay Conceptualizations of Pornography – Study 3



DEPARTMENT OF PSYCHOLOGY

Letter of Information

We are asking you to consider participating in an online study conducted by Taylor Kohut (Ph.D. student in social psychology) under the supervision of Dr. William Fisher (Ph.D.) of the Department of Psychology at the University of Western Ontario.

The purpose of this letter is to provide you with the information you require to make an informed decision concerning participation in this research. Our research focuses on sex-related information, sexual thoughts/feelings and sexual behaviours. **Participation in this research is limited to men and women 18 years of age and older.**

The primary aim of this study is to better understand the way that people think about and define pornography. Participation in this study involves anonymously and privately answering a number of questions regarding personal sexual attitudes, beliefs and behaviors and evaluating a number of **sexual images**. This study begins with a number of straightforward questions that gather background information about each participant and then proceeds by asking about sexual attitudes, experiences and behaviors as well as other more general predispositions.

Participation in this study also involves the evaluation of a number of sexual and non-sexual images. These images cover a very diverse range of content including masturbation, oral sex, penile-vaginal intercourse and anal intercourse in both heterosexual and homosexual contexts. Potential risks of participation are considered minimal, primarily consisting of any discomfort with exposure to sexual stimuli or to responding anonymously and privately to questions about personal sexual behaviour or to questions concerning personal reactions to sexual stimuli. *It is expected that each component of this study will be completed in private, and participants will be asked to verify that they are in a private location, away from other people, before they can initiate the study.*

We are very interested in collecting ratings from a diverse range of participants, particularly those with little previous experience with sexual images. However, your participation is completely voluntary and you do not have to participate in this study if the subject matter makes you uncomfortable. You are also free at any time to decline to participate, you may decline to answer any question, and you may withdraw at any time without loss of promised credit. The experimenter will provide a more detailed description and explanation of the study when it is over. Completion of this study is expected to take approximately 50 minutes and you will be granted one research credit for participating.

The information you provide during the study is entirely **anonymous** and will only be available to research personnel who are involved in this study. Your name and student number will never be associated with any of the responses that you provide

If you have any questions about the study, feel free to contact the experimenter or supervisor by email at the following address(s): Experimenter: [REDACTED]
Supervisor: [REDACTED]



Department of Psychology The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Review Number	12 10 05	Approval Date	12 10 09
Principal Investigator	Bill Fisher/Taylor Kohut	End Date	12 12 31
Protocol Title	Lay conceptualizations of pornography – Study 3		
Sponsor	n/a		

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

The PREB is a sub-REB of The University of Western Ontario's Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario. (See Office of Research Ethics web site: <http://www.uwo.ca/research/ethics/>)

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the University's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the PREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of research assistant, telephone number etc). Subjects must receive a copy of the information/consent documentation.

Investigators must promptly also report to the PREB:

- a) changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- b) all adverse and unexpected experiences or events that are both serious and unexpected;
- c) new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to the PREB for approval.

Members of the PREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the PREB.



Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2012-2013 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and TBA (Graduate Student Representative)

CC: UWO Office of Research Ethics

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Lay Conceptualizations of Pornography – Study 4

Letter of Information

We are asking you to consider participating in an online study conducted by Taylor Kohut (PhD student in social psychology) under the supervision of Dr. William Fisher (Ph.D.) of the Department of Psychology at the University of Western Ontario.

The purpose of this letter is to provide you with the information you require to make an informed decision concerning participation in this research. Our research focuses on sex-related information, sexual thoughts/feelings and sexual behaviours. **Participation in this research is limited to men and women 18 years of age and older.**

The primary aim of this study is to better understand the way that people think about, conceptualize and define pornography in their daily lives. Participation in this study involves privately answering a number of questions regarding personal sexual attitudes, beliefs and behaviors and evaluating a number of **sexual images**. This study begins with a number of straightforward questions that gather background information about each participant and then proceeds by asking about sexual attitudes, experiences and behaviors as well as other more general predispositions.

Participation in this study also involves the evaluation of a number of sexual and non-sexual images. These images cover a very diverse range of content including masturbation, oral sex, penile-vaginal intercourse and anal intercourse in both heterosexual and homosexual contexts. After rating these images, you will be asked a number of questions to help us understand what you think “pornography” means.

Potential risks of participation are considered minimal, primarily consisting of any discomfort with exposure to sexual stimuli or to responding to questions about personal sexual behaviour or to questions concerning personal reactions to sexual stimuli. *It is required that each component of this study will be completed in private, and participants will be asked to verify that they are in a private location, away from other people, before they can initiate the study.*

We are very interested in collecting ratings from a diverse range of participants, particularly those with little previous experience with pornography. However, your participation is completely voluntary and you do not have to participate in this study if the subject matter makes you uncomfortable. You are also free at any time to refuse to participate, you may decline to answer any question, and you may withdraw at any time without loss of promised credit. The experimenter will provide a more detailed description and explanation of the study when it is over. Completion of this study is expected to take approximately 60 minutes and you will be granted one research credit for participating.

The information you provide during the study will be **anonymous—no identifying information that can be connected to individual responses will be collected—and**

data will only be available to research personnel who are involved in this study. Your name and student number will never be associated with any of the responses that you provide

If you have any questions about the study, feel free to contact the experimenter or supervisor by email at the following address(s): Experimenter: [REDACTED] :
Supervisor: [REDACTED]

If you have any questions about your rights as a research subject, you should contact the Director of the Office of Research Ethics at [REDACTED]



Department of Psychology The University of Western Ontario

Use of Human Subjects - Ethics Approval Notice

Review Number	13 02 28	Approval Date	13 02 27
Principal Investigator	Bill Fisher/Taylor Kohut	End Date	13 04 30
Protocol Title	Lay conceptualizations of pornography – Study 4		
Sponsor	n/a		

This is to notify you that The University of Western Ontario Department of Psychology Research Ethics Board (PREB) has granted expedited ethics approval to the above named research study on the date noted above.

The PREB is a sub-REB of The University of Western Ontario's Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement and the applicable laws and regulations of Ontario. (See Office of Research Ethics web site: <http://www.uwo.ca/research/ethics/>)

This approval shall remain valid until end date noted above assuming timely and acceptable responses to the University's periodic requests for surveillance and monitoring information.

During the course of the research, no deviations from, or changes to, the protocol or consent form may be initiated without prior written approval from the PREB except when necessary to eliminate immediate hazards to the subject or when the change(s) involve only logistical or administrative aspects of the study (e.g. change of research assistant, telephone number etc). Subjects must receive a copy of the information/consent documentation.

Investigators must promptly also report to the PREB:

- changes increasing the risk to the participant(s) and/or affecting significantly the conduct of the study;
- all adverse and unexpected experiences or events that are both serious and unexpected;
- new information that may adversely affect the safety of the subjects or the conduct of the study.

If these changes/adverse events require a change to the information/consent documentation, and/or recruitment advertisement, the newly revised information/consent documentation, and/or advertisement, must be submitted to the PREB for approval.

Members of the PREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussion related to, nor vote on, such studies when they are presented to the PREB.

Clive Seligman Ph.D.

Chair, Psychology Expedited Research Ethics Board (PREB)

The other members of the 2012-2013 PREB are: Mike Atkinson (Introductory Psychology Coordinator), Rick Goffin, Riley Hinson Albert Katz (Department Chair), Steve Lupker, and TBA (Graduate Student Representative)

CC: UWO Office of Research Ethics

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Appendix B: Demographic questionnaire

1. What gender do you identify with?
 - male
 - female
 - trans-man
 - trans-woman
 - other (please specify): _____

2. Do you have a penis?
 - yes
 - no

3. Do you have a vagina?
 - yes
 - no

4. What is your age?
 - _____

5. What is your ethnicity (please select one)?
 - African Canadian or Black
 - First Nations or Native Canadian/American
 - Asian
 - Hispanic or Latino
 - Native Hawaiian or other Pacific Islander
 - White or Caucasian
 - Mixed
 - Other (please specify): _____

6. Indicate which religion (or world view) influences you the most:
 - Christianity
 - Judaism
 - Islam
 - Hinduism
 - Atheism
 - Agnosticism
 - Other (please specify): _____

7. How frequently do you attend religious services or functions?
 - Never
 - Infrequently
 - Somewhat frequently
 - Very Frequently

8. How important are your religious beliefs (or world view) to you?
- Unimportant
 - Somewhat Important
 - Very Important

Appendix C: Pornography experience questionnaire

Pornography Experience
(Adapted from Hald, 2006)

9. Have you ever looked at (or watched) sexually explicit imagery (e.g. pictures or videos etc)?

Yes

No

If Q9. is Yes:

A) Have you looked at (or watched) sexually explicit imagery (e.g. pictures or videos etc) within the last **6 months**?

Yes

No (response referral to Q10)

B) Have you looked at (or watched) sexually explicit imagery (e.g. pictures or videos etc) within the last **month**?

Yes

No (response referral to Q10)

C) Have you looked at (or watched) sexually explicit imagery (e.g. pictures or videos etc) within the last **week**?

Yes

No (response referral to Q10)

D) Have you looked at (or watched) sexually explicit imagery (e.g. pictures or videos etc) within the last **24 hours**?

Yes

No (response referral to Q10)

E) On average, how frequently do you look at (or watch) sexually explicit imagery (e.g. pictures or videos etc)?

Less than once a month

1–2 times per month

1–2 times per week

3 times per week or more

F) **Where** do you generally look at (or watch) sexually explicit imagery (e.g. pictures or videos etc)?

Home

Other (please specify): _____

G) **With who** do you generally look at (or watch) sexually explicit imagery (e.g. pictures or videos etc)?

- No one (alone)
 Regular sexual partner(s)
 Friend(s) (not sexual partner)
 Other (please specify): _____

H) What percentage of the time do you look at (or watch) sexually explicit imagery (e.g. pictures or videos etc) **while you masturbate**?

I) What percentage of the time do you look at (or watch) sexually explicit imagery (e.g. pictures or videos etc) **while you engage in sexual activity with someone else**?

J) At what age did you first see sexually explicit imagery (e.g. pictures or videos etc)?

K) What is the average amount of time that you spend looking at (or watching) sexually explicit imagery (e.g. pictures or videos etc) a week (**in minutes**)?

L) Have you ever chosen to look at (or watch) sexually explicit imagery (e.g. pictures or videos etc) **because you wanted to**?

- Yes
 No

M) Have you ever chosen to look at (or watch) sexually explicit imagery (e.g. pictures or videos etc) because you someone else wanted you to?

- Yes
 No

10. How do you define **pornography**?

Appendix D: Debriefing information

Lay Conceptualizations of Pornography – Study 1



Debriefing

Principal Investigator: Dr. William Fisher, Department of Psychology, UWO

Thank you for participating in this research, which we believe will make an important contribution to a developing body of knowledge in psychology regarding men's and women's sexuality. We would like to take this time to tell you more about the study you have participated in.

The purpose of this research project is to explore how people define and conceptualize pornography by exploring this topic overall, and by exploring gender differences in the way that people decide what is, and what is not pornography. One of the first studies to do so found that pictures that were rated as more pornographic tended to be evaluated more negatively and rated as more sexually stimulating than pictures that were less pornographic. Other studies that followed have raised the possibility that men and women may differ in the ways that they make judgments about what is and what is not pornography, and that positive reactions to sexual stimuli may also be associated with pornography ratings, at least among some men. Unfortunately, these older studies tended to confound gender with the degree of experience with sexual stimuli, and it is currently unclear if gender or experience plays a larger role in the way that individuals make pornography judgments.

The current study examined these issues by comparing the way that men and women with either high or low experience with sexual stimuli rate sexual images on a dimension of "pornographicness." While some gender differences are expected in ratings of the images themselves, experience rather than gender is hypothesized to play a larger role in influencing the correlates of pornography ratings. It is expected that individuals who are low in experience with sexual materials will rate images as more pornographic when they find them sexually stimulating and evaluate them more negatively. In contrast, individuals with some experience with sexual materials are expected to rate images as more pornographic when they find them sexually stimulating and when they rate the pictures more positively.

For further readings see:

Amoroso, D. M., Brown, M., Pruesse, M., Ware, E. E., AND Pilkey, D. W. (1970). An investigation of behavioral, psychological and physiological reactions to pornographic stimuli. *Technical reports of the Commission on Obscenity and Pornography. Vol. 8.* Washington D. C.: U. S. Government Printing Office.

Byrne, D., Fisher, J. D., Lamberth, J., & Mitchell, H. E. (1974). Evaluations of Erotica: Facts or Feelings?. *Journal of Personality and Social Psychology, 29*, 111-116.

If participating in this study has raised any personal concerns, you may make an appointment to discuss them with Student Health Services (██████████) or Student Development Services (██████████) or the Sexual Assault Centre Crisis Line (██████████)

If you have any questions or comments regarding this study, please contact:

Taylor Kohut, MSc (Graduate Student): ██████████

Dr. William Fisher: (██████████)

Thank you for your time and participation, it is greatly appreciated!

Note: If you have any questions about your rights as a research subject, you should contact the Director of the Office of Research Ethics at ██████████

Lay Conceptualizations of Pornography – Study 2 & 2b



DEPARTMENT OF PSYCHOLOGY

Debriefing

Principal Investigator: Dr. William Fisher, Department of Psychology, UWO

Thank you for participating in this research, which we believe will make an important contribution to a developing body of knowledge in psychology regarding men's and women's sexuality. *You should receive credit for participating in this study within 48 hours* We would like to take this time to tell you more about the study you have participated in.

The purpose of this research project is to explore how people define and conceptualize pornography by exploring this topic overall, and by exploring individual differences in the way that people decide what is, and what is not pornography. One of the first studies to do so found that pictures that were rated as more pornographic tended to be evaluated more negatively and rated as more sexually stimulating than pictures that were less pornographic and in fact, very similar results were found by our research team in the study that we conducted earlier this year. Unfortunately, one problem with this approach is that it tells very little about how the specific content depicted in sexual imagery influences these ratings. We do not know for example, if these ratings are influenced primarily by nudity, or the depiction of sexual behavior, or for that matter, if the depiction of different sexual behaviors results in different ratings of these images.

To overcome this problem, the current study is collecting content based descriptions of several sexual and non-sexual images that vary in their pornographicness ratings. These descriptions will be used to identify features, or clusters of features that are only present among images that are very pornographic, and not present at all among images that are not pornographic. In this way, we hope to gain some understanding about what sorts of things people consider pornographic, and what sorts of things they do not.

For further readings see:

Amoroso, D. M., Brown, M., Pruesse, M., Ware, E. E., & Pilkey, D. W. (1970). An investigation of behavioral, psychological and physiological reactions to pornographic stimuli. *Technical reports of the Commission on Obscenity and Pornography*. Vol. 8. Washington D. C.: U. S. Government Printing Office.

Rosch, E., & Mervis, C. B. (1975). Family resemblance: Studies in the internal structure of categories. *Cognitive psychology*, 7, 573-605.

If participating in this study has raised any personal concerns, you may make an appointment to discuss them with Student Health Services ([REDACTED]) or Student

Development Services ([REDACTED]) or the Sexual Assault Centre Crisis Line ([REDACTED]).

If you have any questions or comments regarding this study, please contact:

Taylor Kohut, MSc (Graduate Student): [REDACTED]

Dr. William Fisher: ([REDACTED])

Thank you for your time and participation, it is greatly appreciated!

Note: If you have any questions about your rights as a research subject, you should contact the Director of the Office of Research Ethics at [REDACTED].

Lay Conceptualizations of Pornography – Study 3

Debriefing

Principal Investigator: Dr. William Fisher, Department of Psychology, UWO

Thank you for participating in this research, which we believe will make an important contribution to a developing body of knowledge in psychology regarding men's and women's sexuality. We would like to take this time to tell you more about the study you have participated in.

The purpose of this research project is to explore how people define and conceptualize pornography by exploring this topic overall, and by exploring gender differences in the way that people decide what is, and what is not pornography. Previously, we have found that pictures that were rated as more pornographic were also evaluated more negatively and rated as more sexually stimulating than pictures that were less pornographic. In other research, we developed a method to identify content related features found in different pictorial stimuli that might be useful for predicting how pornographic men and women find such images.

The primary purpose of the current study was to determine if the pornographicness ratings that you provided can be predicted by considering the different patterns of content that exist in the images that you saw. If this method is successful, it will be the first empirical demonstration that content features of sexual images can be used to predict the pornographicness of different images, and will help inform our understanding of what the average person thinks "pornography" is.

For further reading see:

Fisher, W. A., & Barak, A. (2001). Internet pornography: A social psychological perspective on Internet sexuality. *The Journal of Sex Research*, 38, 312-323.

Rosch, E., & Mervis, C. B. (1975). Family resemblance: Studies in the internal structure of categories. *Cognitive psychology*, 7, 573-605.

If participating in this study has raised any personal concerns, you may make an appointment to discuss them with Student Health Services [REDACTED] or Student Development Services ([REDACTED]) or the Sexual Assault Centre Crisis Line [REDACTED]

If you have any questions or comments regarding this study, please contact:

Taylor Kohut, MSc (Graduate Student): [REDACTED]

Dr. William Fisher: [REDACTED]

Thank you for your time and participation, it is greatly appreciated!

Note: If you have any questions about your rights as a research subject, you should contact the Director of the Office of Research Ethics at [REDACTED]

[REDACTED]

Lay Conceptualizations of Pornography – Study 4

Debriefing

Principal Investigator: Dr. William Fisher, Department of Psychology, UWO

Thank you for participating in this research, which we believe will make an important contribution to a developing body of knowledge in psychology regarding men's and women's sexuality. We would like to take this time to tell you more about the study you have participated in.

The primary purpose of this research project is to determine if a personality variable called "right-wing authoritarianism" is related to how people evaluate sexual images. Right-wing authoritarianism has been defined as the co-occurrence of the following three factors: submission to authority figures, general aggressiveness, and adherence to social conventions. Early studies in this area indicated that people who are high in authoritarianism tend to decide that more images are pornographic than people who are low in authoritarianism, suggesting that what "pornography" is, can differ slightly from person to person. On the other hand, these studies explicitly told participants that pornography was "obscene or licentious, foul, disgusting, or offensive", which might have confused decisions about what was and what was not pornography with negative emotional reactions to the materials people were shown. Further, subsequent studies that did not define pornography for participants have failed to find this effect, leaving some doubt about whether or not authoritarianism is related to how people perceive pornography.

The current study examined the way that people who were relatively high or low in right-wing authoritarianism rate sexual images on dimensions of pornographicness, and unpleasantness. It is expected that individuals who are high in authoritarianism will rate images as more unpleasant than people who are low in authoritarianism, but will not necessarily rate them as more pornographic.

For further readings see:

Byrne, D., Fisher, J. D., Lamberth, J., & Mitchell, H. E. (1974). Evaluations of Erotica: Facts or Feelings?. *Journal of Personality and Social Psychology*, 29, 111-116.

Altemeyer, B. (1996). *The authoritarian specter*. Cambridge, MA: Harvard University Press.

If participating in this study has raised any personal concerns, you may make an appointment to discuss them with Student Health Services [REDACTED] or Student Development Services (519-661-3031) or the Sexual Assault Centre Crisis Line [REDACTED]

If you have any questions or comments regarding this study, please contact:

Taylor Kohut, MSc (Graduate Student): [REDACTED]

Dr. William Fisher: [REDACTED]

Thank you for your time and participation, it is greatly appreciated!

Note: If you have any questions about your rights as a research subject, you should contact the Director of the Office of Research Ethics at [REDACTED]

[REDACTED]

Appendix E: Coding scheme for content analysis

Content Analysis Coding Scheme

A. Depiction of sexual content

This category concerns the extent to which definitions discuss the SEXUAL CONTENT of pornography.

0. No mention of sexual content
 - i. Responses that do not discuss the sexual content of pornography.
1. General or vague
 - i. Responses that mention that pornography has sexual content, but fail to elaborate on the nature of this sexual content should be coded in this category. Examples include: *sexually explicit material, sexual material, sexual content, sexy stuff, sexual things, sexually revealing pictures etc.* DO NOT ASSUME THAT SOMETHING THAT HAS A SEXUAL EFFECT CONSISTS OF SEXUAL CONTENT (e.g. “sexual stimulus”)
2. Mentions Nudity
 - i. Responses that mention nudity or nakedness but do not mention sexual behavior. Examples include: *naked people, nude people, people without clothes, etc.* MENTIONS OF NUDITY SUPERCEDES GENERAL OR VAGUE RESPONSES
3. Mentions Sexual Behavior
 - i. Responses that mention or describe sexual behaviors but do not mention nudity. Examples include: *people having sex, sexual intercourse, depictions of sex, oral sex, people pleasuring one another, masturbation, sexual relations, sexual encounter, etc.* MENTIONS OF SEXUAL BEHAVIOR SUPERCEDE GENERAL OR VAGUE RESPONSES
4. Nudity and Sexual Behavior
 - i. Responses specifically mention both nudity **and** sexual behavior.
5. Excludes Nudity
 - i. Responses that make a point of specifically defining pornography as something that is more than the depiction of nudity alone. Examples include: *sexual behavior is required to make something pornographic.*

B. Intended or Actual Impact

This category concerns the extent to which definitions discuss the intended or actual impact of pornography (e.g. what it should be used for, is used for, or does).

0. Do not mention impact
 - i. Responses that do not discuss the impact of pornography.

1. Oppression
 - i. Responses that describe how pornography is intended to, or is used to, or actually does, promote oppression. Examples include: *is used to keep women in their place, depictions that make people racist, images that promote rape, leads to violence against women, etc.*
2. Arousal
 - ii. Responses that describe how pornography is intended to, or is used to, or actually does, promote sexual arousal, or sexual release. Examples include: *some people find arousing, is sexually arousing, is intended to make people horny, that people watch to get aroused, used for sexual gratification etc.*
3. Other uses
 - iii. Responses that describe how pornography is intended to be, or is used for, for other functions. Examples include: *for the entertainment, for pleasure, to relieve boredom, to be viewed by an audience, used to see other people naked, etc.*
4. Multiple functions
 - iv. Responses that describe some combination of *oppression, arousal and other* motives, uses, or causes.

C. The Depiction of anti-women content or Pleasure.

This category concerns the extent to which definitions discuss COMMON FEMINIST ASSERTIONS ABOUT THE CONTENT of pornography.

1. Do not mention feminist concerns or enjoyment
 - i. Responses that do not discuss the content of pornography.
2. Radical feminist concerns
 - i. Mentions that pornography depicts exploitation, debasement, dehumanization, inequality, sexism, violence, or violent acts, regardless of the gender of the victim. NOTE THAT CREATING OR DISTRIBUTING PORNOGRAPHY FOR MONEY IS NOT A RADICAL FEMINIST CONCERN
3. Enjoyment
 - i. Mentions that pornography depicts pleasure or enjoyment among the performers.
4. Combination
 - i. Mentions that pornography depicts a combination of radical feminist concerns and enjoyment.

D. Commercial product

This category concerns the extent to which definitions discuss PORNOGRAPHY AS A COMMERCIAL OR NONCOMMERCIAL PRODUCT.

1. No mention of commercial properties

- i. Responses that do not discuss the pornography as a commercial or non-commercial product.
 - 2. Commercial
 - i. Mentions that pornography is bought, sold, or made/distributed to generate money, revenue or business.
 - 3. Non-Commercial
 - i. Mentions that pornography is or can be made for non-commercial reasons. This may require some inference, for example, someone might mention that *sexual partners sometimes exchange sexual materials of themselves*.
 - 4. Combination
 - i. Mentions that pornography can have commercial or non-commercial properties, depending on the material in question
- E. Expression of Fantasy

This category concerns the extent to which definitions CONTENT OF PORNOGRAPHY AS A PROJECTION OF FANTASY OR REALITY.

 - 0. No mention of Fantasy or Reality
 - i. Responses that do not discuss the pornography as a product of fantasy or reality, do not code them in this category.
 - 1. Staged / Fantasy
 - i. Mentions that the content of pornography is not real, is staged or is faked, or involves the depiction of fantasy, regardless of the reason given. NOTE: THIS REQUIRES MORE THAN JUST HAVING AN AUDIENCE, OR INTENDING OTHERS TO VIEW THE MATERIAL OR THE MERE MENTION OF THE WORD FANTASY. Examples include, *portrayed creatively, expression of fantasy, acting out a scenario, staged behavior etc.*
 - 2. Real
 - ii. Mentions that pornography contains realistic depictions of sex. Examples include *real naked people, or people having real sex*. NOTE: AGAIN, THIS HAS NOTHING TO WITH HAVING AN AUDIENCE, IT IS STATEMENT ABOUT THE NATURE OF THE SEXUAL ACT, AS EITHER BEING REAL IN SOME WAY, OR FAKED.
 - 3. Combination
 - iii. Mentions that pornography can have realistic depictions of sex, or be staged fantasy material, depending on the material in question
- F. Art or failed art

This category concerns the extent to which definitions discuss PORNOGRAPHY AS A PRODUCT OF ART OR FAILED ART.

1. No mention of Art or Failed Art
 - i. Responses that do not discuss the artistic qualities of pornography
2. Artistic
 - i. Responses that describe pornography as an art or an artistic depiction.
3. Failed Art
 - i. Responses that specifically contrast pornography with art, or suggest that pornography is a depiction with little or no artistic merit.
4. Mixed Response
 - i. Responses that mention that some pornography can be artistic, while other pornography is not artistic

G. Offence or Enjoyment

This category concerns the extent to which definitions discuss EVALUATIVE aspects of pornography as either OFFENSIVE or PLEASANT.

0. No mention of Offensiveness or Pleasantness
 - i. Responses that do not discuss the evaluative aspects of pornography.
1. Offensive
 - i. Responses that describe pornography as offensive, repulsive or inappropriate. Examples include: *its bad, gross!, I don't like it, etc.*
2. Pleasant
 - ii. Responses that describe pornography as something that is pleasant or enjoyable or beneficial. Examples include, *it's entertaining, enjoyable, fun, or good.* NOTE: DO NOT ASSUME THAT SEXUAL AROUSAL OR SEXUAL GRATIFICATION MEANS THAT THE RESPONDENT BELIEVES THAT PORNOGRAPHY IS GOOD

H. Structure vs. Function

This category concerns the extent to which definitions are emphasizing the STRUCTURE (e.g. “nature”) or the FUNCTION (e.g. “use of”), pornography.

0. No Structural or Functional Response
 - i. Responses that do not discuss the nature of pornography, or what it is intended to be used for, or what it is actually used for.
1. Structural Response
 - i. A structural response is one that describes the media form or the content of pornography. Definitions that mention the type of media (e.g. *picture, video, written material*, etc), or describe the content of the depiction (e.g. *depicts naked people, people having sex, people enjoying themselves* etc.) should be considered structural

responses. Even if the responses are overly simple (e.g. “naked” or “nude sex” alone), than they can be coded as 1 or 3 below)

2. Functional Response

- i. A functional response is one that describes the intended or actual function of pornography. Most often, these functions will mention *sexual arousal, entertainment, education, masturbation, getting-off, or simply to be watched or relieve boredom or curiosity* but other responses are possible (e.g. *to reinforce patriarchy, to oppress minorities, to oppress women*). If the response describes how pornography is intended to be used, or what it is used for, or the impacts that it has on people, it is a functional response.

3. Combined Response

- i. A combined response is one that contains elements that are structural as well as elements that are functional. For example, “pictures and videos depicting people having sex made for the enjoyment of others”, should be considered a combined response.

Appendix F. Instructions for the endorsement of definitional elements task

The following items are designed to get a better understanding of what you think “pornography” is. Each item will present an element that some people include in their definition of pornography because it applies to all material that they find pornographic. However, not everyone agrees about the importance of each of these elements for defining pornography, arguing that some of these elements only apply to some materials that are pornographic, or that some of these elements are completely unrelated to the concept of pornography.

On the following scales please indicate how well these elements match YOUR definition of “pornography.” Don’t worry about what other people think, and don’t worry about being consistent with the definition you provided earlier. We are interested in what YOU think, at this moment.

1. Pornographic materials...

A) are materials that depict nudity

Not a part of my definition (1)

Barely related to my definition (2)

Somewhat related to my definition (3)

Very related to my definition (4)

Central to my definition (5)

B) are materials that depict sexual behavior

C) are materials that require more than the depiction of nudity alone (e.g. sexual behavior) to be pornographic

D) are materials that promote gender inequality in society (e.g. make men more powerful than women)

E) are materials that promote violence

F) are materials that promote rape

G) are materials that promote sexual arousal

H) are materials that promote sexual release, sexual gratification, or sexual pleasure

I) are materials that are used for masturbation

J) are materials that are used for entertainment

K) are materials that depict the exploitation of women

L) are materials that depict gender inequality (e.g. men as more powerful than women)

M) are materials that depict violence

N) are materials that depict rape

O) are materials that depict sexual pleasure

P) are materials that depict the enjoyment of those involved

Q) are materials that are made for commercial purposes (e.g. materials to be sold)

- R) are materials that are made for non-commercial reasons (e.g. made to be given to a lover or friend)
- S) are materials that depict unrealistic fantasy sex
- T) are materials that depict real sexual behavior
- U) are materials that can be considered an artistic form of expression
- V) are materials with little artistic value
- W) are materials that are offensive
- X) are materials that are censored (e.g. not legally accessible for all people)

Appendix G. Right-Wing Authoritarianism scale

Right-Wing Authoritarianism (Altemeyer, 1996)

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you *agree* with some of the statements, and *disagree* with others, to varying extents. Please indicate your reaction to each statement by selecting the appropriate option on the following scale:

-4 very strongly disagree	0 neutral	+1 slightly agree
-3 strongly disagree		+2 moderately agree
-2 moderately disagree		+3 strongly agree
-1 slightly disagree		+4 very strongly agree

You may find that you sometimes have different reactions to different parts of a statement. For example, you might strongly disagree (“-4”) with one idea in a statement, but slightly agree (“+1”) with another idea in the same item. When this happens, please combine your reactions, and write down how you feel “on balance” (i.e., a “-3” in this example).

1. Life imprisonment is justified for certain crimes.
2. Women should have to promise to obey their husbands when they get married.
3. The established authorities in our country are usually smarter, better informed, and more competent than others are, and the people can rely upon them.
4. It is important to protect the rights of radicals and deviants in all ways.
5. Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.
6. Gays and lesbians are just as healthy and moral as anybody else.
7. Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the “rotten apples” who are ruining everything.
8. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly
9. The *real* keys to the “good life” are obedience, discipline, and sticking to the straight and narrow.
10. A lot of our rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other people follow.
11. There are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.
12. It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people’s minds.
13. There is absolutely nothing wrong with nudist camps.

14. There is no “ONE right way” to live life; everybody has to create their *own* way.
15. Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs.
16. Homosexuals and feminists should be praised for being brave enough to defy “traditional family values”.
17. The situation in our country is getting serious, the strongest methods would be justified if they eliminated the troublemakers and got us back to our true path.
18. It may be considered old fashioned by some, but having a normal, proper appearance is still the mark of a gentleman and, especially, a lady.
19. Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.
20. A “woman’s place” should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.
21. What our country needs is a strong, determined leader who will crush evil, and take us back to our true path.
22. People should pay less attention to the Bible and the other traditional forms of religious guidance, and instead develop their own personal standards of what is moral and immoral.
23. The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.
24. Our country *needs* free thinkers who will have the courage to defy traditional ways, even if this upsets many people.
25. There is nothing wrong with premarital sexual intercourse.
26. It would be best for everyone if the proper authorities censored magazines so that people could not get their hands on trashy and disgusting material.
27. It is wonderful that young people today have greater freedom to protest against things they don’t like, and to make their own “rules” to govern their behavior.
28. What our country really needs, instead of more “civil rights,” is a good stiff dose of law and order.
29. Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the “normal way” things are supposed to be done.
30. Obedience and respect for authority are the most important virtues children should learn.
31. Nobody should “stick to the straight and narrow.” Instead, people should break loose and try out lots of different ideas and experiences.
32. Once our government leaders give us the “go ahead,” it will be the duty of every patriotic citizen to help stomp out the rot that is poisoning our country from within.
33. We should treat protestors and radicals with open arms and open minds, since new ideas are the lifeblood of progressive change.
34. The facts on crime, sexual morality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order.

Appendix H: Short Right-Wing Authoritarianism scale

Short RWA Scale (Zakrisson, 2005)

Please indicate your reaction to each statement by selecting the appropriate option on the following scales:

1. Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.

Extremely POSITIVE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 Extremely NEGATIVE

2. Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people.
3. The “old-fashioned ways” and “old-fashioned values” still show the best way to live.
4. Our society would be better off if we showed tolerance and understanding for untraditional values and opinions.
5. God’s laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.
6. The society needs to show openness towards people thinking differently, rather than a strong leader, the world is not particularly evil or dangerous.
7. It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material.
8. Many good people challenge the state, criticize the church and ignore “the normal way of living”.
9. Our forefathers ought to be honored more for the way they have built our society, at the same time we ought to put an end to those forces destroying it.
10. People ought to put less attention to the Bible and religion, instead they ought to develop their own moral standards.
11. There are many radical, immoral people trying to ruin things; the society ought to stop them.
12. It is better to accept bad literature than to censor it.
13. Facts show that we have to be harder against crime and sexual immorality, in order to uphold law and order.
14. The situation in the society of today would be improved if troublemakers were treated with reason and humanity.
15. If the society so wants, it is the duty of every true citizen to help eliminate the evil that poisons our country from within.

Appendix I: Sexual Opinion Survey - shortform

Sexual Opinion Survey - Short

Please respond to each item as honestly as you can. There are no right or wrong answers. Select the number on the scale which best corresponds to your response.

1. Almost all pornographic material is nauseating.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE
2. Masturbation can be an exciting experience.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE
3. It would be emotionally upsetting to me to see someone exposing themselves publicly.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE
4. The thought of engaging in unusual sex practices is highly arousing.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE
5. Manipulating my genitals would probably be an arousing experience.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE
6. The thought of having long-term sexual relations with more than one sex partner is not disgusting to me.
I strongly AGREE 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 I strongly DISAGREE

Appendix J: Short RWA scale

Based on Altemeyer (1996)

This survey examines opinions toward a variety of social issues. You will probably find that you agree with some of the statements, and disagree with others, to varying extents. Please indicate your reaction to each statement by selecting the appropriate number.

1. Gays and lesbians are just as healthy and moral as anyone else.

- 4 Very Strongly Disagree	- 1 Slightly Disagree	+2 Moderately Agree
- 3 Strongly Disagree	0 Neutral	+3 Strongly Agree
- 2 Moderately Disagree	+ 1 Slightly Agree	+4 Very Strongly Agree

2. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.

3. The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.

4. Our country will be destroyed someday if we do not smash the perversions eating away at our moral fibre and traditional beliefs.

5. Some of the best people in our country are those who are challenging our government, criticising religion, and ignoring the “normal way” things are supposed to be done.

6. What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.

7. There are many radical, immoral people in our country today who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.

8. There is no “ONE right way” to live life; everybody has to create their own way.

9. Our country will be great if we honour the ways of our forefathers, do what the authorities tell us to do, and get rid of the “rotten apples” who are ruining everything.

10. There is nothing wrong with premarital sexual intercourse.

Appendix K: Instructions for pornography judgment task

General Instructions to Participants.

This study has to do with what we have in mind when we use words which refer to categories. Let's take the word red as an example. Close your eyes and imagine a true red. Now imagine an orangish red . . . imagine a purple red. Although you might still name the orange-red or the purple-red with the term red, they are not as good examples of red (as clear cases of what red refers to) as the clear "true" red. In short, some reds are redder than others.

The same is true for other kinds of categories. Think of dogs. We all have some notion of what a "real dog," a "doggy dog" is. To me a *Retriever* or a *German Shepard* is a very doggy dog while a *Pekinese* is a less doggy dog. Notice that this kind of judgment has nothing to do with how well you like the thing; you can like a purple-red better than a true red but still recognize that the color you like is not a true red. You may prefer to own a *Pekinese* without thinking that it is the breed that best represents what people mean by dogginess.

In this study you are asked to judge how good an example of a category various instances of the category are. In this case the members of the category are 27 pictures and the category is "**pornography**".

Before you begin this judgment task however, we are going to show you 5 sexual images to help give you an idea about the range of materials that you will be rating. You can advance through these pictures at your own pace. You will not be asked to judge any of 5 following pictures.

Instructions to Participants for Judgment Task.

For this task you will be shown one picture at a time and asked to provide a number of ratings after you see each picture. You will be able to advance through the pictures at your own pace.

First, you are to rate how good an example of the category each picture is on a 7-point scale. A "1" means that you feel the picture is a very good example of your idea or image of what *pornography* is; a "7" means you feel the picture fits very poorly with your idea or image of *pornography* (or is not a member at all). A 4 means you feel the picture fits moderately well. Use the other numbers of the 7-point scale to indicate intermediate judgments.

Don't worry about why you feel that something is or isn't a good example of pornography. And don't worry about whether it's just you or people in general who feel that way. Just mark it the way you see it. Try to make use of the entire scale in your ratings so as to make the ratings accurately reflect your views.

Next, you will rate each picture in terms of how pleasant, unpleasant, and sexually stimulating you found the picture to be. These ratings will be made on 7-point scales where a “1” means that the picture is *extremely* pleasant, unpleasant or sexually stimulating, and a “7” means that the picture is *not at all* pleasant, unpleasant, and sexual stimulating. Again, use the other numbers of the 7-point scale to indicate intermediate ratings. Again, try to make use of the entire scale in your ratings so as to make the ratings accurately reflect your reactions. Also, in rating the pictures, consider each of the scales separately and independently. Try not to let the way you rated one thing affect the way you rated another. Finally, it is important that you be as honest with these ratings as possible.

Please note that the first two pictures will be non-sexual practice slides to help you to become familiar with the rating procedure. These two practice pictures will be followed by 25 sexual pictures.

Appendix L: Picture judgment scales

(adapted from Amoroso et al., 1971)

1. How **pornographic** was this picture?

- 1 – Extremely pornographic
- 2
- 3
- 4 – Moderately pornographic
- 5
- 6
- 7 – Not at all pornographic

2. How **pleasant** was this picture?

- 1 – Extremely pleasant
- 2
- 3
- 4 – Moderately pleasant
- 5
- 6
- 7 – Not at all pleasant

3. How **unpleasant** was this picture?

- 1 – Extremely unpleasant
- 2
- 3
- 4 – Moderately unpleasant
- 5
- 6
- 7 – Not at all unpleasant

4. How **sexually stimulating** was this picture?

- 1 – Extremely sexually stimulating
- 2
- 3
- 4 – Moderately sexually stimulating
- 5
- 6
- 7 – Not at all sexually stimulating

Appendix M: Instructions for feature generation exercise

This is a very simple experiment to find out the characteristics and attributes that people feel are common to and characteristic of different kinds of pictures. For example, if you saw pictures of bicycles you might think of things they have in common like two wheels, pedals, handlebars, you ride on them, they don't use fuel, etc. For pictures of dogs you might think of things they have in common like having four legs, barking, having fur, etc.

After these instructions you will be shown 10 pictures. For each picture, take two minutes to record all of the attributes of that picture that you can think of in space provided under each photograph. Please note that you can, and should, record the same attribute for more than one picture if you think it applies to more than one picture. Also, **try not to just free associate**- for example, if bicycles just happen to remind you of your father, don't write down father. To help with our analysis, please try to separate each attribute or characteristics with a comma (,) like the following example: four legs, barking, having fur

Please note that this study is part of a PhD dissertation and so the data that you provide is very important. **Please take this task seriously.**

Okay-you'll have two minutes for each picture. Remember, look at the picture and write down the attributes or characteristics you think are characteristic of that picture as fast as you can. Remember to separate each characteristic or attribute that you list with a comma (,). When you are finished with one picture, advance to the next one, and remember, the same attribute can be recorded for more than one picture.

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